



College of Liberal Arts

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Johnston Hall is located at 101 Pleasant Street S.E., Minneapolis, Minnesota 55455.

Where to Find Information About CLA and the University

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

The information in this bulletin is up-to-date as it is published. Information about new courses and course changes is issued periodically in supplements. Advisers and department offices can provide current information about changes, and most departments furnish statements detailing their current major requirements and procedures. College regulations and procedures change frequently. College offices can provide current information about such changes.

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. It includes registration instructions, final exam schedules, and other useful information.

Official Daily Bulletin—The Official Daily Bulletin is published in the *Minnesota Daily* and is also posted around campus. It contains announcements about University courses, registration schedules, study opportunities, meetings, and activities. You are expected to be aware of information that affects you.

Other Resources—College offices maintain information about all majors and course offerings. The field experience directories, on file at the Office for Special Learning Opportunities (OSLO, 220 Johnston Hall), are guides to outside-the-classroom learning opportunities. Most University bulletins are distributed at the information booth in Williamson Hall. D.I.A.L. tapes, available by calling 373-1857, offer recorded messages describing a number of CLA services and programs.

Advising Services—Every CLA student is assigned to a specific adviser—a staff or faculty member who helps with questions you cannot answer. For information about the advising system and other advisory services see Advising in section I.

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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, creed, color, sex, national origin, or handicap. In adhering to this policy, the University abides by the requirements of Title IX of the Education Amendments of 1972, by Sections 503 and 504 of the Rehabilitation Act of 1973, and by other applicable statutes and regulations relating to equality of opportunity.

Inquiries regarding compliance may be directed to Lillian H. Williams, Director, Office of Equal Opportunity and Affirmative Action, 419 Morrill Hall, 100 Church Street S.E., University of Minnesota, Minneapolis, Minnesota 55455, (612) 373-7969, or to the Director of the Office of Civil Rights, Department of Education, Washington, D.C. 20202, or to the Director of the Office of Federal Contract Compliance Programs, Department of Labor, Washington, D.C. 20210.

LETTER FROM THE DEAN

As you explore this bulletin for the first time, think of it as opening the doors to a world of experiences unlike any you have had before.

It invites you into the world of the liberal arts, a place where we hope a spark of learning will be kindled that will light the rest of your life. Learning in the College of Liberal Arts means more than fulfilling requirements, more than "getting through." Being a liberal arts student means learning how to learn.

In 1979, for the first time in 11 years, the college appointed a committee on undergraduate education to take a hard look at the bachelor's degree. As an incoming student, you will benefit from the new requirements that were set and go into effect fall 1982. If you are a continuing student, you will be able to take advantage of many of the changes as well.

At their heart, the report's recommendations seek to prepare you to meet the basic liberal arts goal: to learn how to think. The requirements should be thought of as guideposts along the way to help you achieve the education you deem most relevant to you.

This bulletin describes the degree requirements and the diverse major fields, courses, internships, and study abroad opportunities available to you. Through study in various fields, you have the chance to meet internationally known professors and to learn about their current research.

The bulletin is just a book, however, and it is up to you to design and seek out the kind of education you want. Behind the cold type on these pages, you will find faculty and staff members who stand ready to help you. We judge ourselves by what we can do for you while you are enrolled in the college.

Cordially,



Fred E. Lukermann
Professor and Dean

College of Liberal Arts

I. THE COLLEGE AND ITS PROCEDURES

LIBERAL EDUCATION AND THE STUDENT

At the heart of every great university is a college that encompasses the basic disciplines of knowledge. That college at the University of Minnesota is the College of Liberal Arts.

The traditional branches of knowledge are housed here—the social sciences, the humanities and fine arts, and the natural sciences. In addition, the college offers professional programs with close ties to these fields. Study and research opportunities are available to you in more than 50 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 Afro-American studies. You also may choose to design an individualized major program.

More than 18,000 undergraduate students and 2,200 graduate students were enrolled in the college in fall 1982. The college is staffed by nearly 600 permanent faculty members who can share the most current research in their fields.

Many students complete their four years in the college, and others complete their basic liberal education course work in the college and transfer to another unit of the University such as the School of Management or one of the health science schools.

As the port of entry to the University for most students, the college prides itself on its Student Academic Support Services unit, which offers advising assistance and other support services. The student services staff can help direct you to the many learning opportunities available within this college and the larger University.

During the last two years, the College of Liberal Arts bachelor's degree program has been examined by its faculty in an effort to make your years of study even more valuable. A report by the Committee on Undergraduate Education was completed in 1980, and most of its recommendations have been incorporated in the curriculum. The degree requirements are designed to give you an education solidly based in the liberal arts.

With an emphasis on learning how to learn, the report calls for you to take an active part in the learning process. The college provides a community of learning in which to do this.

Courses you are asked to take to meet group distribution requirements will introduce you to modes of inquiry and subject matter characteristic of the major branches of knowledge. In a rededication to the importance of communication and the ability to write, the composition requirement has been divided to include a lower-level course focusing on basic writing skills and an upper-level course related to your major area of interest. Recognizing the global interdependence of the world in which we live, the new world studies requirement gives you the opportunity to look at cultures radically different from your own.

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, will be required to prepare a major project, usually a written paper.

The College of Liberal Arts has always offered a rich array of courses in many areas of study, and the new requirements are designed to help you take advantage of this richness. As the Report of the Committee on Undergraduate Education stated, "The liberal arts provides the soundest, as well as the most practical, preparation for careers, which typically change over the years, and for the shaping of one's life."

LIBERAL ARTS DEGREES

The College of Liberal Arts offers five four-year 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.—available to a limited number of students), and bachelor of music (B.M.). A two-year degree, associate in liberal arts (A.L.A.), also is offered. The four-year degrees have many requirements in common. Information about requirements appears under the heading Degree Requirements in this section of the bulletin.

If you are making satisfactory academic progress, you are generally free to select the major and minor of your choice. Some programs limit the number of majors admitted (computer science, journalism, music, the B.F.A. programs, the social work B.S. program in CLA; biology, management, education, and some health science 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 Departments of Theatre Arts and Studio Arts offer the B.F.A. to 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 two department offices.

Bachelor of Science Degree—The B.S. degree is offered in six areas: speech and hearing science, economics, geography, social work, 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 studies based on your personal academic objectives. Proposals must be evaluated and approved by at least two faculty advisers. The degree program is in an experimental phase, and enrollments are limited.

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

Associate in Liberal Arts Degree—If you are planning to transfer in your junior year to another college within the University or elsewhere, or if you are not certain of future educational plans, you may wish to complete the A.L.A. degree, assuring formal recognition of your liberal arts study. The A.L.A. is conferred upon completion of two years of work in CLA. Requirements are completion of: (1) 90 credits acceptable to CLA; (2) at least 45 CLA credits completed on A-N grading; (3) the CLA English composition requirement; and (4) distribution and/or second language requirements (see Liberal Education Distribution Requirements). If you meet these requirements and apply for the degree, it will be awarded even if you plan to continue work in CLA or in a professional school.

CLA Degrees Earned Concurrently With Other University of Minnesota Degrees—If you transfer to the School of Management, College of Education, or 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—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 offered under the same degree program already completed and have that accomplishment recorded on your official transcript.

DEGREE REQUIREMENTS

New Degree Requirements

In spring 1980, the College of Liberal Arts approved the report of its Committee on Undergraduate Education (the Chambers committee), which recommended several significant changes in bachelor's degree requirements. Beginning fall 1982, the new requirements go into effect for entering freshmen (new students with fewer than 39 credits). Transfer students who enter the college beginning fall 1984 also will have to follow the new requirements. Currently enrolled students traditionally are not asked to meet newly adopted requirements, though they are encouraged to do so; they may continue to follow the old requirements. Differences between the new and the old requirements are explained below.

Liberal Education Distribution Requirements

To assure balance and breadth of study, your degree work is guided by the "group distribution plan." While meeting group distribution requirements, you can satisfy personal interests, expand knowledge and understanding, and explore academic and vocational options.

Though many students spread group distribution course choices over their four years of college work, most take a considerable portion of them in the first two years. Introduction to a well-chosen variety of fields can make the last two years of work more fruitful, and many group distribution courses are prerequisite to 3xxx-5xxx required and elective courses.

Section IV of this bulletin explains each distribution category and lists the courses that may be taken by students for each group.

NEW DISTRIBUTION REQUIREMENTS

B.A. and B.S. Degrees—Candidates must fulfill the following group distribution requirements (at least 48 credits):

Group A—Language, Logic, Mathematics, and the Study of Argument

8 to 10 credits (normally two courses, at least one of which should deal with a formal language or formal symbolic system)

Group B—The Physical and Biological Universe

12 to 15 credits (three 4- or 5-credit courses, one to include a laboratory. Two of the courses must be chosen from the list of foundation courses listed in Section IV, either as one two-quarter sequence in a particular science or as two one-quarter courses in different sciences.

Group C—The Individual and Society

16 to 20 credits (normally four courses, one selected from each of the following three categories and a fourth from one of them)

1. Individual and Institutional Behavior
2. The Historical Perspective
3. Social and Philosophical Analysis

Group D—Literary and Artistic Expression

12 to 15 credits (normally three courses)

The College and Its Procedures

B.I.S. Degree—Candidates must fulfill the following group distribution requirements (at least 51 credits):

- Group A*—15 or 16 credits (three or four courses); either 15 or 16 credits of a single second language, ancient or modern, or 15 or 16 credits in group A courses
Groups B, C, and D—12 to 15 credits (normally three courses) each; must include one laboratory course in group B

B.F.A. and B.M. Degrees—Candidates must fulfill the following group distribution requirements:

- Groups A, B, and C*—8 to 10 credits (normally two courses) each; a minimum of 8 credits must be completed in each group, and the total credits for the three groups must equal 28

Group D—Requirement automatically satisfied by major field

A.L.A. Degree—Candidates must fulfill requirements in four of the following categories:

Group A—8 to 10 credits (normally two courses)

Group B—12 to 15 credits (normally three courses); must include two survey courses and at least one laboratory course

Group C—16 to 20 credits (normally four courses); must include one course in each of the following three categories and a fourth in one of them:

1. Individual and Institutional Behavior
2. The Historical Perspective
3. Social and Philosophical Analysis

Group D—12 to 15 credits (normally three courses)

Second Language—three quarters of college or three years of high school work, or an appropriate combination of high school and college work, in one language

OLD DISTRIBUTION REQUIREMENTS

B.A. and B.S. Degrees—Candidates must fulfill the following group distribution requirements (at least 48 credits):

Group A—Communication, Language, Symbolic Systems
8 to 10 credits (normally two courses)

Group B—The Physical and Biological Sciences

12 to 15 credits (normally three courses, one or more selected from the group survey courses listed in section IV; one or more must include a laboratory. Credit earned by examination does not satisfy the laboratory requirements.

Group C—The Individual and Society
16 to 20 credits (normally four courses)

Group D—Literary and Artistic Expression
12 to 15 credits (normally three courses)

If you enrolled in the college before fall 1982, any courses you have taken to fulfill distribution requirements count as they were classified at the time you took them. Beginning fall 1982, however, you may take only those courses from the new list that appears in section IV.

B.I.S., B.F.A., B.M., and A.L.A. Degrees—Group distribution requirements for these degrees have not changed substantially. The requirements are listed above. The old distribution requirements for the A.L.A. degree also required 16 to 20 credits in Group C; however, the credits were not divided among the new categories. Courses taken fall 1982 and thereafter to fulfill remaining requirements must be selected from the new list that appears in section IV.

B.A. Second Language Requirement

To earn a B.A. degree in CLA, you must fulfill the second language requirement by one of two "routes." Route I is designed to train you to use with proficiency a language different from your native tongue; Route II reduces the emphasis on language but requires supplementary study of the civilization and culture in which the chosen language is the principal medium of communication.

Route I requires completion of the equivalent of at least 23 credits in a second language, high school and college work combined, or passage of a validation examination at that level. Route II requires completion of the equivalent of at least 27 credits, at least 15 in a second language or validation at that level and 12 in courses about the country or countries that use the language chosen.

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, you may consult a language department or an adviser for placement assistance. Normally one year of high school study equals one quarter of college study.

Foreign students whose primary language is not English are exempted from the requirement. They may not earn language credits in proficiency courses in their primary languages.

You may repeat for credit language study completed in high school, but, of course, it is to your advantage to start your college work at as high a level as possible. If you repeat work you have taken in high school, it is counted instead of your high school work toward meeting language requirements.

Route I and Route II requirements, with a list of courses that meet part of the Route II requirements, are stated in section IV.

Examinations to Meet Language Requirement—Qualified students may meet part or all of the requirement by passing examinations arranged with appropriate departments. Examinations may be taken to earn credit or to demonstrate proficiency without credit. See Examination-for-Credit Programs. Credit by special examination is not granted for language courses taken in high school unless you can demonstrate proficiency beyond the units of high school study.

World Studies Requirement

In order for students to expand the boundaries set by major European and North American educational traditions, B.A. degree students are asked to examine cultures radically different from their own. The requirement is completion of at least two courses (8 to 10 credits) dealing with the cultures of Asia, Africa, or Latin America or with traditional American Indian cultures. These courses also may be used to satisfy other degree requirements. A list of approved courses appears in section IV.

This is a new requirement and does not apply to students who enter the college before fall 1982 or to transfer students (those with 39 or more credits) who enter before fall 1984.

English Composition Requirement

Candidates for all CLA bachelor's or associate in liberal arts degrees must meet the English composition requirement. Entering freshmen who have not been exempted on the basis of high school records and placement tests must complete the writing practice requirement. The A.L.A. degree students must complete a second 1xxx-level course in composition. All other students must complete an upper-level composition course that will be designated by their major departments. If you enrolled before fall 1982 and have not completed the composition requirement in effect when you entered, you should visit your college office for advice about course selections.

Details about the composition courses and requirements are presented in section II in the *Composition listing* under English.

Major Requirements

Major Sequences—Candidates for all CLA degrees must complete a major to gain depth of understanding in an area of study. More than 50 major sequences are offered in the college; section II of this bulletin describes them. Since their requirements change from time to time, you should check with your adviser, your college office, or your departmental office for current information (ask for an up-to-date major requirements sheet).

Departmental Majors—These majors, which appear in section II under the heading B.A. or B.S. Major Sequence, are designed as integrated programs of concentration. Each represents the judgment of its department about appropriate initial study of its discipline at the undergraduate level. Many departments now require that students filing major programs beginning in fall 1982 complete a major project. Individual major programs may be modified by department or major adviser.

You may take 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 at 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 30 3xxx and 5xxx credits outside the major.

Admission to major status in eight CLA degree programs requires departmental permission: biology, computer science, journalism and mass communication, music, the B.M. program, the B.S. program in social work, and the B.F.A. programs in studio arts and theatre arts. If you are interested in one of these programs, you should consult the appropriate department office.

Established Interdepartmental Majors—These majors are offered in African studies, American studies, classical civilization, East Asian studies, humanities, international relations, Latin American studies, preparation for theology, religious studies, and urban studies. Requirements are detailed under appropriate headings in section II. These majors may be modified in individual cases.

Individually Designed Interdepartmental Major—This major allows you to design a unique program based on a central theme or concentration to meet your individual academic interests. It requires approval by the Interdepartmental Major office, 220 Johnston Hall, and three faculty advisers. The major usually combines course work from three or more CLA departments. It requires completion of a senior project based on your principal educational purposes. See section II for details.

Bachelor of Individualized Studies—For this degree, you design an individualized program of 90 credits that must be evaluated and approved by two or more faculty advisers. The program must have a coherence based on your stated academic objectives, but need not be confined to a single area of concentration. The distribution requirements, which differ from those for other CLA degrees, are listed earlier under the heading Degree Requirements. The B.I.S. major office is located in 220 Johnston Hall.

Minor

A minor is an approved concentration of 15 to 24 3xxx and 5xxx credits in a single department or program. It is not a requirement for graduation, but rather it is an option available to B.A. and B.S. candidates who wish to complete an area of concentration outside their major. Minors are listed in section II.

NEW CLA BACHELOR'S DEGREE REQUIREMENTS

Type of Requirement	Bachelor of Arts	Bachelor of Science	Bachelor of Fine Arts	Bachelor of Music	Bachelor of Individualized Studies (experimental)
TOTAL CREDITS	180	180	180	180 (117 in music)	180 (90 after admission to program)
CLA CREDITS	45 in CLA courses, 30 in the senior year				
3XXX OR 5XXX CREDITS	Minimum of 75, 30 outside the major	Minimum of 75	Usually minimum of 75	Minimum of 75, 15 outside the major	Minimum of 75
QUALITY STANDARDS	Grades of A, B, C, or S in 180 CLA credits, in 75 3xxx or 5xxx credits, and in the minimum number of 3xxx or 5xxx credits required by the major department. Up to 12 credits of D may be used toward the quality standards requirement. Credits of D earned at Minnesota or other institutions after summer 1972 count toward all other requirements.				
A-N GRADING	At least half of the CLA credits applied toward a degree, never fewer than 45, must be taken on A-N grading				
ENGLISH COMPOSITION	Two composition courses, one in the freshman year and one in the junior or senior year, or exemption				
SECOND LANGUAGE	Language requirement of 0 to 27 credits; see page 7 and section IV				
GROUP DISTRIBUTION	At least 48 credits; see page 5 and section IV		Minimum of 28 credits in groups A, B, and C; see page 6 and section IV		Minimum of 51 credits; see page 6 and section IV
WORLD STUDIES	8 to 10 credits; see page 7 and section IV				
MAJOR	Approval of program by department				Approval of 90-credit program by two or more advisers
MINOR	Optional: 15 to 24 3xxx or 5xxx credits in approved concentrations				

General Credit Requirements

Credit Requirements—A minimum of 180 credits acceptable to the college are required for all CLA bachelor's degrees; 75 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 and D (see Credit and Grade Standards), are acceptable.

In order to earn a CLA degree, you must complete at least 45 CLA credits, 30 of which must be taken in the senior year. "CLA credits" are those earned in courses listed in section II of this bulletin and taken through registration on the Twin Cities campus.

Credits earned by examination and credits for courses not listed in this bulletin (non-CLA courses) may not be applied toward the required 45 CLA credits. However, a maximum of 16 non-CLA credits may be applied toward the overall credit requirements (except for the B.I.S., which permits 40 such credits if approved by the adviser). Credits from typing, shorthand, study skills, first aid, and courses clearly remedial in nature may not be applied toward credit requirements.

Required Preparatory Courses—Most major programs require preparatory or background courses. Freshman and sophomore programs should include a substantial number of these, since they qualify you for entrance to advanced and major work. Most of them satisfy some of the distribution requirements. See individual program listings in section II for required preparatory courses.

Outside-of-Major Requirement—B.A. programs must include at least 30 3xxx-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.

Other Graduation Guidelines

Degree Requirements After an Absence—If you have not attended CLA for *more than two years*, and have completed fewer than 75 credits, you must fulfill the graduation requirements in effect at the time you reenter. If you had completed 75 or more credits at the time of last attendance, you may elect to satisfy either the former or the current requirements.

If you have not attended CLA for *two years or less*, and have completed fewer than 39 credits, you must fulfill the requirements in effect at the time you reenter. If you had completed 39 or more credits at the time of last attendance, you may choose to satisfy either the current or the former requirements.

Application for Graduation—By the fifth week of the quarter in which you expect to complete degree work, you must apply for graduation in 202 Fraser Hall.

ADMISSION

The faculty and staff of the College of Liberal Arts encourage applications from persons belonging to minority or other groups that have been underrepresented in the college. The College of Liberal Arts is committed to providing equal opportunity to all 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.

Prospective Student Services

Preadmission advising and assistance are offered by the college. If you would like to visit the college and talk about plans for study here, contact CLA Prospective Student Services and Admissions, 49 Johnston Hall, 101 Pleasant Street S.E., University of Minnesota, Minneapolis, Minnesota 55455 (376-3950). CLA advisers will answer your questions, provide information, and arrange meetings with faculty members for you. The Department of University Relations (373-2126) schedules campus tours. Please call two weeks in advance if possible.

Application Procedure

The College of Liberal Arts admits qualified applicants at all undergraduate levels. Admission depends upon your prior educational achievement and objectives and your state of residence (non-Minnesotans must satisfy higher academic standards).

Admission materials and information can be requested by mail, by phone, or in person from the Office of Admissions, 240 Williamson Hall, 231 Pillsbury Drive S.E., University of Minnesota, Minneapolis, Minnesota 55455 (376-1382). A \$15 nonrefundable application fee, payable to the University of Minnesota, must accompany your admission application.

You may begin college work in any quarter. As a new student, you may enter during the summer session and earn credits toward a degree, but you are not formally admitted to the college until a later quarter.

Applications should be received by July 15 for fall quarter admission, November 15 for winter quarter admission, and February 15 for spring quarter admission. Applications received after these dates may be considered but cannot be assured of action in time for enrollment in the quarter requested. Earlier application is advisable; high school students are urged to apply between November 15 and April 15 for entry the following fall. Summer session enrollment and registration instructions are presented in the *Summer Session Bulletin*, available by April 1; you may register in advance, beginning in late May. All deadlines are subject to change. Current deadline dates are listed in admissions materials.

Freshman Admission

High school graduates who have completed less than one year of college work (fewer than 39 credits) enter as freshmen. Those in the top 10 percent of their high school graduating classes are automatically admissible. Others are considered for admission on the basis of high school percentile rank and scores on a college aptitude test.

Applicants seeking admission as freshmen must submit scores from either the Preliminary Scholastic Aptitude Test (PSAT) or the American College Testing Program (ACT). Students may also wish to submit scores from the National Merit Scholarship Qualifying Test. The PSAT, administered through the Minnesota Statewide Testing Program, is taken in the junior year of high school; the ACT in the junior or senior year. Test scores should be reported to the Office of Admissions, 240 Williamson Hall, 231 Pillsbury Drive S.E., University of Minnesota, Minneapolis, Minnesota 55455. High school rank plus either the PSAT or ACT score determine admissibility. Patterns of high school work and educational objectives are also considered. Students who do not meet all of the basic requirements may be admitted if their record suggests the likelihood of successful college work. (See a current *Introductions* for more specific information about possible changes in admission requirements.)

Advanced Placement—High school students may earn college credit in some subject areas by participating in the College Entrance and Examination Board Advanced Placement Program in high schools that offer it.

Admission Before High School Graduation

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

Concurrent High School-University Registration—Some students, usually seniors, enroll for courses in the High School Special Program while completing high school work. For an admission application, contact the Office of Admissions, 240 Williamson Hall, 231 Pillsbury Drive S.E., University of Minnesota, Minneapolis, Minnesota 55455.

Summer Session Registration—Some students with strong academic records and their high school counselors' recommendations register in the summer between their junior and senior years for courses that meet their specific academic needs.

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

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 test scores.

Advanced Standing Admission

If you have completed a year or more of college work (39 or more credits), you are considered for admission with advanced standing. Admissibility is usually based on your earlier college performance (better than a C average is required), educational objectives, and patterns of course work completed. If you have completed two years (84 transferable college credits) of C or better work in Minnesota community colleges you are usually admitted automatically.

If you are a prospective advanced standing student, you would be wise to include in your pre-CLA work as many prerequisite and preparatory courses as possible for the area you expect to enter.

Transfers of Credit—CLA normally accepts for degree work all liberal arts courses completed at accredited colleges with grades of A, B, C, or equivalent. Courses completed with grades of D usually do not count toward the total required for graduation, but some of these courses may meet other graduation requirements (see Use of D Grades in this section of the bulletin). Credits earned through standardized testing programs (such as CLEP; see Examination-for-Credit Programs in this section of the bulletin) are accepted if the scores meet CLA standards. Technical or professional courses generally are not transferable, but you may apply a limited number of non-CLA course credits toward your CLA degree (see General Credit Requirements in this section of the bulletin).

Evaluations of transfer credits are made in the Admissions office, 240 Williamson Hall (376-1382). Address questions to this office.

Honors Program Admission

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. Only CLA degree candidates are admissible to this program. The special opportunities offered by the program are described under the heading Honors Program in the Special Learning Opportunities listing in this section of the bulletin. For information about application procedures, consult the Director of Honors, 115 Johnston Hall, 101 Pleasant Street S.E., University of Minnesota, Minneapolis, Minnesota 55455 (373-5116).

Martin Luther King Program Admission

For admission to the Martin Luther King Program, you must be admitted to the College of Liberal Arts through the regular application procedures described for new freshmen or new advanced standing students. You should indicate interest in the MLK Program on your application form. Certification for applying to the University and the MLK Program can be obtained through the MLK office and the various ethnic learning resource centers of the Office of Minority and Special Student Affairs. Eligibility for the MLK Program is not based solely on certification. If you are currently enrolled or a returning student, information regarding application procedures and eligibility can be obtained either from the MLK Program, 19 Johnston Hall (373-9739), or from the Office of Minority and Special Student Affairs, 12 Morrill Hall.

Nondegree and Part-Time Status—Adult Special 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. Hundreds of men and women study for reasons of personal growth and enrichment through adult special registration. Usually adult special students already hold bachelor's degrees or have been out of high school for several years and have completed one year of college-level work. Flexible admission standards take into account the needs and experiences of individual students. Most adult special students register for part-time study, though full-time enrollment is not prohibited.

Advising services for CLA adult special students are available in the Adult Special office in 114 Johnston Hall (376-4535). Advisers aid in planning programs to suit students' outside demands and in selecting course work to take fullest advantage of the college's resources.

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. Generally, adult special work may not be used to improve the scholastic average for admission to another program; check with your program director before attempting to do this.

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 Graduate School are required.

Admission to adult special status is without charge; the application fee for new students is waived. Applications should be received by July 15 for fall quarter admission, November 15 for winter quarter admission, and February 15 for spring quarter admission. Applications received after these dates may be considered, but cannot be assured of action in time for enrollment in the quarter requested.

Applications for adult special admission for non-CLA graduates are made to the Office of Admissions, 240 Williamson Hall, 231 Pillsbury Drive S.E., University of Minnesota, Minneapolis, Minnesota 55455. University graduates or former students who want to enroll as adult special students obtain registration permits in 202 Fraser 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, 214 Johnston Hall (373-2876).

ORIENTATION

New students are required to participate in a one- or two-day CLA orientation program scheduled shortly before the first quarter of enrollment. Planned in conjunction with the University Orientation office, special programs are offered to introduce you to the broad resources and services of the University and college. College advisers will also meet with you in groups and individually to work out initial registrations, explain requirements, and answer questions.

As a new student, you will receive your scheduled orientation date by mail, along with a variety of planning information. When you come to campus, you also will receive a *CLA Student Handbook*, which contains details about registration, course selection, transfer of credits, and college services; this handbook is to be used in conjunction with the *CLA Bulletin* as preparation for on-campus experiences.

REGISTRATION

Registration is the process of signing up for the courses to be taken in the coming quarter. Registration periods ordinarily begin in mid-August for fall classes, mid-November for winter classes, mid-February for spring classes, and late May and late July for the two summer terms.

Full CLA registration instructions appear in the *Class Schedule*, which is issued each quarter.

Your Responsibility for Registration

You are responsible for your own course registration. You should take care not to enroll in courses for which you are not prepared or that would involve repetition of work already completed. The course descriptions list prerequisites; instructors will also discuss requisite preparation with you. An instructor may ask you to cancel a course if you are inadequately prepared or inappropriately registered.

If you determine that you are enrolled in a course inappropriate for you, you should cancel the course as quickly as possible. The two-week period at the beginning of each quarter enables students to make such course adjustments; beyond the second week, course cancellations generally are not allowed.

Registration—Where to Start

Students new to the University, both freshmen and transfer students from other institutions, receive registration information by mail. You will be given materials and instructions when you come to campus for the required orientation-registration program. *Students from other University of Minnesota colleges* apply for authorization to change colleges at the Admissions office, 240 Williamson Hall, or at corresponding offices on other University campuses. Instructions for your initial registration in CLA will be sent with the authorization to transfer. *Students returning to CLA after absences*, if they have not attended a college outside the University, obtain registration information at 202 Fraser Hall; returning CLA students who have attended school outside the University go to 240 Williamson Hall. *Continuing students* obtain materials from the Registration Center, 202 Fraser Hall, beginning one or two days before registration periods open.

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 have to 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 \$6 per credit as well as any special fees. Further information is available in 150 Williamson Hall (376-1680).

Limits on Registration

Minimum/Maximum Credit Loads—Normally you are expected to register for at least 12 credits per quarter. When circumstances make a lighter registration advisable, you may register for fewer than 12 credits. Most students register for three or four courses a quarter—12 to 16 credits. Enrollment for more than 19 credits requires Student Scholastic Standing Committee approval. This limit means that typically you may register for four courses on your own but must gain approval for five. Exceptions may be granted if you have a superior academic record.

Non-CLA Credits—Courses described in section II of this bulletin carry CLA credit as indicated. You may enroll in some courses offered by other University of Minnesota colleges—courses not listed in this bulletin—however, a maximum of 16 credits of non-CLA courses may be applied toward a CLA bachelor's degree. Permission must be obtained from the Student Scholastic Standing Committee to receive degree credit for non-CLA courses beyond this limit.

Repeating Courses—You may repeat for credit any course you have not completed satisfactorily (courses completed with grades of D or N). Both grades earned will appear on your official transcript. You do not earn credit if you repeat a course that you have already completed satisfactorily.

You may also repeat for credit any course from which you have officially withdrawn.

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.

Repetition of High School Work—In CLA you normally enroll for mathematics and second language courses for which high school work makes you eligible. If you think you are not prepared to continue at such a level in a second language, consult your adviser or the language department about appropriate course selection. You may repeat high school language studies for credit under either A-N or S-N grading.

Second language credit may be earned through special examination if your level of knowledge is beyond that of your previous formal study or if your competence has been gained through informal study.

Trigonometry may be repeated for credit without approval. If your fourth year of high school mathematics included calculus, you may be qualified to earn five mathematics credits through special examination.

Audited Courses—With instructor permission, enrollment in courses 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 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 course, 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.

No-Credit Registration—Under some conditions you may gain an instructor's permission to take full part in a course and receive a grade through a no-credit registration. The grade for a no-credit registration appears on your transcript and sometimes can be used to demonstrate ability in a subject area. You may sometimes use a no-credit registration for review purposes.

Continuing Education and Extension—If you are considering enrollment in evening courses or extension TV courses, you should take into account the demands on your time from both your day school course load and any outside employment.

To have extension courses entered on your day school transcript, you must make a special request in 150 Williamson Hall.

Credits In Graduate School—If you lack no more than nine 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 of the bulletin.

Changes of Registration—Cancel-Add Procedure

You may cancel courses, or add them, after registering, to make adjustments in your program. Course cancellations and additions may be made after the end of the controlled-registration period and through the first six weeks of a quarter.

You are held responsible for completing courses for which you have registered unless you officially cancel them.

Procedures for changes in registration are detailed in the *Class Schedule*.

Limits on Cancel-Adding—Course cancellations are allowed during the first six weeks of a quarter. Course entry after the first five days requires written permission from the instructor, and after the first 10 days from the instructor and Student Scholastic Standing Committee. Late entry is seldom permitted beyond the tenth day. For this reason, a cancellation after 10 days likely will result in a reduced schedule.

Late Cancellation Policy—Cancellation after the first six weeks of a quarter is granted only with Student Scholastic Standing Committee approval. Late cancellations may be granted only under unusual circumstances.

Financial Aid and Course Cancellation—If you cancel your entire registration during a quarter, or cancel a course or courses causing your registration to fall below the level for which you are receiving financial aid (12 credits for full-time student status), you will be required to repay the Office of Student Financial Aid. Veterans receiving GI benefits must repay the Veterans Administration. Repayment is calculated according to the date on which your cancellation is effective. Consult the Student Financial Aid office, 210 Fraser Hall (376-8686), to discuss your situation.

Leaving College—To leave the University during a quarter, you must cancel all courses for which you are registered. You should notify your college office, complete a course cancellation request, and submit it in 202 Fraser Hall. (If you are unable to do this in person, you may notify your college office by letter or telephone or you may call 373-2876.)

ADVISING

College advising services offer individual help in planning your study program and in meeting other concerns of college life. Freshmen and sophomores who have not selected majors and students in special programs go to assigned premajor or other advising centers (a directory appears below) for assistance with course selection, registration, vocational and personal decisions, financial problems, and participation in campus activities. After you choose a major and attain sophomore standing, you are assigned for program guidance to a staff member in your major department, and usually you retain the same adviser until graduation. College records move to the appropriate upper division office, which becomes your college office. College office advisers may be changed by application at the offices, major advisers by consultation in major departments.

Wise use of the advising system can make your college experience satisfying and more productive. You should take pertinent records and materials to adviser appointments, and you can profit by preparing for program planning sessions by giving some careful thought to possible course selections or program schedules.

CLA Advising Offices

Your college records are kept in the college advising office to which you are assigned; these offices provide advising services and procedural information. The offices are:

Premajor Advising (for freshmen, preprofessional students, and those who have not chosen majors)

105 Johnston Hall (373-3666)—coordinator for premajor advising

30 Johnston Hall (373-2912)—health sciences, mathematics, biological and physical science majors, students with undeclared majors

B-18 Johnston Hall (373-2880)—Social sciences, humanities, and fine arts majors, preprofessional students (e.g., management, education), students with undeclared majors

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

Coordinator, Upper Division College Offices—105 Johnston Hall (376-4533)

Humanities and Fine Arts—206 Folwell Hall (373-5245)

Interdepartmental—114 Johnston Hall (376-4533)

Natural Sciences—114 Johnston Hall (376-4533)

Social Sciences—West Bank, 122 Social Sciences Building (373-4237);
East Bank, 114 Johnston Hall (376-4533)

Advising for Special Programs

Adult Special: Nondegree Students—114 Johnston Hall (376-4533)

Bachelor of Elected Studies—220 Johnston Hall (376-4533)

Honors Program—115 Johnston Hall (373-5116)

Martin Luther King Program—19 Johnston Hall (373-9739)

The college's administrative offices are located on the first and second floors of Johnston Hall. The Student Intermediary Board is located in 101 Johnston Hall (373-2821).

SPECIAL LEARNING OPPORTUNITIES

Honors Program

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 at all levels, 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.

Honors Courses—Honors courses or special honors sections of regular courses are, typically, small in size and taught by selected teachers. Though grading standards are comparable to those of other courses, topics and materials are approached in greater depth than in regular courses. 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 University freshmen and sophomores. Topics change each quarter, and vigorous student participation is the pattern. Field trips and other special learning methods often characterize the colloquia. They carry credit, but, since 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 (115 Johnston Hall, 373-5116).

Honors Seminars—College 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, college honors seminars are designed to 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*.

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. Continuation in the Honors Program for freshmen and sophomores is based on satisfactory participation in at least two approved honors offerings per year.

Admission requirements are flexible. You may apply at any time, though entering freshmen are urged to apply by June 1.

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 college 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 the major, you usually must have earned grades of **A** in a minimum of half of your credits, and you must be accepted for admission at least two quarters before graduation in order to graduate with honors. If, at the end of your junior year, your grades are below the level necessary to graduate with honors, you 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—In this office (115 Johnston Hall, 373-5116) all students admitted to honors programs obtain registration materials, information, advising, and other services.

Martin Luther King Program

(19 Johnston Hall, 373-9739)

In addition to providing academic advising and personal counseling, the Martin Luther King Program offers a variety of supportive services—tutorials, MLK sections of introductory courses, support groups, study skills workshops, and employment counseling. The program is designed for students with financial and educational need. They need not be members of an ethnic or racial minority. The major goal is to provide maximum support to students as they make progress toward degrees. Information about entering the program is described under Admission in this section of the bulletin.

The MLK office provides an atmosphere where students feel comfortable in obtaining help and information. The counseling and academic staff provide individualized services designed to encourage students to realize their full potential.

Individually Designed Interdepartmental Major (IDIM)

The IDIM program is designed for the liberal arts student who wishes to earn a B.A. by specializing in an interdisciplinary area rather than a departmental major. Since you must carefully plan your own 80-credit major, the IDIM program may require more initiative, thought, and effort from you than do many traditional majors, but it offers in exchange an individualized education and close contact with faculty and staff advisers. Information about the IDIM program is presented in section II or can be obtained in 220 Johnston Hall (376-3030).

Bachelor of Individualized Studies

If you seek an even broader program of study than the IDIM described above, you may wish to consider the B.I.S. The degree program has features that are especially appropriate to a returning student whose interests have changed. While this program has much in common with the IDIM — 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 course work outside the college, provided it is relevant to your objectives and approved by your advisers. The distribution requirements are also somewhat different. You must have earned at least 39 credits before applying and must complete 90 credits in the program. The

B.I.S. degree program will be under review in 1982-83. At that time, the college will determine whether to continue to admit students to the program. Further information is available in 220 Johnston Hall.

Office for Special Learning Opportunities (OSLO)

Information about the college's special learning opportunities and assistance for students who wish to plan individualized study projects can be obtained in OSLO, 220 Johnston Hall (373-7550). Special learning opportunities include examinations for credit, independent study, and field experience learning. They are described below.

Independent Study

Most departments offer opportunities for independent study of regular courses or of subjects not covered in the curriculum. These opportunities, carried out under the direction of a member of the faculty, include:

Y Registration—Enrollment in established courses in which you study on your own, without class attendance. You must meet course conditions for examinations and other work on which you and the instructor agree. Regular fees, deadlines, and grading policies apply. Instructor, department, and Student Scholastic Standing Committee permission are required.

X Registration—A way of earning extra credits (limit of three) in a course you are taking or have previously taken by exploring more deeply a topic related to the course's content. Instructor, department, and Student Scholastic Standing Committee permission are required.

Directed Studies (3970 or 5970)—An individual learning experience arranged between 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. Instructor, department, and Student Scholastic Standing Committee permission are required.

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

Directed Instruction (3980 or 5980)—An opportunity to learn more about a subject you have studied by assisting in teaching it to others. Credits earned range from one to five a quarter; a maximum of eight may be applied toward a degree. Instructor, department, and Student Scholastic Standing Committee approval are required.

Interdepartmental Study (ID 3970, LFA 3970, NSci 3970, SSci 3970)—Like directed studies except that the subject crosses departmental lines. Usually you work with more than one instructor and need approval from each instructor, the Office for Special Learning Opportunities, and the Student Scholastic Standing Committee.

Field Experience Learning

Field experience learning is a form of study in which community resources are used to explore further questions and issues raised in the classroom. You work in a paid or volunteer position, usually in a location such as an art gallery, museum, social service agency, government office, business organization, or community program. The fieldwork (sometimes called an internship or practicum) takes place off campus, but the study is

carried out under the direction of a University faculty member. Credit is earned through directed study, through X registration, or by enrolling in one of the special courses designated for field experience learning.

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 in section II.

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 on armed services educational experiences. Information about examinations or credit for work validated through non-University standardized tests 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, you may request to take an examination for credit. If Student Scholastic Standing Committee and departmental 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. Only currently enrolled students are eligible.

Credit by special examination is not granted for language or mathematics courses taken in high school.

Special Examinations for Proficiency—To meet a prerequisite or satisfy a requirement, you may ask Student Scholastic Standing Committee permission to take an examination to demonstrate proficiency. No credit is granted, and no fee is charged.

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 course work previously completed in the subject matter will be subtracted from credit awards for CLEP exams. 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 3 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 varying combinations of classroom, laboratory, library, off-campus, and home work.

Grades—University academic achievement is graded under two systems: A-B-C-D-N and S-N. Most CLA courses may be taken under either system. Choice of grading system is indicated on registration forms; changes may not be made after the tenth day of classes.

Some courses may be taken under only one system or the other; limitations are identified in the course listings. Most departments restrict S-N 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.
- B—Achievement *significantly above* the level necessary to meet course requirements.
- C—Achievement that *meets the basic course requirements in every respect*.
- D—Achievement *worthy of credit even though it does not fully meet the basic course requirements in every respect*.
- 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.
- N—*No credit*; assigned when you do not earn an S or a D or higher grade and are not assigned an incomplete. If you have never attended class, N is the appropriate grade.

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 is often 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.

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

- I — *Incomplete*, a temporary grade assigned when the instructor has “reasonable expectation” that you can successfully complete unfinished work in a course before the end of the next quarter. You and your instructor should arrive at a clear understanding, in advance, about whether you will receive an I and what the conditions for makeup of work will be. The instructor may set dates and conditions for makeup of work. If a course is not completed as prescribed, or not made up as agreed, the grade becomes N and the I is removed from the transcript.

When you are assigned an I, you are expected to make up the work on your own. You may not attend the class sessions in a subsequent quarter without reregistering.

To make up an I that has been on your transcript for more than a year, you are usually expected to reregister for the course and to complete it as if it were an original registration. (The original I, lapsed to N, will remain on your transcript.) Departments or instructors may extend the one-year limit in cases in which makeup without registration seems feasible.

- W — *Official withdrawal* from a course after the tenth day of classes (earlier withdrawals are not recorded). You must file a course cancellation request to assure that the W, rather than an N, will be formally entered on your record.
- V — Registration as a *visitor* or auditor, which permits attendance and, with instructor permission, participation in a course’s activities. No credit or grade is earned. 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.

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 distribution requirements, prerequisites, or, with departmental approval, specific course requirements for the major. D credits in General College courses may not be used to satisfy any CLA requirements.

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 or your adviser is recommended.

Satisfactory progress according to CLA standards differs from standards imposed by the Office of Student Financial Aid. The financial aid office requires that students funded for full-time study complete satisfactorily at least 36 credits in an academic year.

Dean's List—The Dean's List, posted quarterly in the second floor corridor of Johnston Hall, is the college's method of recognizing superior academic performance. About 8 percent of CLA students "make" the list. It has two divisions: for the "A" list (usually about 3 percent of CLA students), you must earn 12 credits of A and all other credits with A or S grades; for the "two-thirds A" list, you must complete 12 or more credits (at least 8 on A-N grading) with A grades in two-thirds of your A-N credits and all other credits with B or S grades.

Old Grade and Credit Requirements—Credits and grades earned before fall 1972 will be accepted toward graduation under the rules in effect when they were earned. Specifically, all credits completed before fall 1972 count toward graduation; and a grade average of C in such credits—overall, in major courses, and in 3xxx or 5xxx courses—is necessary to apply them toward a CLA degree. Information about these requirements may be obtained from your college office.

Student Grade Reports and Transcripts

Student academic records are maintained by the Office of Registration, Student Records, and Scheduling through a computerized system. These records show all course work 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 copy at any time at the transcript service in the Office of Registration, Student Records, and Scheduling, 155 Williamson Hall. Transcripts also will be sent upon your written request, at no charge for up to three copies per request, to whomever you designate. Telephone requests are not accepted. Grades for fall and winter quarters are reported just before the succeeding quarters on grade slips that you must pick up from designated locations; they are not mailed. See the Official Daily Bulletin column in the *Minnesota Daily* for dates and places. Grades for spring quarter and summer terms are mailed.

You may leave self-addressed postcards with your instructors to learn your grades as early as possible.

Former Dual-Record System — From fall quarter 1972 through the second term of summer session 1977, the Twin Cities campus used a dual-transcript system. Only work completed with grades of A, B, C, D, and S and the symbols V and T appeared on the *official transcript* released outside the student's college. The *operational record*, released to the student and the student's college, reported all registrations and their outcomes.

Beginning in fall 1977, the University reverted to a single-transcript system in which all of the student's registrations and their outcomes are reported. All work completed under the dual-transcript system, however, will be maintained on a dual system. Course work in which grades of N or symbols of I or W were assigned during the five-year period from fall 1972 to fall 1977 will not appear on the official, externally released transcript.

Student Records: Confidentiality and Access

Confidentiality—College and University regulations protect the confidentiality of your records. Most information in your records is released only with your written consent. Some information, designated "public," may be released without permission: your college, major field, dates of attendance, degrees and awards earned. Address and telephone number are released unless you specifically request they be withheld. Student record information can be released without permission to government auditors, accrediting agencies, institutions to which you have applied for admission, and appropriate authorities in emergencies involving your protection.

A complete statement, "Confidentiality and Access to Student Records," is available in college offices.

Student Access—You may see all your college records except confidential letters of recommendation to which you have waived right of access or that were filed before January 1, 1975, and medical, psychiatric, and psychological treatment records. You may informally review your files on request, with a college representative to interpret the contents. You may copy material and challenge or question contents.

Retention of Student Records—Official transcripts are maintained permanently by the Office of Registration, Student Records, and Scheduling. The college retains CLA degree program plans filed by students who have earned 75 or more credits. It also keeps student records for two years following graduation.

Students may insert materials in permanent recommendation files, which are kept in the Career Development office.

CLASS ATTENDANCE, GRADING, AND EXAMINATION PROCEDURES

Class Attendance — As a CLA student, you are responsible for attending class and for ascertaining the particular attendance requirements for each class or department. You should also learn each instructor's policies concerning make up of work for absences and illnesses. Instructors and students may consult the Student Scholastic Standing Committee about the validity of such policies or decisions.

Course Performance and Grading — Instructors establish their own ground rules for their courses 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 standards, methods of evaluation, and factors that enter into grade determination. The special conditions under which an incomplete (I) might be awarded should also 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*). If you have examination conflicts or three exams within a 16-hour period, you may request adjustment in your college office. Such a request must be presented at least two weeks before the examination period begins.

If you miss a final, an I or N is recorded, depending upon your standing in the class. The instructor's permission to make up the examination must be obtained.

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—You are expected to complete 50 percent or more of each quarter's credits, and 75 percent of each year's, with grades of A, B, C, or S. These percentages apply to credits for which you were registered after the tenth day of classes each quarter.

If you fail to attain the required completion percentages, you will be put on probation — the signal that your academic progress is not satisfactory. If you do not improve your grades while on probation, you will be suspended from the college. 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 indicated.

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. Since continuance in the college in this circumstance is not likely to serve a useful purpose, you may be suspended. The Student Scholastic Standing Committee decides in each case, on the basis of all the evidence, whether to suspend a student. Appeals may be brought 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 that led to the suspension have been corrected, together with convincing prospects that improved work will follow, must be advanced to obtain approval. Reaccepted students are usually placed on probation, and may be subject to immediate suspension if work becomes unsatisfactory.

Petitions for readmission are normally granted only after an interval of one year.

STUDENT INTERMEDIARY BOARD

Student participation in and communication about CLA affairs are channeled through the Student Intermediary Board (SIB or CLA Board), a 29-member council of elected and appointed undergraduates. The board members are the students' representatives who

work for course changes, establishment of new courses, and improvement of educational practices and opportunities as well as student personnel services. The board's comments and suggestions on such issues have made positive contributions to college progress.

The CLA Constitution assigns to the board the responsibility for naming students to college councils and for nominating student members for college committees, which are the steering and advising bodies of the college. The board also makes nominations for positions on all-University student governing boards.

An additional board responsibility is maintaining liaison with departmental student organizations. These bodies function in many CLA departments as the board does in the college setting.

All students are encouraged to participate in the operations of the board and thereby contribute to decisions affecting the college. The board recognizes and practices affirmative action. The board office is located in 101 Johnston Hall (373-2821).

STUDENT SERVICES

Scholastic Standing

The Student Scholastic Standing Committee, made up of faculty members, students, and administrators, is charged with interpreting and enforcing college and University regulations relating to academic affairs. It oversees and handles requests for exceptions to registration policies and procedures, admission standards, transfer of credit policies, and degree requirements. The committee administers the college's probation system, monitoring your 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. Adjustments are possible in many kinds of circumstances. Well-established petition and appeal procedures assure you of full review of your requests.

Scholastic Conduct

The college has defined scholastic dishonesty broadly as any act that violates the rights of another student in academic work or that involves misrepresentation of your own work. Scholastic dishonesty includes, but is not necessarily limited to, cheating on assignments or examinations; plagiarizing, which means misrepresenting as your own work any part of work done by another; submitting the same paper, or substantially similar papers, 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 members, investigates charges of academic dishonesty referred to it by CLA faculty members. When charges are upheld, the student may be placed on disciplinary probation, failed in a course, or suspended from the college.

CLA faculty members 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. The secretary for the conduct committee can provide specific information on report and appeal procedures.

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 (373-4066).

Grievance Procedures and Appeals

Students with complaints or criticism about the content or conduct of a course have recourse through well-established 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 informal processes fail to reach a satisfactory resolution, the department's committee on academic freedom and responsibility will be assembled to hear the evidence. Further appeals go to college-level and University-level committees.

Staff advisers in the college offices are competent sources for interpretation of college procedures or regulations, and they can often suggest suitable alternatives when a problem is involved.

Other sources of assistance for students include the Student Ombudsman Service (102 Johnston Hall), a student-fee supported service that helps students resolve problems, and the CLA Student Intermediary Board, the college's official student organization (101 Johnston Hall).

Financial Aid, Scholarships, Awards

(Office of Student Financial Aid, 210 Fraser Hall, 376-8686)

Financial assistance for students is provided in the form of grants, loans, and work-study. Aid to all University students is administered by the Office of Student Financial Aid (OSFA). Major sources of assistance are described below.

The Pell Grant Program is a federal program designed to aid students from low- and middle-income families in meeting the cost of tuition and fees. Students who qualify may receive \$200 to \$1,620 per academic year, depending on financial need. The maximum amounts are subject to change. Eligibility is dependent on the student's and parents' ability to contribute to educational costs. While need is determined by the Pell program, OSFA disburses the funds.

The Minnesota State Grant Program, administered by the state of Minnesota, sponsors awards based on need. All Minnesota high school graduates are eligible to apply. Awards range up to \$950. Although OSFA may include an estimated amount in an award letter to a student, the state makes the final decision about the amount of award.

The College Work-Study Program helps students who need to earn money to meet their educational costs to find part-time and temporary jobs, both on and off campus. Eligibility to participate in this program depends on the extent of the student's and parents' ability to pay educational costs. OSFA certifies students for a variety of jobs. Students work between 10 and 20 hours a week, depending on individual schedules. Pay scales start at \$4.59 per hour.

The National Direct Student Loan Program enables a student to borrow up to \$2,500 through the sophomore year and up to \$5,000 for the entire undergraduate program. Eligibility for and amount of the loan is based on the student's demonstrated need and the student's and parents' ability to pay educational costs. The interest rate on these loans is 5 percent, and repayment with interest starts six months after the recipient ceases to be at least a half-time student. Minimum repayment is \$30 per month.

The Guaranteed Student Loan Program loans a maximum of \$2,500 during a calendar year. The loans are at 9 percent interest and are repayable beginning six months after graduation or termination of study.

University scholarships are supported by business foundations, fraternal groups, alumni, and friends of the University. All full-time undergraduate students are eligible to apply. Academic achievement is a more important factor in selection than is true for other programs. Students must have a B— average or better and must have completed 36 credits or more in the last three quarters to qualify. Need is also a criterion. The OSFA instruction packet offers more information about these scholarships.

The College and Its Procedures

The Office of Minority and Special Student Affairs (OMSSA) offers financial counseling as well as tutorial, academic, and personal counseling to students who meet their eligibility requirements. Inquiries about eligibility should be directed to OMSSA, 12 Morrill Hall.

ROTC units (Air Force, Army, and Navy) offer scholarship support to men and women who qualify for their programs. Contact the respective units for specific application information: Air Force ROTC, 3 Armory, 373-2205; Army ROTC, 108 Armory, 373-2212; Naval ROTC, 203 Armory, 373-2230.

Part-time work, either on campus or off, is available through the Student Employment office, 6 Morrill Hall. You must be a registered student and must have paid tuition and fees for at least six credits, except during the summer, to use the services of this office.

A number of scholarships to support study abroad are offered through the International Reciprocal Exchange Program, International Student Adviser's Office, 719 East River Road, Minneapolis, Minnesota 55455 (376-7540).

The Office of Student Financial Aid also provides small short-term loans to students who face acute emergencies.

To apply for financial aid, you must use the Family Financial Statement (FFS) of the American College Testing Program. With the exception of the Guaranteed Student Loan Program, all the above programs use the information provided on this form to analyze financial need. If you are a new or continuing student, the deadline for submitting your financial aid application is March 1 for assistance effective the following fall. As long as funds are available, efforts are made to provide financial aid for students applying after this date. All application materials and instructions, including the FFS, are available from OSFA.

Aids for Handicapped Students

Wherever possible, special consideration is given to handicapped students to minimize any problems. Through your college office you can secure help for arranging early registration and selecting course sections, obtaining braille course materials, arranging adviser accessibility and classroom positions if you use a wheelchair, and obtaining specific resource aids.

Other services are available through the Handicapped Resource Office, 7 Morrill Hall (376-2727).

Students with mobility impairments may register in 150 Williamson Hall.

Career Development Office

(345 Fraser Hall, 373-2818)

The CLA Career Development office assists undergraduate and graduate students as well as alumni of the college to relate academic interests to career options, to identify career goals, and to learn effective job hunting skills. The following services and materials are provided:

- individual career counseling
- career planning and job hunting workshops
- career informational programs
- career decision-making course
- career library with reference materials on a variety of occupational areas and specific employer information
- on-campus interviews with prospective employers and graduate school representatives
- job vacancy listings
- graduate and professional school reference files

You are encouraged to use the services of the office and the resources in the career library throughout your college career. Early planning is highly recommended.

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. They include personal and emotional counseling and health, employment, housing, financial aid, and emergency services.

Frequently consulted sources of aid and information include the following:

American Indian Learning Resource Center — 125 Fraser Hall (376-2982)

Asian/Pacific American Learning Resource Center — 302 Eddy Hall (373-7917)

Black Learning Resource Center — 323 Walter Library (373-7947)

Correspondence Study — Continuing Education and Extension, 45 Wesbrook Hall (373-3256)

Digital Information Access Line (D.I.A.L.) — Recorded program and services information (373-1857)

Evening Classes — Continuing Education and Extension, 101 Wesbrook Hall (373-3195)

Financial Aid—Office of Student Financial Aid, 210 Fraser Hall (376-8686)

Foreign Student Assistance — International Student Adviser, 717 East River Road S.E. (373-4094)

Fraternities and Sororities — Interfraternity Council and Panhellenic Council offices, 235 Coffman Memorial Union (373-2435)

Handicapped Student Assistance — Handicapped Resource Office, 7 Morrill Hall (376-2727)

Health Service — Boynton Health Service, 410 Church Street S.E. (373-3141)

Juarez/Humphrey Chicano/Latino Supportive Services Center — 332 Walter Library (376-8021)

Minnesota Women's Center — 306 Walter Library (373-3850)

Parking — Parking Services, 2818 Como Avenue S.E. (373-4190), for contract parking; Parking Services, 2030 University Avenue S.E. (373-3288), for public parking

Religious Activities — Religious Affairs Office, 107 Temporary North of Appleby (376-1685), or Student Organization Development Center, 340 Coffman Memorial Union (373-3955)

Speech and Hearing Difficulties — Speech and Hearing Clinic, 115 Shevlin Hall (373-4116)

Student Activities — Coffman Information Center, 138 Coffman Memorial Union (373-2403)

Student Employment — 6 Morrill Hall (373-3674)

Student Legal Service — 160 West Bank Union Skyway (376-5237)

Student Ombudsman Service — 102 Johnston Hall (373-9788)

Student Organizations — Student Organization Development Center, 340 Coffman Memorial Union (373-3955)

Study Skills Improvement — Reading and Study Skills Center, 101 Eddy Hall (373-4193)

Veterans Services — Education Services, 240 Williamson Hall, Minneapolis (373-9891); Veterans Administration representative, 155 Williamson Hall (376-1670)

Vocational Counseling — Student Counseling Bureau, 101 Eddy Hall (373-4193)

II. MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

COURSE NUMBERING SYSTEM

Course numbers in the University system indicate course level. The key:

- 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
- † Credit awarded only after all courses preceding dagger have been completed
- § Credit not granted if equivalent course listed after section mark has been taken for credit
- ¶ Course preceded by paragraph mark may be taken concurrently
- # Consent of instructor required for registration
- △ Consent of department required for registration
- H Honors section of regular course
- , In prerequisite listings, comma means "and" (e.g., "prereq 1101, 1102 or 1103" means the prerequisites are 1101 and either 1102 or 1103)

AEROSPACE STUDIES

See Reserve Officers' Training Corps.

Afro-American and African Studies (Afro)

Staff—Chair, Earl P. Scott, 214 Social Sciences Building; *Directors of Undergraduate Studies*, Anita B. Brooks, 280 Social Sciences Building, and Charles A. Pike, 278 Social Sciences Building; *Director of African Studies Council*, August Nimitz, 268 Social Sciences Building

Professors: King, Southall, Ward

Associate Professors: Brooks, Buckner, Taborn

Assistant Professors: Hansen, Pike, Plummer

Adjunct Faculty—Professors: Isaacman (History), Kaba (History), Porter (Geography)

Associate Professors: Nimitz (Political Science), Scott (Geography)

The Afro-American studies major is designed to provide comprehensive understanding of the black experience in the broadest geographical and chronological context. Its interdisciplinary course work is concerned with the black experience in the United States, Africa, the Caribbean, and Latin America.

The African studies major is designed to provide specialist training in areas of the social sciences and the humanities related to the African experience. Its structure is interdisciplinary. Core courses are drawn from the Departments of Afro-American and African Studies, History, Anthropology, Geography, Political Science, and Spanish and Portuguese. Related courses may be selected from most social science and humanities departments.

B. A. MAJOR SEQUENCE—AFRO-AMERICAN STUDIES

Required Preparatory Courses — 1025, 1301, 1441

Major Requirements — Minimum of 34 cr, to include:

Four humanities courses, selected as follows: one course from 3055, 3101, 3102, 3105, 3108, 3401; one from 3057, 3301, 5301; others from the preceding and Th 5181, 5182

Four social sciences courses, selected as follows: one course from 3061, 3062, 3072, 3075, 3076, 3091, 5001, 5002, 5072, 5101, 5401; one from 3011, 3013, 3401, 3501, 5701, 5800; others from the preceding and Hist 3401, 3402, 3431, 3432, 3433, 3434, 3435, 3865, 5429, 5432, 5447

Major project: may be completed in a 3xxx- or 5xxx-level course in Afro-American studies or African studies or in conjunction with Afro 5800 or 5900

Composition requirement: one course from Comp 3012, 3013, 3014, or 3027

MINOR SEQUENCE—AFRO-AMERICAN STUDIES

Minor Requirements—24 cr: 20 from 3xxx- and 5xxx-level and 4 from 1xxx-level Afro-American studies courses; at least one course from African studies

No more than 4 cr may be in directed study, directed instruction, or independent study. No more than 4 cr may be taken on S-N grading.

The minor program must be approved by the director of undergraduate studies.

Major Requirements and Course Descriptions

B.A. MAJOR SEQUENCE—AFRICAN STUDIES

Three options are offered for the major. Option A is a general interdisciplinary program. Option B is recommended for those who intend to pursue graduate work in the field. Option C emphasizes literature and the arts. Further information may be obtained from the director of the African Studies Council or the director of undergraduate studies.

Required Preparatory Course—1021

Major Requirements — Option A: 23 cr in Arabic, Dutch, French, German, Italian, Portuguese, Spanish, or Swahili, 15 of them at the 3xxx or 5xxx level; Hist 3431, 3432, 3433; 20 other social science cr (no more than 8 in history); Afro 5800. **Option B:** 15 cr in one of the above languages, and fulfillment of CLA second language requirement; 8 cr in humanities courses (no more than 4 in history); Hist 3431, 3432, 3433; 38 social science cr, at least 20 in either anthropology, economics, geography, history, political science, or sociology; Afro 5800. **Option C:** 23 cr in one of the above languages; 8 cr in literature courses; 4 cr in art courses; Hist 3431, 3432, 3433; 30 social science cr, at least 8 in related humanities courses; Afro 5800

Major project: may be completed in a 3xxx- or 5xxx-level course in Afro-American studies or African studies or in conjunction with Afro 5800 or 5900

Composition requirement: one course from Comp 3012, 3013, 3014, or 3027

A list of core and related courses from which electives may be chosen to meet the requirements is available in the department office. No more than one-third of the electives may be chosen from the "related" group. No more than 10 3xxx or 5xxx courses may be taken on S-N grading. Field study in Africa is encouraged, and credit for such experience can be arranged.

MINOR SEQUENCE—AFRICAN STUDIES

Minor Requirements—24 cr: 20 from 3xxx- and 5xxx- level and 4 from 1xxx- level African studies courses; at least one course from Afro-American studies

No more than 4 cr may be in directed study, directed instruction, or independent study. No more than 4 cr may be taken on S-N grading.

The minor program must be approved by the director of undergraduate studies.

1015f,w,s. BLACK PROTEST FROM COLONIAL TIMES TO THE PRESENT. (5 cr) Ward
Critical analysis of events and history of black protest movements.

1021f, 1022w. AN INTRODUCTION TO AFRICAN STUDIES. (4 cr per qtr) Hansen
Diverse elements of the African studies curriculum, content, and methodology. 1021: Historical perspective and course content. 1022: Present trends.

1025f,w,s. BLACK AMERICANS: SOCIALIZATION, PERSONALITY, AND BEHAVIOR. (4 cr) Taborn
Development of the black psyche and of the black person and black culture.

1101f, 1102w, 1103s. LANGUAGE ARTS FROM A BLACK PERSPECTIVE. (4 cr per qtr)
Development of critical reading and writing skills, using materials by black authors. 1101: Grammar review, reading comprehension and speed, and introduction to critical writing. 1102: The essay examination, techniques of library research, writing the documented paper. 1103: Literary study.

1221f-1222w-1223s. BEGINNING SWAHILI. (5 cr per qtr) Pike
1221: Beginning grammar and vocabulary; conversational drill. 1222: Grammar and vocabulary. Reading and writing. 1223: Reading, conversation, writing.

1301f. THE MUSIC OF BLACK AMERICANS. (4 cr) Buckner
Historical development of music of black Americans including spiritual, gospel, blues, soul, jazz, and classical; formal music education; and processes influential in creating black musical styles. Live performances by local black musicians.

1441. AFRO-AMERICAN HISTORY AND CULTURE. (4 cr)
Major events and themes of Afro-American history from its African beginnings to present.

3011f. SOCIAL CHANGE IN EAST AND CENTRAL AFRICA. (4 cr) Hansen
Processes that shaped cultural differences, social structures, and economic, political, and religious systems in pre- and post-colonial East and Central Africa. Independence, the influence of external relations and government policy on rural-urban migration, urbanization, and industrialization.

- 3013s. URBANIZATION IN AFRICA.** (4 cr) Hansen
African urban development through time. Links between towns and countryside. Regal-ritual cities; mercantile cities and city-states; administrative cities; colonial cities and company towns; industrial cities and illegal urban settlements.
- 3055. FOLKLORE: THE AFRICAN IN AMERICA.** (4 cr)
Manifestations of Afro-American folkways; origin and continuity of patterns of behavior peculiar to the black life-style. Group character, oral traditions, music, rituals, tales, stories, riddles.
- 3057w. THE AFRICAN ORAL NARRATIVE.** (4 cr) Pike
A theoretical and practical examination of the oral narrative tradition of Africa, its role in society and its aesthetic forms.
- 3061s, 3062w. THE BLACK FAMILY.** (4 cr per qtr; prereq 1441 or Hist 3865 or #) Brooks
3061: Historic view of the black family up to the present. 3062: The contemporary black family.
- 3072f, s. 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.
- 30751-3076w. THE HELPING PROCESS: BLACK/NONBLACK.** (4 cr per qtr) Brooks
Interpersonal relations and the impact of race within the educational and welfare systems. Interviews, role playing, situational exercises. Fieldwork encouraged (extra credit may be arranged).
- 3091. DEVELOPMENT OF A BLACK POLITICAL STRATEGY.** (4 cr) Nimitz
Political strategies developed by black philosophers and activists, American and non-American.
- 3101, 3102. AFRO-AMERICAN LITERATURE.** (4 cr per qtr)
Prose, poetry, and drama. 3101: To 1939: From slave narratives and folklore to the end of the Harlem renaissance. 3102: Since 1939: Richard Wright to Amiri Baraka and the black arts movement.
- 3105. AFRO-AMERICAN MUSIC THROUGH THE 1920S.** (4 cr, §Mus 3708) Southall
Musical contributions of black Americans from the colonial period through the Harlem renaissance.
- 3108w. BLACK MUSIC: A HISTORY OF JAZZ.** (4 cr) Buckner
Origins, growth, and development of jazz; economic and sociological factors that influenced its development.
- 3225f-3226w. INTERMEDIATE SWAHILI.** (4 cr per qtr; prereq 1223 or # for 3225) Pike
3225: Swahili short stories. Vocabulary and grammar. 3226: Expansion of vocabulary and comprehension of written Swahili.
- 3253s. INTRODUCTION TO SWAHILI LITERATURE.** (4 cr; prereq 3226) Pike
- 3301w. THE CARIBBEAN: AFRICAN MUSICAL RETENTIONS.** (4 cr, §Mus 3709) Southall
Transmissions and links between the musical cultures of Africa and the French-, English-, and Spanish-speaking peoples of the Caribbean.
- 3401. HISTORY OF PAN-AFRICANISM FROM 1900 TO THE PRESENT.** (4 cr)
The thoughts of major Pan-Africanist spokespersons from early days of the black diaspora to contemporary times. African, Afro-American, and Caribbean writings studied.
- 3421. CARIBBEAN HISTORY.** (4 cr) Plummer
History of the Caribbean from European contact to present. Focuses on major English-, French-, and Spanish-speaking states.
- 3501w. AFRICAN SOCIETIES AND CIVILIZATIONS.** (4 cr, §Anth 3241) Hansen
Ethnographic survey of Africa. Social, economic, political, and religious systems, and art before and after colonial contact. Contemporary problems. The significance of African studies to theory and method in anthropology.
- 3601. INTRODUCTION TO AFRICAN LITERATURE.** (4 cr) Pike
Oral and written African literature of the 19th and 20th centuries. All readings in English.
- 3864, 3865. AFRO-AMERICAN HISTORY.** (4 cr per qtr, §Hist 3864, 3865) Plummer
3864: African background to reconstruction. 3865: Reconstruction to present.
- 3910. TOPICS IN AFRO-AMERICAN/AFRICAN STUDIES.** (4 cr) Staff
Selected topics that vary from quarter to quarter; topics specified in the *Class Schedule*.
- 3970f,w,s. DIRECTED STUDIES.** (1-15 cr per qtr; prereq #) Staff
Guided individual reading or study.
- 5001f,w. LAW AND SOCIETY: A MINORITY POINT OF VIEW.** (5 cr; prereq Pol 1001 or #) Ward
Afro-American history from the point of view of American constitutional development as it relates to the American black community.
- 5002s. LAW AND SOCIETY: A MINORITY POINT OF VIEW—RESEARCH.** (5 cr; prereq 5001) Ward
Research seminar continuation of 5001. Principal emphasis on major piece of investigation requiring and showing scholarship.

Major Requirements and Course Descriptions

- 5072s. RACISM: SOCIAL-PSYCHOLOGICAL CONSEQUENCES FOR BLACK AMERICANS.** (4 cr, §3072) Taborn
For description, see 3072.
- 5101s. BLACK WOMEN.** (4 cr) Brooks
The thoughts, feelings, and needs of black women in their environments; the forces acting upon them.
- 5201. THE BLACK COMPOSER: CONTRIBUTIONS TO WESTERN MUSIC AND CULTURE.** (4 cr; prereq 1301 or 3105 or 3301, Mus 3708 or 3709, grad student or #) Southall
Musical achievements of black Americans in classical music.
- 5301. AFRICAN LITERATURE.** (4 cr)
Literature of continental Africa, from oral traditions to contemporary writings in English, French, and African languages. Non-English materials in translation.
- 5401w. THE INSTITUTIONALIZATION OF RACISM, 1877-1900.** (5 cr) King
Social, political, and economic forces that resulted in development of second-class citizenship of black Americans.
- 5595. BLACK POETRY, 1746-1939.** (4 cr)
Phyllis Wheatley, Jupiter Hammon, Frances Harper, Paul Laurence Dunbar, Claude McKay, Countee Cullen, Jean Toomer, James Weldon Johnson, Langston Hughes, Sterling Brown.
- 5597. CONTEMPORARY BLACK POETRY.** (4 cr)
Since 1939. Langston Hughes, Melvin Tolson, Robert Hayden, Gwendolyn Brooks, Amiri Baraka, Don Lee, Nikki Giovanni, Sonia Sanchez, the "last poets."
- 5701s. RACE AND CLASS IN AFRICA.** (4 cr) Hansen
Problems of stratification and inequality in contemporary Africa. The role of colonialism and external/internal economic dependency relations in creating poverty, discrimination, and rural-urban differences.
- 5800s. AFRICAN STUDIES INTERDISCIPLINARY SEMINAR.** (4 cr per qtr) Staff
Seminar staffed by cooperating faculty from social sciences and humanities. Selected themes that benefit from interdisciplinary analysis.
- 5900s. SENIOR SEMINAR.** (2-4 or per qtr; prereq jr or sr or grad student) Staff
Scholars in Afro-American studies help students develop research projects.
- 5910. TOPICS IN AFRO-AMERICAN/AFRICAN STUDIES.** (4 cr) Staff
Selected topics that vary from quarter to quarter; topics specified in *Class Schedule*.
- 5970f,w,s. DIRECTED STUDIES.** (1-6 cr per qtr; prereq #; qualified sr and grad students may register with # for work on tutorial basis) Staff
Guided individual reading or study.

College of Agriculture

CLA students may take up to 16 credits of course work offered by other colleges. The credits may be applied toward CLA degrees, but may not be used to fulfill group distribution requirements. Descriptions of courses offered by the College of Agriculture can be found in the bulletin of that college.

AKKADIAN

See Near and Middle Eastern Studies.

American Indian Studies (Amln)

Staff—Chair, to be announced

Professor: Vizenor

Associate Professors: Beaulieu, Dunnigan

Assistant Professor: Peterson

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

Note: The major currently is being revised. Students interested in the major should check with the department for information.

INTRODUCTORY

- 1771. INTRODUCTION TO AMERICAN INDIAN STUDIES.** (4 cr) Staff
Content, methods, and objectives of American Indian studies. Images of the American Indian, persistence of and change in American Indian communities, linguistics and literature, and tribal ethnohistories.

LANGUAGE

- 1021-1022-1023. BEGINNING OJIBWE.** (5 or per qtr) Staff
Acquisition of speaking skills in Ojibwe.
- 1031-1032-1033. BEGINNING DAKOTA.** (5 or per qtr) Staff
Acquisition of speaking skills in Dakota.
- 3024-3025. INTERMEDIATE OJIBWE.** (5 or per qtr; prereq 1023) Staff
- 3034-3035. INTERMEDIATE DAKOTA.** (5 or per qtr; prereq 1033) Staff

HISTORY

- 3111. AMERICAN INDIAN HISTORY: MID-15TH CENTURY TO 1850.** (4 cr, §Hist 3871) Peterson
Colonization and survival of North American Indians from rise of ancient American Indian civilizations to beginnings of reservation era.
- 3112. AMERICAN INDIAN HISTORY: 1850 TO PRESENT.** (4 cr, §Hist 3872) Peterson
American Indian communities from reservation era to present, emphasizing impact of federal Indian policy.
- 3121. HISTORY OF AMERICAN INDIAN EDUCATION.** (4 cr; prereq 3111, 3112 or #) Beaulieu
American Indian education in the United States; emphasis on educational systems established by the Indian peoples.
- 3131. SURVEY OF INDIAN LAW.** (4 cr) Staff
Treaties, legislation, court cases, and administrative units examined in historical context and for their vitality today and their effect on Indian identity.
- 3151. INDIAN SOCIETIES IN MEXICO.** (4 cr) Dunnigan
Social and cultural survival of Indian peoples after Mexican independence.
- 3152. INDIAN TRIBES OF THE MEXICAN-AMERICAN BORDERLANDS.** (4 cr) Dunnigan
Historical study of relations between Indians and other ethnic groups in the southwestern United States and northwestern Mexico.
- 5048. INDIANS OF THE GREAT LAKES.** (4 cr; prereq 3111, 3112 or #) Peterson
History, social structure, and intertribal relations of American Indian tribes in the Great Lakes region.

TRIBAL ARTS AND CULTURE

- 3026. OJIBWE HISTORY AND CULTURE.** (4 cr) Staff
The processes of maintenance and change in Ojibwe culture.
- 3036. DAKOTA HISTORY AND CULTURE.** (4 cr) Staff
The processes of maintenance and change in Dakota culture.
- 3116. AMERICAN INDIAN LITERATURE.** (4 cr) Vizenor
Comparative studies of oral traditions and modern tribal literature
- 3161. TOPICS IN CANADIAN INDIAN HISTORY: THE METIS.** (4 cr) Peterson
Social, cultural, and political history of the metis peoples of mixed Indian-white ancestry.
- 3211. AMERICAN INDIAN PHILOSOPHIES.** (4 cr) Vizenor
Comparative studies of American Indian philosophies, shamanism, transformation, tribal world views, and sources of ecological consciousness.
- 3221. CONTEMPORARY AMERICAN INDIAN ARTS.** (4 cr)
American Indian art in the 20th century.
- 3242. SURVEY OF AMERICAN INDIAN ARTS.** (4 cr)
Visual arts and crafts of North American Indians.
- 5251 (formerly 3251). AMERICAN INDIANS AND THE CINEMA.** (4 cr, §AmSt 5251) Vizenor
The visage and stereotypes of tribal people in selected motion pictures from silent documentaries to six-guns and the new westerns.

Major Requirements and Course Descriptions

CONTEMPORARY ISSUES

- 5322. CONTEMPORARY INDIAN EDUCATION.** (4 cr; prereq 3121 or #) Beaulieu
Critical issues in the education of American Indian youth.
- 5332. CONTEMPORARY ISSUES IN INDIAN LAW.** (4 cr; prereq 3131 or #) Staff
Specific questions in Indian law currently the subject of litigation, legislative inquiry, administrative hearings, or Indian activism.
- 5341. CONTEMPORARY INDIAN MOVEMENTS.** (4 cr) Beaulieu
Organizations and social movements during the 20th century.

TRIBAL DEVELOPMENT

- 3772. RESEARCH METHODS.** (4 cr) Staff
Research strategies and techniques.
- 5411. URBAN INDIAN COMMUNITIES.** (4 cr)
Social science and historical analysis of the rapid cityward Indian migration since World War II.
- 5422. CHANGE AND DEVELOPMENT IN INDIAN COMMUNITIES.** (4 cr; prereq 3112 or #)
Sources, nature, and consequences of social and economic development and change in Indian communities.
- 5423. TRIBAL POLICY AND PROGRAM DEVELOPMENT.** (4 cr; prereq 3112 or #)
U.S. Indian policy issues, and the relationship of policy to programs and services.

SPECIAL TOPICS

- 5920. SEMINAR IN AMERICAN INDIAN STUDIES.** (Cr ar; prereq stated in the *Class Schedule*) Staff
Topics in American Indian history, selected on a year-to-year basis.
- 5960. TOPICS IN AMERICAN INDIAN STUDIES.** (Cr ar) Staff
Topics specified in the *Class Schedule*.

TUTORIAL

- 3810. FIELD PRACTICE IN INDIAN STUDIES.** (3-9 cr per qtr; prereq soph or jr or sr, #, Δ) Staff
Supervised field practice in approved agencies serving Indian clients.
- 3980. DIRECTED INSTRUCTION.** (5 cr per qtr; prereq #) Staff
Seminar in teaching skills for undergraduates assisting in introductory American Indian studies courses. Leading discussion sections, offering lectures.
- 5990. DIRECTED RESEARCH.** (4-15 cr per qtr; prereq by petition only) Staff
Independent research under faculty guidance.

American Studies (AmSt)

Staff — Chair, Edward Griffin, 225 Lind Hall

Professors: Delattre, Vizenor

Associate Professor: May

Adjunct Faculty — **Professors:** Anderson (English), Bagley (Social, Psychological, and Philosophic Foundations of Education), Bales (English), Beck (Social, Psychological, and Philosophic Foundations of Education), Berman (History), Born (Health Ecology), Brauer (History), Chambers (History), Cooperman (Sociology), Gillmor (Journalism), Griffin (English), Hage (Journalism), Howe (History), Johnson (Sociology), Layton (Mechanical Engineering and History of Science and Technology), Lukermann (Geography), Marling (Art History), Modell (History), Murphy (History), Noble (History), Riedel (Music), Roth (English), Rowe (Anthropology), Southall (Afro-American Studies), Spencer (Anthropology), Stekert (English), Stuewer (Physics and History of Science and Technology), Sykes (Speech Communication), Tuan (Geography), Vecoli (History), Wilson (History of Medicine)

Associate Professors: Ball (Political Science), Dicken-Garcia (Journalism), S. Evans (History), Fine (Sociology), Furia (English), Geffen (English), Green (History), Ross (Religious Studies and Student Affairs), Spear (History), Ward (Journalism), Yates (Women's Studies)

Assistant Professors: Prell (Anthropology), Struna (Physical Education, Recreation, and School Health Education)

The program in American studies provides an interdisciplinary framework for exploration of approaches to American culture, past and present, and the relationships among aspects of life and experience in the United States.

B.A. MAJOR SEQUENCE

Required Preparatory Courses—12 cr from 1101, 1102, 1103, 3111, 3112, 3113

Major Requirements—44 cr in 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. A list of approved courses and a brochure describing the program are available in the program office, 225 Lind Hall.

3301-3302-3303 (Proseminar: American Studies)

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

1101, 1102, 1103. AMERICAN LIFE. (4 cr per qtr)

Introductory study of American culture through literature, music, art, and readings from such fields as anthropology, history, and sociology. *1101:* The cultural significance of the public-private dichotomy in American life. *1102:* Personal and collective consciousness in relation to social-political environment. *1103:* Cultural uses of and attitudes toward energy.

1920. TOPICS IN AMERICAN STUDIES. (4 cr per qtr [12 cr max])

Topics specified in the *Class Schedule*.

3111, 3112, 3113. INTRODUCTION TO AMERICAN CIVILIZATION. (4 cr per qtr)

Each quarter is organized around a topic, period, or region.

3251, 3252. AMERICAN POPULAR CULTURE. (4 cr per qtr)

3251: The 19th century. *3252:* The 20th century.

3301-3302-3303. PROSEMINAR: AMERICAN STUDIES. (4 cr per qtr; prereq sr, #)

Each quarter deals with a problem related to a representative theme, figure, or period.

3920. TOPICS IN AMERICAN STUDIES. (4 cr per qtr [12 cr max]; prereq jr or sr)

Topics specified in the *Class Schedule*.

3970. DIRECTED STUDIES. (1-15 cr per qtr; prereq #, Δ)

Guided individual reading or study.

5101, 5102. RELIGION AND AMERICAN CULTURE. (4 cr per qtr) Delatré

Not a survey, but a representative profile of religion in America, past and present, organized around a theme or problem.

5251. AMERICAN INDIANS AND THE CINEMA. (4 cr per qtr) Vizenor

Stereotypes and visage of tribal people in selected motion pictures from silent documentaries to the new westerns.

5920. TOPICS IN AMERICAN STUDIES. (2-4 cr per qtr [12 cr max]; prereq #)

Topics specified in the *Class Schedule*.

ANCIENT NEAR EASTERN AND JEWISH STUDIES

See Near and Middle Eastern Studies.

Anthropology (Anth)

Staff — *Chair,* Elden Johnson, 200 Ford Hall; *Director of Undergraduate Studies,* Eugene Ogan, 219 Ford Hall

Professors: Gerlach, Gudeman, Johnson, Miller, Ogan, Rowe, Sarles, Spencer

Associate Professors: Gibbon, Ingham, Spector

Assistant Professors: Etkin, Prell

Anthropology is the study of human cultural, social, and biological groupings, past and present. It analyzes the nature and processes of change in these groupings, emphasizing cross-cultural comparisons.

Major Requirements and Course Descriptions

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.

B.A. MAJOR SEQUENCE

Required Preparatory Courses—1101, 1102

Major Requirements—Two courses selected from 3201, 3301, 3302, 3366

Anth 3101 or 3592

Senior requirement: individual research project completed through directed research or senior seminar

Five electives from 3xxx and 5xxx courses

MINOR SEQUENCE

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

Minor Requirements—Four 4-cr courses in either sociocultural anthropology, archaeological anthropology, biological anthropology, or linguistic anthropology

Course selections must be approved by the undergraduate faculty adviser.

INTRODUCTORY

1101. HUMAN ORIGINS. (5 or #)

World prehistory as investigated by anthropologists. Methods and concepts used by anthropologists to study prehistoric human biological and cultural development.

1181H. HONORS COURSE: HUMAN ORIGINS. (5 or; prereq B avg or #)

For description, see 1101.

1102. INTRODUCTION TO SOCIAL AND CULTURAL ANTHROPOLOGY. (5 or, §1115, §5102)

Varieties and range of human behavior as revealed through comparative study of cultures in all parts of the world.

1102H. HONORS COURSE: INTRODUCTION TO SOCIAL AND CULTURAL ANTHROPOLOGY. (5 or; prereq B avg or #)

Theories and concepts of social and cultural anthropology, examined in the light of classic statements of anthropological theory and classic ethnographic accounts.

3001. HUMAN BIOLOGY. (4 or; prereq 1101 or introductory biology course or #)

Organic evolutionary processes in modern humans; simple genetic traits and polygenic traits. The concept of race. Possible directions of future human evolutionary development.

3002. PRIMATE AND HUMAN EVOLUTION. (4 or; prereq 1101 or introductory biology course or #)

Origins and relationships of extinct forms of nonhuman primates and humans.

5102. PRINCIPLES OF CULTURAL ANTHROPOLOGY. (4 or, §1102; prereq jr standing or #)

Elements of cultural anthropology. Range and variability of human behavior. Principles of cultural dynamics.

SPECIAL TOPICS

3960. ANTHROPOLOGY PROSEMINAR. (Cr ar; prereq #)

Topics vary according to staff interests and student suggestions. Focus on significant theoretical problems.

3970. DIRECTED STUDIES. (Cr ar; prereq #)

Guided individual reading or study.

3980. DIRECTED INSTRUCTION. (5 or; prereq #)

Teaching seminar for undergraduates assisting in instruction of introductory anthropology courses.

5910, 5920. TOPICS IN ANTHROPOLOGY. (Cr ar)

Special courses in all branches of anthropology. Topics, instructors, and prerequisites specified in *Class Schedule*.

5960. SENIOR SEMINAR. (4 or; prereq sr major)

Research seminar. Topics vary according to staff and student interests.

5970. DIRECTED READINGS. (2-4 or; prereq #)

Qualified students may register for work on tutorial basis.

APPROACHES TO ANTHROPOLOGY

- 3101. HISTORY OF ANTHROPOLOGY.** (4 cr; prereq 1102 and 15 cr in 3xxx and 5xxx courses)
 Beginnings of anthropology as a discipline; associated intellectual climate and context. Subfields of archaeology, ethnology, physical anthropology, and linguistics.
- 3201. METHOD AND THEORY IN CULTURAL AND SOCIAL ANTHROPOLOGY.** (5 cr; prereq 1102 or #)
 Description and explanation in anthropology. Role of theory in defining problems. Subjective and objective approaches to fieldwork.
- 3301. METHOD AND THEORY IN ARCHAEOLOGY.** (5 cr; prereq 1101 or #)
 Field methods, systems of data recording, analytical methods, and their conceptual bases. Abstract theory integrated with specific case material. Laboratory exercises in application of artifact analysis.
- 3302. METHOD AND THEORY IN HUMAN BIOLOGY.** (5 cr; prereq 3001, #)
 Methods for study of past and extant populations. Topics vary from quarter to quarter; consult instructor for details.
- 3366. METHOD AND THEORY IN ANTHROPOLOGICAL LINGUISTICS.** (5 cr; prereq 1102 or 5102 or #)
 Linguistic theory and practice as tools for anthropological fieldwork; phonological, morphological, and syntactic problems in world languages.
- 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.
- 3377. LABORATORY TECHNIQUES IN ARCHAEOLOGY.** (4 cr; prereq 3376 or #)
 Artifact analysis, preservation, cartography, photography, faunal and floral analysis, writing of site reports.
- 3386. COMPARATIVE PRIMATE OSTEOLOGY.** (5 cr; prereq 1101 or #)
 Comparative osteology of humans and anthropoid apes. Variations related to sex, age, and race. Observations and measurements of the skeleton.
- 3387. COMPARATIVE PRIMATE OSTEOLOGY.** (5 cr; prereq 3386)
 Comparative primate osteology. Emphasis on recent human forms but includes fossil remains. Human bones of entire skeleton compared with other primate bones, especially apes.
- 3592. HISTORY OF ARCHAEOLOGY.** (4 cr; prereq 15 cr in anthropology)
 Survey of the history of archaeology with emphasis on the development of major concepts and research goals.
- 5175. ETHNOARCHAEOLOGY.** (4 cr; prereq 1101, 3301 or #)
 Archaeological approaches to the study of historically known native American peoples. Uses of historical documents and ethnographic data in archaeological research.
- 5185. MEDICAL ANTHROPOLOGY.** (4 cr; prereq 1102 or 5102, 3001, #...or introductory biology and introductory social science course, #)
 Humans in health and disease, from biological and cultural points of view. Origins of human disease, relationship of disease to subsistence technique (hunter-gatherer to industrial), notions of disease causation; medical care in Western and non-Western societies; effects of introduction of Western medicine on non-Western societies.
- 5186. NUTRITIONAL ANTHROPOLOGY.** (4 cr; prereq 1101, 1102 or 5102 or #)
 Biocultural perspectives on cross-cultural dietary patterns of health and disease; biocultural evolution of human diet; sociocultural factors affecting food choice and taboos and their implications for nutritional health; methods and nutritional correlates of dietary change and development.
- 5187. THEORIES OF DISEASE CAUSATION AND TREATMENT IN NONURBAN SOCIETIES.** (4 cr; prereq 1102 or 5102, 3001 and #...or introductory biology and introductory social science course and #)
 Concepts of disease and treatment of the ill in tribal and folk societies around the world.
- 5305. STUDIES IN ANTHROPOLOGICAL CLASSICS.** (5 cr)
 Notable theoretical and ethnographic works in the history of anthropology. Topics and works vary yearly.
- 5316. FIELD METHODS IN SOCIAL AND CULTURAL ANTHROPOLOGY.** (4 cr; prereq #)
 Rationale underlying a variety of methods. Field projects.
- 5331. CULTURE THEORY: AN INTRODUCTION.** (4 cr; prereq jr or sr or grad student 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?
- 5366. METHOD AND THEORY IN ANTHROPOLOGICAL LINGUISTICS.** (4 cr; prereq 1102 or 5102 or #)
 Linguistic theory and practice as tools in fieldwork; phonological, morphological, and syntactic problems in world languages.
- 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.

Major Requirements and Course Descriptions

5413. FIELD METHODS IN ANTHROPOLOGICAL LINGUISTICS. (4 cr; prereq #)

Linguistic structures of one or two languages outside the Indo-European speech family. For students engaging in anthropological field research.

5424. THE RESEARCH PROCESS IN ANTHROPOLOGY. (4 cr; prereq 15 cr in anthropology)

Statistical reasoning in the collection and analysis of anthropological data; problems of measurement; elementary model construction.

CROSS-CULTURAL STUDIES

Afro 3011f. SOCIAL CHANGE IN EAST AND CENTRAL AFRICA. (4 cr) Hansen

Processes that shaped cultural differences, social structures, and economic, political, and religious systems in pre- and post-colonial East and Central Africa. Independence, the influence of external relations and government policy on rural-urban migration, urbanization, and industrialization.

Afro 3013s. URBANIZATION IN AFRICA. (4 cr) Hansen

African urban development through time. Links between towns and countryside. Regal-ritual cities; mercantile cities and city-state; administrative cities; colonial cities and company towns; industrial cities and illegal urban settlements.

3211. INDIANS OF NORTH AMERICA. (4 cr; prereq 1102 or #)

Aboriginal cultures of native North America. Effects of culture contact. Contemporary problems of Indian reservations and communities.

3221. INDIANS OF SOUTH AMERICA. (4 cr; prereq 1102 or #)

Ethnographic survey. Prehistory of various areas. Spanish and Portuguese contact; adjustment of various tribes to modern conditions.

3222. PEOPLES AND CULTURES OF MIDDLE AMERICA. (4 cr; prereq 1102 or #)

Indian-Spanish speaking peoples of Middle America. Processes of acculturation that have produced contemporary cultures of Mexico and Central America.

3223. PEOPLES AND CULTURES OF THE CARIBBEAN. (4 cr; prereq 1102 or #)

Island and littoral cultures of the circum-Caribbean. Social structure, cultural pluralism, continuity, and change.

3241. PEOPLES AND CULTURES OF AFRICA. (4 cr, §Afro 3501; prereq 1102 or #)

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

3251. ISLAMIC CULTURE SPHERE. (4 cr; prereq 1102 or #)

Mohammed and founding of Islam. Development and spread of Islamic religion, law, government, and other institutions in Middle East, Africa, and Asia. Culture and society in contemporary Middle East.

3261. INDIAN CULTURE AND SOCIETY. (4 cr; prereq 1102 or #)

Tribes, castes, and cultural history of South Asia. Cultural influences from India on Southeast Asia.

3281. CULTURE AND SOCIETY IN CHINA AND JAPAN. (4 cr; prereq 1102 or #)

Chinese institutions and other cultural manifestations. Influence on cultures of Japan, Korea, and Vietnam. Analysis of and comparison between contemporary Chinese and Japanese societies.

3291. PEOPLES AND CULTURES: POLYNESIA AND MICRONESIA. (4 cr; prereq 1102 or #)

Life in the South Pacific. Comparison of cultures in Polynesia and Micronesia. Impact of Western culture on island societies. Place of Oceania in anthropological thought.

3292. PEOPLES AND CULTURES: MELANESIA. (4 cr; prereq 1102 or #)

Life in the South Pacific. Comparison of cultures in Melanesia. Impact of Western culture on island societies. Place of Oceania in anthropological thought.

3501. MINNESOTA ARCHAEOLOGY. (4 cr; prereq 1101 or #)

Prehistoric and historic site archaeology of Minnesota in the context of the western Great Lakes and northern plains regions.

3511. PREHISTORIC ARCHAEOLOGY OF NORTH AMERICA. (4 cr; prereq 1101 or #)

Prehistoric archaeology of North America north of Mexico. Techniques, methods, and goals of prehistoric archaeology.

3521. PREHISTORIC ARCHAEOLOGY OF MIDDLE AMERICA. (4 cr; prereq 1101 or #)

Survey of development of major features of prehistoric cultures of Mexico and Central America.

3532. EUROPEAN PREHISTORY. (4 cr; prereq 1101 or #)

Recent period prehistory. Origins, development, and dispersion of systems of food production; origins of urbanism.

3533. SOUTH ASIAN PREHISTORY. (4 cr; prereq 1101 or #)

Origins and developments of major Asian cultural traditions.

HUMAN INSTITUTIONS: PAST, PRESENT, AND FUTURE

- 3131. RELIGION AND CULTURE.** (4 cr [no cr for majors]; prereq 1102 or #)
 Anthropological perspectives on religion. Religion in relation to social order and individual life cycle. Religion and cultural change.
- 5112. KINSHIP AND MARRIAGE.** (4 cr; prereq 1102 or 5102, 3201 or #)
 Systems of kinship and marriage in cross-cultural perspective; relationship to economic, religious, and political institutions; significance of kinship studies for theory and methods in social anthropology.
- 5115. ECONOMIC ANTHROPOLOGY.** (4 cr; prereq 1102 or 5102, 3201 or #)
 Systems of production and distribution, especially in nonindustrial societies. Relationship among economic and social, political, religious, psychological, and environmental factors.
- 5118. POLITICAL ANTHROPOLOGY.** (4 cr; prereq 1102 or 5102 or #)
 Anthropological approaches to politics: the structural-functionalists, Manchester school, and others. Key political concepts: authority, legitimacy, power, ideology, order, and conflict. How symbols and ritual shape political process. Symbolic dimensions of ethnic and class consciousness.
- 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 primitive to complex.
- 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.
- 5161. LANGUAGE AND CULTURE.** (4 cr; prereq 1102 or 5102 or #)
 Relation of language to behavior; languages as systems of thought, logic, and orientation; impact of languages on cultures; selected linguistic and cultural systems; glottochronology.

MIND, SELF, AND SOCIETY

- 3303. WOMEN: ANTHROPOLOGICAL PERSPECTIVES.** (4 cr; prereq 1102...WoSt 1005, 1006 recommended)
 A cross-cultural, comparative study of women. Theoretical and methodological approaches in anthropology to the study of women.
- 5114. STRUCTURAL 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.
- 5132. SYMBOLIC ANTHROPOLOGY.** (4 cr; prereq 1102 or 5102, 5112 or #)
 Culture as a system of symbols.
- 5141. CULTURE AND PERSONALITY.** (4 cr; prereq 1102 or 5102 or # [waived for majors in public health, nursing, psychology, sociology, and social work])
 Role of culture in formation of personality. Individual adjustments to demands of culture. Psychological approach to culture.
- 5162. KINESICS.** (4 cr; prereq #)
 Human communication in micro and macro perspectives; nonverbal aspects of interaction within and across cultures. Video and cinematic methods of observation. Kinesiology, animal communication, the body as an information transmitting/handling device.
- 5165. PERSPECTIVES IN HUMAN BEHAVIOR.** (4 cr; prereq #)
 Approaches to human behavior discussed by professionals from a variety of disciplines. Similarities and differences in assumptions, approaches, goals. General aim is an integrated, interdisciplinary view.
- 5183. HUMAN PHYSICAL GROWTH AND DEVELOPMENT.** (4 cr; prereq 1101 or #)
 Period of growth — prenatal, birth, infancy, childhood, and adolescence. Sex differences in growth, skeletal maturation. Development and growth of the head. Growth and eruption of teeth.

HUMAN ENVIRONMENTS: NATURAL AND CULTURAL

- 5116. CULTURAL ECOLOGY.** (4 cr; prereq 1101, 1102 or 5102, one ethnographic area course or #)
 The literature of cultural ecology; biological approach to ecosystems and population studies.
- 5117. ENERGY, RESOURCE USE, AND SYSTEM CHANGE.** (4 cr)
 Social-cultural system factors in the development, production, control, distribution, and use of energy, water, key resources, and food in the United States and other societies. Social-cultural evolution, interaction among different societies; growth and no-growth issues; emerging global interdependence.
- 5176. ENVIRONMENTAL ARCHAEOLOGY.** (4 cr; prereq 1101, 3301 or #)
 Field and laboratory techniques used to reconstruct past environmental conditions. Paleoecological interpretation.

Major Requirements and Course Descriptions

5177. ARCHAEOLOGICAL RESOURCE MANAGEMENT. (4 cr; prereq 1101)

Public archaeology; impact of federal, state laws and regulations on archaeological site survey, mitigation, preservation, and interpretation.

CONTEMPORARY, COMPLEX SOCIETIES

5144. THE ANTHROPOLOGY OF AMERICAN EDUCATION. (3 cr; §SPFE 5172; prereq 1102 or 5102 or 5145 or SPFE 5178 or §1102 or §5102 or §5145 or §SPFE 5178 or #)

Application of anthropological principles to study of socialization, schooling, and culture transmission in the United States. Use of anthropological concepts for study of American education systems and analysis of introduced educational change.

5145. ANTHROPOLOGY AND EDUCATION. (4 cr; §SPFE 5171; prereq 1102 or 5102 or #)

Cross-cultural perspectives on educational patterns; implicit and explicit cultural assumptions. Methods of and approaches to cross-cultural studies in education.

5147. THE DYNAMICS OF PEDAGOGY IN HIGHER EDUCATION. (4 cr; prereq #)

Cognitive, interactional, and performance aspects of teaching. Credibility, dialogue, the nature of idea flow, and continuity. The "art of teaching."

5151. CULTURAL CHANGE AND DEVELOPMENT. (4 cr; prereq 1102 or 5102 or #)

Processes of cultural change; invention, diffusion, and acculturation. Effects of colonialism, urbanization, and modernization. Analysis of developing societies. Applied anthropology.

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, Islam, Asia, Africa, United States.

5153. URBAN ANTHROPOLOGY. (4 cr; prereq 1102 or 5102 or #)

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.

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.

5155. ANTHROPOLOGY OF SOCIAL ISSUES. (4 cr; prereq 1102 or 5102 or #)

Anthropological views about poverty, racism, the myth of the melting pot, the third world; social responsibilities of anthropology.

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.

ARABIC

See South Asian Studies.

ARAMAIC

See Near and Middle Eastern Studies.

Architecture (Arch)

Institute of Technology

Staff — Head, Ralph Rapson, 110 Architecture; *Director of Undergraduate Studies,* Stephen Weeks; *Director of Graduate Studies,* Roger Clemence; *Director of Undergraduate Advising,* Julia Robinson

Professors: Clemence, Graffunder, Grebner, Hodne, Michelson, Myers, Parker, Rapson, Rauma, Stageberg, Thompson, Winterowd

Associate Professors: Bennett, Blair, Cunningham, Diedrich, Dittmar, Fishman, LaVine, Lockhart, Morrill, Odegard, Thorbeck

Assistant Professors: French, Heins, Johnson, Kodet, Mulfinger, Robinson, Rockcastle, Showalter, Tollefson, Weeks

Lecturers: Anderson, Bulbulian, Dunwiddie, Geiger, Nemeth, Rafferty, Richter, Roney, Russek, Swenson, Tangri, Zuber

Adjunct Faculty — Cerny (Civil and Mineral Engineering), Lu (Lowertown Redevelopment Corporation), Shippee (Center for Urban and Regional Affairs)

Architecture is an art and science that gives physical expression to the capacities, accomplishments, and ideas of people and their times. It is concerned with the total environment and, most importantly, the built environment. The architect seeks to plan, design, or construct enclosed and open space to encourage and promote human activities and heighten human aspirations.

To be considered for admission to the entry-level architectural design sequence (Arch 3081-3082-3083), you must have completed or be in the process of completing all required preparatory courses, a minimum of 45 credits, prior to application by May 1 for admission the following September. (Use Form AR 110.) Admission decisions are based on academic record, college work completed, and a letter of intent; you may also submit evidence of graphic communication and artistic ability. Required courses must be completed prior to enrollment in the design sequence.

B.A. MAJOR SEQUENCE

Required Preparatory Courses—1021, 1022, 1023; Phys 1041-1042, 1045-1046; Math 1211-1221; ArtS 1107, 1108, 1109, or 1101, 1102; Comp 1011

Major Requirements—3081-3082-3083, 3091-3092-3093

Three courses chosen from 5051, 5052, 5053, 5054, 5055, 5056, 5057, 5061
Comp 3012 or 3013 or 3031

Additional Information — The four-year CLA program, leading to the B.A. with a major in architecture, is normally seen as preprofessional preparation for admission to the Institute of Technology for two additional years of work toward the professional degree bachelor of architecture (B.Arch.), or for admission to the Graduate School for two to three additional years of work toward the professional degree master of architecture (M.Arch.). If you plan to pursue either the undergraduate or graduate professional degree, you should consult the School of Architecture and Landscape Architecture office for selection of an appropriate sequence and should complete the following courses: AEM 3092-3093¹, ArtS 3140, CE 3600-3601-3602¹, Arch 3061-3062¹, and Arch 3064-3065. Consult the *Institute of Technology Bulletin* for course descriptions. In order to continue study for a B.Arch. degree, you must transfer to IT one quarter prior to enrolling in Arch 5111¹. If you plan to complete the M.Arch. degree, you must be accepted by the Graduate School before continuing architectural design studies beyond Arch 3093. You are responsible for verifying program requirements each quarter; consult handouts available in the school office.

1021f. HISTORY OF ENVIRONMENTAL DEVELOPMENT: ARCHITECTURE AND LANDSCAPE ARCHITECTURE.

(4 cr, §LA 1021; 4 lect hrs per wk)

Introduction to the philosophy and principles of architecture and landscape architecture as an art; survey of environmental history. From ancient times through the medieval age.

1022w. HISTORY OF ENVIRONMENTAL DEVELOPMENT: ARCHITECTURE AND LANDSCAPE ARCHITECTURE.

(4 cr, §LA 1022; 4 lect hrs per wk)

Continuation of Arch 1021; from the Renaissance through the modern era. Forces and individuals that shaped the form of architecture and landscape architecture in America and Europe in the 19th and 20th centuries.

1023s. HISTORY OF ENVIRONMENTAL DEVELOPMENT: PLANNING. (4 cr, §LA 1023; 4 lect hrs per wk)

Urban planning. Rise and history of cities as centers of civilization. Collaboration among disciplines for improving the quality of the urban environment and of human life in cities.

1041-1042-1043. ARCHITECTURAL GRAPHICS. (2 cr per qtr; restricted to pre-architecture and architecture students ...others #: 2½ lab hrs per wk)

The skills, media, and techniques of architectural graphics communication, including perspective systems, shade and shadow, color, freehand drawing, and organizing presentation material.

¹These courses do not carry CLA credit.

Major Requirements and Course Descriptions

- 3001f (formerly 1001). ENVIRONMENTAL DESIGN: MAN AND ENVIRONMENT.** (4 cr, §LA 3001)
Interaction of people with the environment, using natural and social sciences and the arts as background for readings, lectures, discussions, and workshop sessions.
- 3002w (formerly 1002). ENVIRONMENTAL DESIGN: TOOLS AND PROCESSES.** (4 cr, §LA 3002; prereq 3001)
Nature and the effects of various tools and processes of environmental change, ranging from buildings and landscapes to economic policies, climate, and myths. Readings, lectures, discussions, and workshop sessions.
- 3003a (formerly 1003). ENVIRONMENTAL DESIGN: IMPLEMENTATION AND EVALUATION.** (4 cr, §LA 3003; prereq 3002)
Design projects, discussions, and readings exploring personal abilities to implement and evaluate environmental change.
- 3081-3082-3083. ARCHITECTURAL DESIGN.** (6 cr per qtr; prereq 2nd-yr IT or CLA student and Δ ; 18 lab hrs per wk)
Composition of line, form, proportion, color, texture. Architectural design, drawing. Model making.
- 3091-3092-3093. ARCHITECTURAL DESIGN.** (6 cr per qtr; prereq 3083; 18 lab hrs per wk)
Structures as an integral part of design; site planning.
- 3970. DIRECTED STUDIES.** (Cr ar; prereq #)
Individual programs to meet objectives not served in regular courses.
- 5051. ANCIENT ARCHITECTURE.** (4 cr; prereq 1021; 3 lect and 1 seminar hrs per wk)
Development of architecture and urban design in Egypt, Mesopotamia, Crete, Mycenae, and classical Greece and Rome before Christianity.
- 5052. EARLY MEDIEVAL ARCHITECTURE.** (4 cr; prereq 1021; 3 lect and 1 seminar hrs per wk)
Architecture and urban design during early Christian, Byzantine, Islamic, Carolingian, and Romanesque periods in the Near East and Western Europe until 1150.
- 5053. GOTHIC ARCHITECTURE.** (4 cr; prereq 1021; 3 lect and 1 seminar hrs per wk)
Architecture and urban design in Western Europe from 1150 until 1400.
- 5054. RENAISSANCE AND BAROQUE ARCHITECTURE.** (4 cr; prereq 1021; 3 lect and 1 seminar hrs per wk)
Architecture and urban design in Italy, Spain, France, Germany, and the Low Countries from 1400 to the French Revolution.
- 5055. ENGLISH AND EARLY AMERICAN ARCHITECTURE.** (4 cr; prereq 1021; 3 lect and 1 seminar hrs per wk)
Pre-Columbian civilizations and development of architecture and urban design in America and England from 1500 until the Civil War.
- 5056. MODERN ARCHITECTURE.** (4 cr; prereq 1021; 3 lect and 1 seminar hrs per wk)
Architecture and urban design from early 19th-century sources in Europe and America to World War II.
- 5057. ASIAN ARCHITECTURE.** (4 cr; prereq 1021; 3 lect and 1 seminar hrs per wk)
History of architecture and urban design in West, South, and East Asia.
- 5061. CONTEMPORARY ARCHITECTURE.** (4 cr; prereq 1021; 3 lect and 1 seminar hrs per wk)
Developments, theories, movements, and trends in architecture and urban design from World War II to the present.
- 5101, 5102, 5103. TUTORIAL WORK IN HISTORY OF ARCHITECTURE.** (4 cr per qtr; prereq #; 1 conf and 5 research hrs per wk)
Readings and written reports on historical problems.
- 5104. SEMINAR: EUROPEAN ARCHITECTURE.** (4 cr; prereq 5056 or 5061 or #; 4 seminar hrs per wk)
Contemporary architecture from the beginning of the modern movement to the present; contributions of August Perret, Peter Behrens, Walter Gropius and the Bauhaus, Le Corbusier, and the early work of Mies van der Rohe.
- 5105. SEMINAR: SCANDINAVIAN ARCHITECTURE.** (4 cr; prereq 5056 or 5061 or #; 4 seminar hrs per wk)
Scandinavian architectural history; origin and development of modern architecture in Denmark, Finland, Norway, and Sweden.
- 5106. SEMINAR: AMERICAN ARCHITECTURE.** (4 cr; prereq 5056 or 5061 or #; 4 seminar hrs per wk)
Contemporary U.S. architecture from the period of Henry Hobson Richardson to the present; contributions of Louis H. Sullivan, Frank Lloyd Wright, Eliel and Eero Saarinen, Walter Gropius, Mies van der Rohe, Louis Kahn, Ralph Rapson, Robert Venturi, Frank Gehry, Michael Graves, and others.
- 5137. PLANNING: URBAN FUNCTION AND STRUCTURE.** (4 cr; prereq #)
Economic, technological, and social factors that underlie the location, distribution, and internal structure of urban settlements. Quantitative and qualitative analyses of social, economic, and physical problems or consequences of contemporary urbanization.
- 5138. PLANNING: THEORY AND METHODOLOGY.** (4 cr; prereq 5137 or #)
Logic of a planning process as a method of decision making. Formulation of goals and evaluation of alternative courses of action, standards, and requirements for specific planning objectives (housing, transportation, community facilities). Legal, administrative, and fiscal devices for plan implementation. The planning function in government; the role of citizens and private groups.

- 5141. HISTORIC PRESERVATION PROCESS.** (4 cr; prereq 1021 or #; 4 lect hrs pr wk)
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.
- 5142. HISTORIC BUILDING RESEARCH AND DOCUMENTATION.** (4 cr; prereq 5141 or #; 2 lect and 2 lab hrs per wk)
Philosophy, theory, and methods of historic building research, descriptive analysis of buildings, building documentation, historical archaeology and architectural taxonomy.
- 5170. CITYSCAPE.** (3 cr; prereq 3093 or #; hrs ar)
The city and its components as aesthetic elements. Factors that have helped to generate urban form.
- 5171, 5172. URBAN FORM.** (3 cr per qtr; prereq 5137 or #)
Principles and techniques involved in city design.
- 5850. TOPICS IN THEORY.** (2 cr; prereq #)
Special topics in architecture examined in a philosophical and theoretical context.
- 5852. ARCHITECTURE: THEORY AND PHILOSOPHY.** (3 cr; prereq 3093 or #; 2 lect hrs per wk)
Architecture examined within a general philosophical context: its nature, role, purpose, meaning; its definition; and its mode of operation as a discipline and in relation to other fields.
- 5853. ARCHITECTURE AS THOUGHT AND DESIGN PROCESS.** (3 cr; prereq 3093 or #; 2 lect hrs per wk)
Architecture as a thought, creative, and transformational process; underlying attitudes, paradigms, models, and strategies and tools, and their potential, limitations, implications, formal outcome, and meaning.
- 5854. THE LANGUAGE OF ARCHITECTURE: SEMIOTICS, SYMBOLISM, AND METAPHOR.** (3 cr; prereq 3083 or #; 2 lect hrs per wk)
Communicative dimensions of architecture, especially as they relate to linguistic analogies. Broad historical perspective including current aspects of subject.
- 5855. TYPOLOGY AND ARCHITECTURE: THEORIES OF ANALYSIS AND SYNTHESIS.** (3 cr; prereq 3083 or #; 2 lect hrs per wk)
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 typology.
- 5856. ARCHITECTURE: FORM AND MEANING.** (3 cr; prereq 3093 or #; 2 lect hrs per wk)
Architectural form, order, and meaning relative to architecture as an aesthetic, social, environmental, and technical object. Current theories and concepts; their potential and implications.
- 5950. TOPICS IN ARCHITECTURE.** (Cr ar; prereq 3093 and 3067 or #)
Special topics of concern in the field.
- 5951. ARCHITECTURE AND BEHAVIOR.** (3 cr; prereq 3083 or #; 3 lect hrs per wk)
Relation between people and built environments; theoretical basis for exchange between designers and behavioral scientists, impact of knowledge of behavior on design process (design/evaluation/programming cycle), behavioral findings, problems of implementation. Guest lecturers and reading of materials from related disciplines.
- 5953. HOUSING AND VALUES.** (3 cr; prereq upper division or grad student; 3 lect/discussion hrs per wk)
Meanings and values attached to housing in different cultures, at various stages in the life cycle, and in differing climatic situations. Impact of housing heritage on housing choice, and potential impact of emerging constraints (such as energy availability) on current and future housing decisions.
- 5954. ARCHITECTURE AND BEHAVIOR RESEARCH METHODS.** (3 cr; prereq 3083 or #; 4 lect hrs per wk)
Use of behavior research in architectural practice; evaluation of buildings, architectural programming methods, application of findings in architectural design. Students design and implement a small behavioral research project.
- 5970. DIRECTED STUDIES.** (Cr ar; prereq #)
Individual programs to meet objectives not served in regular courses.

Art History (ArH)

Staff — *Chair*, Karal Ann Marling, 108a Jones Hall; *Director of Undergraduate Studies*, John Steyaert, 209 Jones Hall

Professors: Canedy, Cooper, McNally, Nelson, Poor, Sheppard, Simon, Stones, Waldfoegel

Associate Professors: Asher, Marling, Steyaert, Stoughton

Assistant Professors: Silberman, Smith

The Department of Art History seeks to help you develop an awareness and knowledge of your visual environment through examination of architecture, sculpture, painting, and other related arts.

Major Requirements and Course Descriptions

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 the history of art and an M.A. in museology are also offered through the Graduate School.

General Courses—All 1xxx courses and most 3xxx courses are designed for general audience.

B.A. MAJOR SEQUENCE

Required Preparatory Courses—4 cr in art practice (consult undergraduate studies director); five qtrs or equiv in a second language (Route II does not satisfy this requirement)

Major Requirements—3008, 3009, 3011, 3012; four additional art history courses to total 16 credits.

Major project: 3895, 3971, and a 5xxx course to be designated as the "project course"

MINOR SEQUENCE

Required Preparatory Course—1002 or equiv

Minor Requirements—20 cr including three of the following courses: 3008, 3009, 3011, 3012; 8 of these cr must be selected to fulfill one of the following options:

1. **General Coverage of the Field**—Complete the four courses listed above and one 3xxx or 5xxx course in non-Western art (e.g., Asian, Meso-American, African, Oceanic).
2. **Support of a Major Field**—Complete three of the four courses listed above and two courses at the 3xxx or 5xxx level that relate to your major field; the two courses should be in a single subfield of art history (e.g., in modern art for a major in studio arts, in classical/ancient art for a major in classical civilization).

Directed studies, independent study, and S-N credits may not be applied to the minor. The minor program must be approved by director of undergraduate studies.

- 1001. INTRODUCTION TO THE VISUAL ARTS.** (4 cr, §3001) Staff
Basic problems of art. Major visual arts examples as basis for study of the nature of art, problems of design, materials and techniques, presented topically rather than chronologically.
- 1002. INTRODUCTION TO THE HISTORY OF ART.** (4 cr) Staff
The history of art, examined through selected monuments from the major periods of art from Paleolithic to modern times. Covers both Western and non-Western cultures.
- 1008. CONCEPTS IN ANCIENT ART.** (4 cr, §3008) McNally
The art of Egypt, Mesopotamia, Greece, and Rome. Visual analysis, problems of style as a cultural phenomenon, and methods and standards of criticism. Taught with individualized instructional units, including slides synchronized with tapes.
- 1015. ART IN WESTERN CIVILIZATION.** (4 cr; 3 lect and 1 lab hrs per wk) Waldfoel
Major achievements of Western society in the arts in their historical and cultural settings. Sir Kenneth Clark's 13 hour-length films entitled "Civilisation" take the place of lectures. Interdisciplinary.
- 1016. INTRODUCTION TO ASIAN ART.** (4 cr, §3013) Asher, Poor
Major themes of Indian and Far Eastern art.
- 1016H. HONORS COURSE: INTRODUCTION TO ASIAN ART.** (4 cr, §3013) Asher, Poor
For description, see 1016.
- 1017. THE WESTERN TRADITION.** (4 cr) Sheppard
Contrasts of Far Eastern, Islamic, and primitive cultural traditions to those of the Western world.
- 3001. PRINCIPLES OF THE VISUAL ARTS.** (4 cr, §1001) Staff
Similar to 1001, with expanded reading and contact with works of art.
- 3008. HISTORY OF ANCIENT ART.** (4 cr, §1008) Asher, Cooper, McNally
Architecture, sculpture, and painting of selected early cultures; stress on those contributing to the development of Western art.

- 3009. HISTORY OF MEDIEVAL ART.** (4 cr) Sheppard, Steyaert, Stones
Medieval architecture, painting, and sculpture from early Christian to Gothic period. Individualized instructional units including slides synchronized with tapes, or lectures only, depending on instructor.
- 3011. HISTORY OF RENAISSANCE AND BAROQUE ART.** (4 cr) Caneedy, Stoughton
Major monuments in architecture, sculpture, and painting from the early 14th century through the baroque period.
- 3012. HISTORY OF 19TH- AND 20TH-CENTURY ART.** (4 cr) Cooper, Nelson, Simon
Major monuments and concepts of the modern period: sculpture, architecture, painting, and prints.
- 3013. INTRODUCTION TO FAR EASTERN ART.** (4 cr, §1016) Asher, Poor
Major themes of Far Eastern art. The arts of China and Japan (not all-inclusive).
- 3014. ART OF INDIA.** (4 cr) Asher
Indian sculpture and architecture from the prehistoric Indus Valley civilization through the major historical periods. Hindu and Buddhist art from 300 B.C. to 1200 A.D.
- 3015. TOPICS IN INDIAN ART.** (5 cr; prereq 3014; offered alt yrs) Asher
Buddhist art in India and Southeast Asia.
- 3142. ARTS OF EGYPT AND THE NEAR EAST.** (4 cr; prereq one course in ancient studies in any field) Cooper
The arts and architecture of Egypt, Mesopotamia, and Persia from prehistoric times to the conquests of Alexander the Great.
- 3152. GREEK ART.** (5 cr; offered alt yrs) Cooper, McNally
The classical style of ancient Greece: origins, characteristics, and importance to later culture.
- 3162. ROMAN ART AND ARCHAEOLOGY.** (5 cr; prereq 1008 or 3008 or 3152) Cooper, McNally
Roman art and material culture: origins, change, continuity, "progress" or "decay" in the later empire.
- 3224. GOTHIC ART.** (4 cr; prereq 3009) Steyaert
Basic concepts of Gothic style in architecture, sculpture, and painting. Relevance of Gothic to later Western art.
- 3232. GREAT MONASTERIES OF THE MIDDLE AGES.** (4 cr; prereq 3009) Stones
Contribution of monastic movement to the architecture, painting, sculpture, and minor arts of the Middle Ages up to the 12th century.
- 3308. BAROQUE AND ROCOCO PAINTING IN FRANCE.** (4 cr) Stoughton
French painting of the 17th and first half of the 18th centuries.
- 3465. MASTER PAINTERS OF THE 19TH CENTURY.** (4 cr) Waldfoegel
European artists selected for their originality, aesthetic excellence, or subsequent influence: Goya, Constable, Cezanne, and Van Gogh.
- 3466. THE ORIGINS OF MODERN ART.** (4 cr; prereq 4 or of art history; offered when feasible) Simon
The sources of modernism: impressionism, postimpressionism, symbolism, arts and crafts movement, aestheticism, art nouveau.
- 3467. MODERN ART.** (4 cr; prereq 4 or of art history) Cooper, Simon
Major directions in late 19th- and 20th-century art. The influence of mass media advertising and advanced technology on modern art.
- 3468. MODERN EXPRESSIONISM: VAN GOGH TO BECKMANN.** (4 cr; offered alt yrs) Simon
Twelve modern expressionists: Van Gogh, Munch, Ensor, Kollwitz, Rouault, Schiele, Kokoschka, Barlach, Nolde, Kirchner, Grosz, and Beckmann.
- 3469. CONTEMPORARY ARTISTS ON ART.** (4 cr) Cooper
Theories, techniques, and explications of modern art. Films of contemporary artists and critics speaking about their works.
- 3577. THE ARTS IN AMERICA: COLONIAL ERA THROUGH CIVIL WAR.** (4 cr) Marling
American architecture, painting, sculpture, and the popular and decorative arts in their social, historical, and cultural context.
- 3578. THE ARTS IN AMERICA: CIVIL WAR THROUGH THE GREAT DEPRESSION.** (4 cr) Marling
For description, see 3577.
- 3579. THE ARTS IN AMERICA: GREAT DEPRESSION TO THE PRESENT.** (4 cr) Marling
For description, see 3577.
- 3654. SCANDINAVIAN ART FROM RENAISSANCE TO THE PRESENT DAY.** (4 cr; offered alt yrs) Nelson
Painting, sculpture, architecture, and decorative arts of the upper classes in Scandinavia; emphasis on 17th and 18th centuries.
- 3895. METHODS OF WRITING AND RESEARCH IN ART HISTORY.** (4 cr; prereq art history major)
Short writing assignments exploring stylistic, formal, iconographic, historical, and qualitative approaches to works of art, and instruction in use of research.

Major Requirements and Course Descriptions

- 3909. SURVEY OF ISLAMIC ART.** (4 cr; offered when feasible)
Architecture, painting, and minor arts of the Islamic world.
- 3921-3922-3923. ART OF THE FILM.** (4 cr per qtr) Silberman
The motion picture as an art form. Films of exceptional merit or interest—narrative, poetic, documentary, experimental.
- 3935. ARTS OF AFRICA, OCEANIA, AND NORTH AMERICA.** (4 cr) Smith
Traditional arts and crafts. Method, theory, and cross-cultural analysis.
- 3936. ARTS OF BLACK AFRICA.** (4 cr) Smith
Major developments in the arts and architecture of black Africa. Artistic diversity regarding elements of style, chronology, and functional importance.
- 3960. HONORS SEMINAR.** (5 cr; prereq permission of dept honors adviser)
Investigation of a selected problem.
- 3970. DIRECTED STUDIES.** (1-5 cr per qtr; prereq #)
Guided individual reading or study.
- 3971. MAJOR PROJECT.** (1 cr; prereq art history major, 3895, #)
Completion of a research paper begun in a 5xxx-level "project course."
- 3975. MUSEUM EXPERIENCE.** (2 cr; S-N only; prereq two art history courses at 3xxx level or one at 5xxx level)
Internship or docent experience in an approved program in an art institution or museum. Open to majors and nonmajors wishing experience in museum work.
- 3980. DIRECTED INSTRUCTION.** (4 cr per qtr [8 cr max]; prereq #)
- 5102. GREEK SCULPTURE: ARCHAIC, CLASSICAL, AND HELLENISTIC.** (5 cr, §C1as 5102; prereq 1008 or 3008 or #) McNally
Style in Greek sculpture; the human figure. Basic methodology; interpretations of meaning.
- 5103. HELLENISTIC ART AND ARCHAEOLOGY.** (4 cr, §C1as 5103; prereq 1008 or 3008, jr or #) Coulson, McNally
Sculpture, architecture, painting, and topography in developing centers of Hellenistic culture in eastern Mediterranean from beginning of 4th-century B.C. to end of Hellenistic period.
- 5104. ROMAN ARCHITECTURE.** (5 cr; prereq 1008 or 3008 or 3162) Cooper, McNally
Buildings in Rome and the empire from the 5th century B.C. to the 4th century A.D. Major archaeological sites.
- 5105. ROMAN PAINTING AND MOSAICS.** (5 cr; prereq 1008 or 3008 or 3162) McNally
Roman painting and mosaics; specific problems; sites such as Pompeii and Antioch.
- 5106. GREEK PAINTING.** (5 cr; prereq 5102 or 5103; offered every 3rd yr) McNally
Research and analysis in classical art as applied to study of vases; original objects and sources.
- 5107. ROMAN SCULPTURE.** (4 cr; prereq 1008 or 3008 or 3162) Cooper, McNally
Sculpture of Rome and its provinces from the 1st century B.C. to the 4th century A.D.; the role of sculpture in Roman politics and religion.
- 5108. GREEK ARCHITECTURE.** (4 cr; prereq 1008 or 3008 or 3152) Cooper, McNally
Archaic and classical examples of religious and secular architecture and their setting in major archaeological sites.
- 5111. BRONZE AGE ART AND ARCHITECTURE IN GREECE, CA. 3000-1100 B.C.** (4 cr; prereq one ancient art or archaeology course) Cooper
Artistic and architectural forms in the Neolithic period in the Aegean area and the Cycladic, Minoan, and Mycenaean cultures.
- 5122. INTRODUCTION TO HISTORICAL ARCHAEOLOGY OF THE UNITED STATES.** (5 cr) McNally
Theories and methods of studying advanced societies (e.g., Williamsburg, Fort Snelling, Winchester) through written records and material remains.
- 5123. ADVANCED STUDIES IN THE HISTORICAL ARCHAEOLOGY OF THE UNITED STATES.** (5 cr; prereq 5122 or #) McNally
Design and implementation of projects to test theory and methodology of historical archaeology.
- 5203. EARLY MEDIEVAL ART.** (5 cr; prereq one 3-cr art history course or #) Sheppard
Architecture, sculpture, painting, and minor arts of the Mediterranean world and Western Europe from early Christian to Romanesque period.
- 5210. TOPICS IN MEDIEVAL ART.** (5 cr per qtr; prereq 4 cr of medieval art history or medieval history or #) Sheppard, Steyaert, Stones
- 5213. INTERNATIONAL GOTHIC PAINTING AND SCULPTURE.** (5 cr; prereq 4 cr of medieval art history or #; offered alt yrs) Stones
Patronage in major centers of culture (Prague, London, Milan, Paris, and Burgundy) in relation to the artistic production of the late 14th and early 15th centuries.

- 5214. GOTHIC ARCHITECTURE.** (5 cr; prereq 4 cr of medieval art history or #) Sheppard, Stones
Gothic architecture from the mid-12th to the early 16th centuries in France, Germany, England, Italy, and Spain; later regional variants.
- 5215. ROMANESQUE AND GOTHIC PAINTING.** (5 cr; prereq 4 cr of medieval art history or #: offered alt yrs) Stones
Wall and panel painting, mosaics, and manuscript illumination in France, Germany, England, Italy, and Spain from the 11th to the 14th centuries.
- 5234. GOTHIC SCULPTURE OF THE CATHEDRAL AGE.** (5 cr; prereq 3009 or grad student or #) Steyaert
Sculpture in France and Germany from 1150 to 1350. Stylistic evolution.
- 5244. STAINED GLASS OF THE CATHEDRAL AGE.** (5 cr; prereq 3009) Stones
Major stained glass programs of the Middle Ages, beginning with techniques of making and painting glass. Concentrates on analysis of style and iconography in relation to developments in other media of medieval painting and architectural form.
- 5252. BYZANTINE ART.** (5 cr; prereq one 3xxx art history course or #) Sheppard
Architecture, sculpture, and painting in the Eastern Christian regions from the founding to the fall of Constantinople in the 15th century; impact on the West.
- 5253. ROMANESQUE SCULPTURE.** (4 cr; prereq 9 cr of art history or #) Sheppard
Sculpture in France and Italy in the 11th century manifested throughout Europe in the 12th and early 13th centuries.
- 5261. THE ILLUMINATED BOOK.** (5 cr; prereq 4 cr of medieval art history or #: offered alt yrs) Stones
Production of illuminated books in the Middle Ages; evolution in types, decorative schemes, and style.
- 5306. ITALIAN ART OF THE 14TH CENTURY.** (4 cr; prereq one art history course or #: offered alt yrs) Canedy
Emergence of Italian painting and the proto-Renaissance; subsequent counterdirections during the black death and international style periods.
- 5307. 15TH-CENTURY ITALIAN ARCHITECTURE, SCULPTURE, AND PAINTING.** (4 cr; prereq 3011 or #) Canedy
Early Renaissance art from Brunelleschi to Bellini; development of the "repertory" of monument types that survived to modern times.
- 5313. ITALIAN HIGH RENAISSANCE ARCHITECTURE, SCULPTURE, AND PAINTING.** (4 cr; prereq 3011 or grad student or #) Canedy
Leonardo da Vinci, Michelangelo, Raphael, and Titian and lesser artists working in Florence, Rome, Venice, and northern Italy. Painting emphasized.
- 5314. LATER 16TH-CENTURY ITALIAN ARCHITECTURE, SCULPTURE, AND PAINTING.** (5 cr; prereq 5313 or grad student or #: offered alt yrs) Canedy
Mannerism and other trends between the high Renaissance and the baroque.
- 5315. DRAWINGS AND GRAPHICS OF THE RENAISSANCE.** (5 cr; prereq 5307 or 5313 or grad student or #: offered alt yrs) Canedy
Drawings and graphics from the early Renaissance to the baroque. Original works.
- 5324. 15TH-CENTURY PAINTING IN NORTHERN EUROPE.** (5 cr; prereq 3009 or 3011 or grad student or #) Steyaert
Painting in the Netherlands, France, and Germany during the late Gothic period; its influences.
- 5326. 16TH-CENTURY PAINTING IN NORTHERN EUROPE.** (4 cr; prereq 3011 or grad student or #: offered alt yrs) Steyaert
Northern Renaissance painting in Germany, the Netherlands, and France.
- 5346. BAROQUE ART IN ITALY AND SPAIN.** (5 cr; prereq 3011 or grad student or #: offered alt yrs) Stoughton
Italian sculpture, painting, and architecture and Spanish painting of the 17th century.
- 5347. BAROQUE ART IN ENGLAND, FRANCE, AND LOWLANDS.** (5 cr; prereq 3011 or grad student or #: offered alt yrs) Stoughton
French architecture, painting, and sculpture, Flemish and Dutch painting, and English painting and architecture of the 17th century. Major artists: Rembrandt, Rubens, Poussin, Jones.
- 5357. 18TH-CENTURY ART IN FRANCE.** (4 cr; prereq 3011 or grad student or #: offered alt yrs) Stoughton
Rococo and neoclassical painting, sculpture, and architecture.
- 5358. 18TH-CENTURY ART IN ITALY, GERMANY, AUSTRIA.** (4 cr; prereq 3011 or grad student or #) Stoughton
Italian painting, sculpture, and architecture; German and Austrian architecture.
- 5441. AGE OF REVOLUTION: FRENCH PAINTING FROM 1789 TO 1848.** (5 cr; prereq one 3xxx art history course or grad student or #) Waldfogel
Major styles and movements in France and their leading exponents: neoclassicism—David; romanticism—Cortot and Delacroix; early realism—Millet and Daumier.
- 5442. THE ADVENT OF MODERNISM: LATER 19TH-CENTURY FRENCH PAINTING.** (5 cr; prereq one 3xxx art history course or grad student or #) Waldfogel
Major styles and movements: realism, impressionism, postimpressionism, symbolism, fin de siècle.

Major Requirements and Course Descriptions

- 5443. 19TH-CENTURY GERMAN PAINTING.** (5 cr; prereq one art history course or grad student or #) Waldfoegel
Major movements, groups, and artists in the Germanic lands: the Nazarenes, Biedermeier, the Leibl circle, Friedrich, Menzel, Marées, Böcklin, Liebermann, Corinth.
- 5444. LANDSCAPE PAINTING.** (5 cr; prereq one art history course or grad student or #) Waldfoegel
Painting and theory in Europe, 1600 to 1900. Developments in England and France from the mid-18th century.
- 5455. GEORGIAN AND VICTORIAN PAINTING.** (5 cr; prereq 4 cr art history or 19th-century literature or history or #; offered alt yrs) Waldfoegel
English painting of the 18th and 19th centuries in relation to social and intellectual developments at home and abroad.
- 5463. EARLY 20TH-CENTURY PAINTING.** (5 cr; prereq one American or modern art course or #) Simon
Topics or movements in painting, mainly before the mid-1920s.
- 5464. LATER 20TH-CENTURY PAINTING.** (5 cr; prereq one American or modern art course or #; offered alt yrs) Simon, Paskus
Painting after the mid-1920s.
- 5465. MODERN SCULPTURE.** (5 cr; prereq 3012 or two art history courses; offered when feasible) Simon
Sculpture from Rodin to the present. Trends and monuments.
- 5466. THE AVANT-GARDE.** (5 cr; prereq 3012 or 5463 or #; offered alt yrs) Simon
History and theory of the avant-garde as applied to contemporary art: anti-art tendencies and movements, Marshall McLuhan, Buckminster Fuller, John Cage, rock music, and the "counterculture"; structuralism, pop art, and conceptual art.
- 5468. MODERN ART CRITICISM I.** (5 cr; prereq 3012 or 3467 or 5463 or 5465 or #) Simon
Critics of visual art from the late 18th century to World War II, Diderot to Herbert Read.
- 5469. MODERN ART CRITICISM II.** (5 cr; prereq 3012 or 3467 or 5463 or 5465 or #) Simon
Critical approaches to modern art from World War II to the present; influential contemporary working critics. Criticism workshop.
- 5521. 20TH-CENTURY ART IN THE UNITED STATES.** (5 cr; prereq 4 cr or art history) Cooper, Marling
Contemporary movements in American painting and sculpture beginning in early 20th century with "the eight" and the Armory Show, 1913.
- 5535. ART IN THE UNITED STATES.** (5 cr; prereq 4 cr or art history or #; offered alt yrs) Marling
Painting and sculpture in the United States. Key works and artists from early settlement to the early 20th century.
- 5536. TOPICAL STUDIES: ART IN THE UNITED STATES.** (5 cr; prereq 5535, #; offered alt yrs) Marling
- 5545. AMERICAN ARCHITECTURE, TO 1860.** (5 cr; prereq sr or grad student or #; offered alt yrs) Marling
American building from earliest settlement to about 1860 and influence of European traditions.
- 5546. AMERICAN ARCHITECTURE, FROM 1860 TO 1914.** (5 cr; prereq sr or grad student or #) Marling
American 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.
- 5547. MODERN AMERICAN AND EUROPEAN ARCHITECTURE, FROM 1914 TO PRESENT.** (5 cr; prereq 5546) Marling
Modern architecture on the international scene. Wright, Gropius, Mies, Le Corbusier, Perret, Nervi, Saarinen, Breuer, Rudolph, others.
- 5641. SCANDINAVIAN ART OF THE 19TH AND 20TH CENTURIES.** (5 cr; prereq one art history course or #) Nelson
Painting, sculpture, architecture, and decorative arts; the rise of expressionism in the fine arts and of "Scandinavian modern" in design.
- 5643. PREHISTORIC ART OF NORTHERN EUROPE.** (4 cr; prereq one art history course or #) Nelson
Art north of the Alps from the Ice Age through the Celtic period. Cave painting, sculpture, funerary architecture, ceramics, and metalwork.
- 5644. MEDIEVAL ART OF SCANDINAVIA.** (4 cr; prereq one art history course or #) Nelson
Migration, Viking, and Christian art in Scandinavia from the 5th through the 15th centuries. Architecture, sculpture, painting, and metalwork.
- 5645. FOLK ARTS OF SCANDINAVIA.** (4 cr; prereq one art history course or #; offered alt yrs) Nelson
Wood carving, metalwork, decorative painting, weaving, stitchery, and domestic architecture of rural Scandinavia; origins in pagan and medieval art.
- 5725. CERAMICS IN THE FAR EAST.** (4 cr; offered alt yrs) Poor
Ceramic art in the Far East: China, Korea, and Japan, from Neolithic times to the present.
- 5765. EARLY CHINESE ART.** (5 cr; offered alt yrs) Poor
Ancient ceramics and ritual bronzes, early Buddhist sculpture, early Chinese painting.
- 5766. CHINESE PAINTING.** (5 cr; 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.

- 5767. JAPANESE PAINTING.** (4 cr; offered alt yrs) Poor
Japanese pictorial arts from earliest to modern times; development of indigenous traditions.
- 5769. CONNOISSEURSHIP IN ORIENTAL ART.** (5 cr; prereq #; offered alt yrs) Poor
Direct examination of Oriental art objects in local collections.
- 5775. EARLY INDIAN ART.** (5 cr; prereq 4 cr of art history or #) Asher
Sculpture and architecture from the Indus Valley civilization through the Kushana period.
- 5776. LATER INDIAN ART.** (5 cr; prereq 4 cr of art history or #) Asher
Sculpture and architecture from the Gupta period through the 12th century.
- 5777. PAINTING OF INDIA.** (5 cr; prereq 4 cr of art history or #) Asher
Painting, beginning with the early tradition of mural painting; miniature painting from the 12th century onward.
- 5895. METHODS AND RESEARCH IN ART HISTORY.** (4 cr, \$3895, \$8801; for highly qualified undergrad majors intending to pursue professional training and incoming MA majors; prereq art history sr major, #)
Types of analysis — formal, stylistic, iconographic, others. Techniques of research — use of the library, etc.
- 5911. MESOAMERICA: ART AND ARCHITECTURE OF MEXICO AND GUATEMALA.** (5 cr; prereq sr or grad student or #; offered alt yrs) Staff
Pre-Hispanic monuments in Mexico and Guatemala; Olmec, Teotihuacan, and Maya cultures.
- 5915. ARTS AND CULTURES OF WEST AFRICA.** (4 cr; prereq jr or #) Smith
Arts, crafts, and architecture of the western Sudan and Guinea coast. Historical developments, stylistics, and aesthetics investigated through a sociocultural analysis.
- 5916. ARTS AND CULTURES OF NIGERIA.** (4 cr; prereq jr or #) Smith
Arts, crafts, and architecture from prehistoric times. Historical developments, stylistics, aesthetics, and individual creativity.
- 5921. MAJOR FILM DIRECTORS AND MOVEMENTS.** (4 cr; prereq 3921-3922 or #) Silberman
Major directors and movements. Works of Griffith, Ford, Welles, Hitchcock, Eisenstein, Bunuel, Bergman, Dreyer, Renoir, and such styles as the new wave, neorealism, and German expressionism.
- 5922. FILM GENRES.** (4 cr; prereq 3921-3922 or #) Silberman
Westerns, gangster movies, comedies, musicals, science fiction, horror films, political films, film noir, and documentaries.
- 5923. ART OF THE FILM.** (4 cr; prereq #; offered when feasible)
Aesthetics of the film. Editing, montage, sound, use of the camera.
- 5925. HISTORY OF PHOTOGRAPHY.** (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.
- 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.
- 5950, 5960. TOPICS IN ART HISTORY.** (4 or 5 cr per qtr [10 cr max]; prereq #)
Topics specified in *Class Schedule*.
- 5970. DIRECTED STUDIES.** (1-5 cr per qtr; prereq sr or #) Staff
Guided individual reading or study.
- 5990. DIRECTED RESEARCH.** (1-5 cr per qtr; prereq sr or #) Staff
- 5991. INTRODUCTION TO MUSEOLOGY.** (4 cr; prereq sr or #) Smith
Survey of the literature in museum studies and investigation of local museums, art centers, and historical societies.

Arts, Studio (ArtS)

Staff — *Chair*, Warren MacKenzie, 210 Art Building; *Director of Undergraduate Advising*, Karl Bethke, 224 Art Building; *Coordinator of Undergraduate Advising*, 204 Art Building (376-3219); *Director of Graduate Studies*, to be announced, 232 Art Building (373-5855)

Professors: Bethke, Hendler, Hoard, MacKenzie, Morrison, Myers, Rowan, Somberg
Associate Professors: Baldwin, Caglioti, Cowette, Feinberg (on leave 1982-83), Gray (on leave 1982-83), Hallman (on leave 1982-83), Henkel, Lane, Lucey, Potratz, Roode, Rose

Assistant Professor: Krepps

Major Requirements and Course Descriptions

The Department of Studio Arts provides in-depth instruction in drawing and painting, sculpture, printmaking, photography, ceramics, and glassworking, emphasizing the development of visual awareness through involvement in the creative process.

Students must pay a fee assessed for each studio arts course. The fee covers part of the cost of expendable materials, models, breakage, and special facilities.

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

B.A. MAJOR SEQUENCE

Required Preparatory Courses—One 1xxx art history course
1101, 1104, 1301 or 1302, 1401
12 cr from 1102, 1105, 1301 or 1302, 1510, 1520, 1530, 1701, 1801

Major Requirements—At least 28 3xxx-5xxx studio arts cr
8 3xxx-5xxx art history cr

B.F.A. MAJOR SEQUENCE

This program, leading to a four-year professional degree, offers an intensive concentration in studio arts work. It is designed for students planning to enter professional work or the M.F.A. program.

Admission—Entrance is usually limited to students with B averages in studio arts required preparatory courses. You should apply for admission no later than your final junior quarter. Application forms are available at the Studio Arts office. Admission is based on your 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 program requirements is available at the department office.

Required Preparatory Courses—1101, 1104, 1301 or 1302, 1401, 1510 or 1520 or 1530, 1701, 1801 (to be completed prior to application to B.F.A. program)
12 additional 1xxx studio arts cr (may be completed after admission to B.F.A. program)

Major Requirements—28 3xxx-5xxx cr in one studio arts specialization
24 additional 3xxx-5xxx studio arts cr; must include 5400
16 art history cr; 8 cr must be at the 3xxx-5xxx level
Exhibition during final quarter

MINOR SEQUENCE

Required Preparatory Courses—1401, 8 1xxx studio arts cr
One 3xxx art history course

Minor Requirements—Three 5xxx studio arts courses

INTRODUCTORY COURSES

1101f,w,s,su. DRAWING I. (4 cr) Caglioti, Cowette, Feinberg, Gray, Roode, Somberg
Introduction to studio work; contemporary and traditional methods. Work from nature, various drawing mediums.

1102f,w,s,su. DRAWING II. (4 cr; prereq 1101) Caglioti, Cowette, Feinberg, Gray, Roode, Somberg
Work from life and nature; color and pictorial structure.

1104f,w,s,su. COLOR. (4 cr; prereq 1101) Caglioti, Feinberg, Roode, Rowan, Somberg
Color and its visual implications.

- 1105f,w,s,su. BEGINNING PAINTING.** (4 cr) Hendler
Contemporary and traditional painting media.
- 1301f,w,s,su. SCULPTURE.** (4 cr) Baldwin, Potratz, Rose, Lucey
Structure; form and space. Direct construction in metal.
- 1302f,w,s,su. SCULPTURE.** (4 cr) Baldwin, Potratz, Rose, Lucey
Structure; form and space. Clay, plaster, wood. Mold making and casting.
- 1401f,w,s,su. INTRODUCTION TO STUDIO ARTS.** (4 cr)
For students of all interests. 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.
- 1510f,w,s,su. PRINTMAKING: INTAGLIO.** (4 cr per qtr [8 cr max]) Myers
Intaglio printing processes. Etching, engraving, and collagraphic techniques in creative context.
- 1520f,w,s,su. PRINTMAKING: LITHOGRAPHY.** (4 cr per qtr [8 cr max]) Krepps
Planographic printing processes from stones and metal plates. Image making, processing, printing, and presentation in creative context.
- 1530f,w,s,su. PRINTMAKING: RELIEF.** (4 cr per qtr [8 cr max]) Bethke
Traditional and contemporary relief printing media. Lino, woodcut, cardboard, metal, and letterpress techniques, and their aesthetic applications.
- 1701f,w,s,su. PHOTO MEDIUM.** (4 cr) Hallman, Henkel
Contemporary and historical use of photography. Use of camera, film development, enlarging. The creative process.
- 1702f,w,s. PHOTOGRAPHIC NONSILVER PROCESSES.** (4 cr; prereq 1701 or #) Henkel
For students with some previous experience with photographic equipment and techniques. Individual projects and instruction. Laboratory.
- 1811f,w,s,su (formerly 1801). CERAMICS.** (4 cr) MacKenzie, Hoard, Lane
Introduction to hand-building techniques in clay for individual creative expression.
- 1812f,w,s,su (formerly 1801). CERAMICS.** (4 cr; prereq 1811 or 1801) MacKenzie, Hoard, Lane
Introduction to wheel-throwing techniques for individual creative expression.

INTERMEDIATE COURSES

- 3110f,w,s,su. DRAWING.** (4 cr per qtr [12 cr max]; prereq 1102, 1401) Morrison, Cowette, Caglioti, Gray, Roode
From model, still life, and nature. Principles of anatomy.
- 3120f,w,s,su. PAINTING.** (4 cr per qtr [12 cr max]; prereq 1104, 1105, 1401, 4 cr of 3110 or #) Morrison, Hendler, Cowette, Caglioti, Feinberg, Roode, Somberg
Media and problems in painting. Individual projects.
- 3160f,w,s,su. WATERCOLOR.** (4 cr per qtr [12 cr max]; prereq 1101, 1104, 1401 or #) Caglioti, Myers
Transparent watercolor; gouache, casein, tempera. Figure, still life, landscape, abstract design.
- 3301f,w,s,su. SCULPTURE: DIRECT METAL.** (4 cr; prereq 1301, 1302, 1401) Baldwin
Welding and brazing.
- 3302f,w,s,su. SCULPTURE: PLASTICS MEDIA.** (4 cr; prereq 1301, 1302, 1401) Rose
- 3303f,w,s,su. SCULPTURE: CAST METAL.** (4 cr; prereq 1301, 1302, 1401) Potratz
Lost wax and sand casting in bronze, aluminum, iron.
- 3304f,w,s,su. SCULPTURE: WOOD AND STONE.** (4 cr; prereq 1301, 1302, 1401) Lucey
Wood and stone construction, assemblage, and arrangement.
- 3305f,w,s,su. SCULPTURE: KINETICS.** (4 cr; prereq 1301, 1302, 1401) Baldwin
Constructions, kinetics, electronics.
- 3430. PAPER: PULP TO PLASTIC EXPRESSION.** (4 cr per qtr [12 cr max]; prereq 1401, one 1xxx studio arts course)
Krepps
Creative and traditional approaches to papermaking.
- 3510f,w,s,su. PRINTMAKING: INTAGLIO.** (4 cr per qtr [12 cr max]; prereq 1401, 4 cr of 1510 or #) Myers
Intaglio techniques on metal and collagraph. Embossing.
- 3520f,w,s,su. PRINTMAKING: LITHOGRAPHY.** (4 cr per qtr [12 cr max]; prereq 1401, 4 cr of 1520 or #) Krepps
Planographic techniques on stones and plates.
- 3530f,w,s,su. PRINTMAKING: RELIEF.** (4 cr per qtr [12 cr max]; prereq 1401, 4 cr of 1530 or #) Bethke
Relief printing techniques; emphasis on color processes.
- 3710f,w,s,su. PHOTOGRAPHY.** (4 cr per qtr [12 cr max]; prereq 1401, 1701 or Jour 3301 or #) Hallman, Henkel
Photographic controls and processes. Related photosensitive media. Creative processes suited to individual interests.

Major Requirements and Course Descriptions

- 3720. PHOTOGRAPHY: NONSILVER.** (4 or per qtr [12 or max]; prereq 1401, 1701 or 1702)
Nonsilver, nontraditional, mixed media approaches.
- 3810f,w,s,su. INTERMEDIATE CERAMICS.** (4 or per qtr [12 or max]; prereq 1401, 1811, 1812 or #) MacKenzie, Hoard, Lane
Advanced design problems with introduction to glaze and clay experimentation. Emphasis on personal expression.
- 3821-3822ff,w,s (formerly 3820). GLASSWORKING.** (4 or per qtr; prereq 1401 or #) Lane
Techniques for forming molten glass and cold working procedures.
- 3823f,w,s (formerly 3820). GLASSWORKING.** (4 cr; prereq 1401, 3821, 3822 or #) Lane
Continued exploration of hot and cold procedures. Aesthetic use of glass as an art medium.
- 3830. GLASS: INTRODUCTION TO NEON.** (4 or per qtr [12 or max]; prereq 1401) Lane
The forming of neon tubing for individual artistic expression.

ADVANCED COURSES

- 5110f,w,s,su. DRAWING.** (4 or per qtr [16 or max]; prereq 12 or of 3110 or equiv) Caglioti, Hendlar, Morrison, Rowan, Cowette, Gray
Drawing in all mediums from life.
- 5120f,w,s,su. PAINTING.** (4 or per qtr [16 or max]; prereq 12 or of 3120 or #) Caglioti, Rowan, Morrison, Somberg, Cowette, Feinberg
Various media. Individual problems.
- 5160f,w,s,su. WATERCOLOR.** (4 or per qtr [16 or max]; prereq 12 or of 3160 or #) Caglioti, Myers
Watercolor techniques, aesthetic directions. Individual concepts and development of sensibilities.
- 5310f,w,s. SCULPTURE: DIRECT METAL.** (4 or per qtr [16 or max]; prereq 3301) Baldwin
- 5320f,w,s. SCULPTURE: PLASTICS MEDIA.** (4 or per qtr [16 or max]; prereq 3302) Rose
- 5330f,w,s. SCULPTURE: CAST METAL.** (4 or per qtr [16 or max]; prereq 3303) Potratz
Lost wax and sand casting in bronze, aluminum, iron.
- 5340f,w,s. SCULPTURE: WOOD AND STONE.** (4 or per qtr [16 or max]; prereq 3304) Lucey
Wood and stone construction, assemblage, and arrangement.
- 5350f,w,s. SCULPTURE: KINETICS.** (4 or per qtr [16 or max]; prereq 3305) Baldwin
Constructions, kinetics, electronics.
- 5430. PAPER: PULP TO PLASTIC EXPRESSION.** (4 or per qtr [16 or max]; prereq 1401, one 1xxx studio arts course)
Creative and traditional approaches to papermaking.
- 5510f,w,s,su. PRINTMAKING: INTAGLIO.** (4 or per qtr [16 or max]; prereq 12 or of 3510 or #) Myers
Color processes: intaglio and combined techniques.
- 5520f,w,s,su. PRINTMAKING: LITHOGRAPHY.** (4 or per qtr [16 or max]; prereq 12 or of 3520 or #) Krepps
Color printing and planographic techniques.
- 5530f,w,s,su. PRINTMAKING: RELIEF.** (4 or per qtr [16 or max]; prereq 12 or of 3530 or #) Bethke
Relief processes. Letterpress and combined techniques.
- 5710f,w,s. PHOTOGRAPHY.** (4 or per qtr [16 or max]; prereq 12 or of 3710 or #) Hallman, Henkel
Individual work in photographic controls, processes; related photosensitive media.
- 5810f,w,s,su. CERAMICS.** (4 or per qtr [16 or max]; prereq 12 or of 3810 or #) MacKenzie, Hoard, Lane
Aesthetic awareness and development; techniques and materials.
- 5820f,w,s. GLASSWORKING.** (4 or per qtr [16 or max]; prereq 3823 or #) Lane
Forming glass from molten state. Creative expression with technical understanding.
- 5821. CERAMIC MATERIALS ANALYSIS.** (4 cr; prereq #) MacKenzie, Hoard, Lane
Glaze analysis and calculation; glaze types, formulation, materials. Investigation of unidentified materials.
- 5830. GLASS: NEON.** (4 or per qtr [16 or max]; prereq 12 or of 3830) Lane

ADVANCED ENTRANCE COURSES

These courses, for advanced students only, are designed to provide technical background in specific media *outside of* the student's primary area. The courses are intended for graduate students in studio arts and in other disciplines, junior and senior

nonmajors, and transfer students. They are not open to undergraduate majors. Because each section of a course is devoted to different subject matter, a student may register in more than one section of a course.

5190. **DRAWING AND PAINTING.** (4 undergrad or or 3 grad or per qtr [16 or max]; prereq #)
 5390. **SCULPTURE.** (4 undergrad or or 3 grad or per qtr [16 or max]; prereq #)
 5590. **PRINTMAKING.** (4 undergrad or or 3 grad or per qtr [16 or max]; prereq #)
 5790. **PHOTOGRAPHY.** (4 undergrad or or 3 grad or per qtr [16 or max]; prereq #)
 5890. **CERAMICS AND GLASSWORKING.** (4 undergrad or or 3 grad or per qtr [16 or max]; prereq #)

SEMINAR COURSES

5100. **20TH-CENTURY ART THEORIES IN PAINTING.** (2 or; prereq #)
 5300. **20TH-CENTURY ART THEORIES IN SCULPTURE.** (2 or; prereq #)
 5400. **20TH-CENTURY ART THEORIES.** (2 or; prereq #)
 5500. **20TH-CENTURY ART THEORIES IN PRINTMAKING.** (2 or; prereq #)
 5700. **20TH-CENTURY ART THEORIES IN PHOTOGRAPHY.** (2 or; prereq #)
 5800. **20TH-CENTURY ART THEORIES IN CERAMICS.** (2 or; prereq #)

SPECIAL COURSES

3970. **DIRECTED STUDIES.** (1-5 or per qtr [8 or max]; prereq 24 or in studio arts, #)
 Guided individual work.
 3980. **DIRECTED INSTRUCTION.** (1-5 or per qtr [8 or max]; prereq #)
 Students assist in teaching courses they have completed.
 5970. **DIRECTED STUDIES.** (1-5 or per qtr [12 or max]; prereq 24 or in studio arts, #)
 Guided individual work.

WORKSHOP COURSES

Workshops in all studio arts areas are offered primarily through Continuing Education and Extension. When offered, area designation follows course number and title (e.g., ArtS 3420, Workshop: Ceramics).

1420. **WORKSHOP.** (1-5 or per qtr)
 3420. **WORKSHOP.** (1-5 or per qtr)
 5420. **WORKSHOP.** (1-5 or per qtr)

HONORS COURSES

3401. **INTERDISCIPLINARY HONORS SEMINAR: MUSIC, STUDIO ARTS, THEATRE.** (2-4 or; prereq jr or sr honors candidate, 1401)
 3402. **INTERDISCIPLINARY HONORS SEMINAR: MUSIC, STUDIO ARTS, THEATRE.** (2-4 or; prereq jr or sr honors candidate, 1401)
 3403, 3404. **WORKSHOP.** (2-4 or per qtr; prereq honors candidate, 1401)
 Studio workshop for honors candidates in studio arts; coordinates all areas in the department.
 3405, 3406. **HONORS THESIS.** (2-4 or per qtr; prereq 1401, #)

COURSES FOR ARCHITECTURE STUDENTS

- 1107f. **DRAWING.** (2 or)
 1108w. **DRAWING.** (2 or; prereq 1107)
 1109s. **DRAWING AND PAINTING I.** (2 or; prereq 1108)
 3140f,w,s. **DRAWING AND PAINTING II.** (2 or per qtr [6 or max]; prereq 1109)

Major Requirements and Course Descriptions

Astronomy (Ast)

Institute of Technology

Staff—*Chair*, to be announced, 358 Physics; *Director of Graduate Studies*, T. W. Jones; *Director of Undergraduate Studies*, L. Rudnick

Regents' Professor: Ney

Professor: Stein

Associate Professors: Davidson, Humphreys, T. W. Jones, Rudnick

Assistant Professors: Dickey, T. J. Jones, Kennicutt

Observations of stars, interstellar matter, galaxies, and other constituents of the universe, and formulation of the laws that govern them, are the activities of astronomy.

A bachelor of science in astrophysics degree is offered in the Institute of Technology.

College of Liberal Arts physics majors who are interested in astronomy may be assigned astronomy advisers.

General Education—1011 is a descriptive course for the general student; 1021H is a slightly more mathematical version for those who have had high school trigonometry and physics or chemistry. 1201 is a second course primarily for nonmajors. Other courses are designed for majors in physics and astrophysics.

If you intend to satisfy CLA's group B laboratory requirements by taking 1011 or 1021, you must complete the associated laboratory (1015 or 1025H) as well as the lecture course. 1015 or 1025H may be taken either concurrently or subsequently.

1011f,w,s,su. DESCRIPTIVE ASTRONOMY. (4 cr, §1021)

Survey of the sun, moon, planets, stars, and material between the stars; description of the galaxy and universe to which the sun belongs. Nonmathematical.

1015f,w,s,su. DESCRIPTIVE ASTRONOMY LABORATORY. (1 cr, §1025H; prereq high school algebra...high school trigonometry recommended; 2 lab hrs per wk)

Laboratory in conjunction with 1011. Occasional night observing sessions required.

1021Hf. INTRODUCTION TO ASTRONOMY. (4 cr, §1011; prereq high school trigonometry and physics or chemistry)

Solar system, stars, galaxies, and cosmology. A more mathematical and physical discussion than 1011.

1025Hf,w,s. INTRODUCTION TO ASTRONOMY LABORATORY. (1 cr, §1015; prereq high school algebra, trigonometry, physics or chemistry; 1 lab per wk)

Laboratory in conjunction with 1011 or 1021H. Occasional night observing sessions required. A more mathematical and physical discussion than 1015.

1201w. TOPICS IN MODERN ASTROPHYSICS. (4 cr; prereq 1011 or 1021H or equiv, #)

Current research problems in astronomy and astrophysics.

3051s. INTRODUCTION TO ASTRONOMY AND ASTROPHYSICS. (4 cr; prereq 1 yr calculus, Phys 1106 or 1291 or #)

The solar system, galaxy, and extragalactic universe. How information is obtained; conclusions from observations.

3970. DIRECTED STUDIES. (1-5 cr per qtr; prereq #, Δ)

Independent, directed study in observational and theoretical astrophysics of interest to student and faculty member.

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. Dynamical processes in interstellar space, HII regions and molecular clouds.

5162. STARS AND STELLAR EVOLUTION. (4 cr; prereq 3051, Phys 5024 or #)

Survey of stars and stellar evolution. Stellar atmospheres, structure and evolution of single stars. White dwarfs, neutron stars, black holes, novae and supernovae. Formation of stars.

5163. GALACTIC AND EXTRAGALACTIC ASTRONOMY. (4 cr; prereq 5161, 5162 or #)

Survey of the structure and kinematics of galaxies and their constituents—stars, associations, and gas. Observed properties of galaxies from gamma rays to radio. Theories of spiral structure. The distance scale, cosmology, and evolution of galaxies.

5321f. RADIATION PROCESSES IN ASTROPHYSICS. (4 cr; prereq Phys 5024, 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.

5421s. HIGH ENERGY ASTROPHYSICS. (4 cr; prereq 5161, 5162, 5321 or #)

Energetic phenomena in the universe. Supernovas, pulsars, radio and X-ray stars. Radio galaxies and quasars. Acceleration of high energy particles. Observational basis and current theoretical understanding.

BEHAVIORAL BIOLOGY

See Ecology and Behavioral Biology.

BENGALI

See South Asian Studies.

Biblical Studies

Staff—*Chairs of Minor Committee*, 1982-83: Jonathan Paradise, 178 Klaeber Court (373-5722); 1983-84: A. T. Kraabel, 309 Folwell Hall (376-1791 or 373-3912)

Professor: Kraabel (Classics)

Associate Professors: Paradise (Ancient Near Eastern and Jewish Studies), Daniel Reisman (Ancient Near Eastern and Jewish Studies), Tzvee Zahavy (Ancient Near Eastern and Jewish Studies)

The biblical studies minor will be offered for the first time during the 1982-83 academic year, pending final approval by the Board of Regents. The minor program focuses on study of the Old Testament and the New Testament in 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 in this section of the bulletin under Near and Middle Eastern Studies and Classics.

MINOR SEQUENCE

Minor Requirements—Clas 3072; two courses from ANEJ 3501, 3502, 3505

One course from each of the following groups:

1. ANEJ 3501, 3502, 3505, 3251; Hebr 3201, 3202, 3203, 3204, 3205
2. Clas 5080 or Grk 3120

The minor program must be approved by a faculty member in biblical studies.

Biochemistry (BioC)

College of Biological Sciences

Staff — *Head*, Victor Bloomfield, 140 Gortner Laboratory of Biochemistry; *Director of Undergraduate Studies*, John Gander, 158 Gortner Laboratory

Regents' Professor: Dagley

Professors: Bloomfield, Chapman, Gander, Glass, Henderson, Jenness, Kirkwood, Liener, Lovrien, Muenck, Nelsestuen, Rogers, Schlenk, Seal, Swan, Warner, Wood, Woodward

Associate Professors: Anderson, Fuchs, Gray, Mann

Assistant Professors: Messing, Schottel

Major Requirements and Course Descriptions

Biochemistry is the study of the molecules, especially macromolecules such as proteins and nucleic acids, that occur in living organisms.

A major leading to the B.S. is available through the College of Biological Sciences. See also the listings under Biology.

- 1301. ELEMENTARY BIOCHEMISTRY I.** (5 cr, §Chem 1002 or 3301; not intended for majors; prereq Chem 1001 or 1005) Glass, Jenness
The chemistry of carbon compounds that occur in nature. Composition, structures, and properties of the major components of plant, animal, and bacterial cells.
- 1302. ELEMENTARY BIOCHEMISTRY II.** (3 cr; prereq 1301 or Chem 1002) Glass, Jenness, Henderson
Biochemical principles; reactions of organic compounds in the living cell. Metabolic pathways, energy considerations, and biosynthetic processes; emphasis on aspects essential to an understanding of plant and animal nutrition and physiology.
- 1303. ELEMENTARY BIOCHEMISTRY LABORATORY.** (2 or; prereq 1301 or §1301)
Problems and exercises in chemical and biochemical techniques. Discussion of methods and concepts.
- 3960. RESEARCH TOPICS IN BIOCHEMISTRY.** (1 or per qtr; offered S-N only)
Lectures and discussions on current research in the department.
- 3990. UNDERGRADUATE RESEARCH.** (Cr ar; prereq #, Δ)
Research problems for B.S. degree (thesis optional).
- Biol 5001. BIOCHEMISTRY.** (4 or, §Biol 3021; prereq Biol 1009, 12 or organic chemistry or #)
Biochemistry and biophysics of cells; enzyme catalysis, cellular energetics, biosynthesis of cellular constituents, and cellular regulatory mechanisms.
- 5002. BIOCHEMISTRY TOPICS.** (3 cr; prereq Biol 5001)
Topics not covered in Biol 5001. Biol 5001 and BioC 5002 constitute a two-quarter sequence for undergraduate and graduate students lacking physical chemistry and serve as prerequisites for certain advanced courses.
- 5025. LABORATORY IN BIOCHEMISTRY.** (2 or; prereq Biol 5001 or §Biol 5001)
Discussions of techniques and problem-solving approaches illustrated with laboratory experiments and demonstrations.
- 5522. PHYSICAL BIOCHEMISTRY OF SOLUTIONS.** (4 or, §Chem 5522; prereq 2 qtrs physical chemistry...Biol 5001 desirable)
Physical chemistry of equilibrium and transport phenomena in solution, with application to biochemical systems. Macromolecular solutions and phase transitions, protein polymerization, micelle formation, sedimentation equilibrium and velocity, translational and rotational diffusion, viscosity.
- 5523. PHYSICAL BIOCHEMISTRY: STRUCTURE AND INTERMOLECULAR FORCES.** (4 or, §Chem 5523; prereq 2 qtrs physical chemistry...Biol 5001 desirable)
Methods of structure determination of biological macromolecules. Scattering and diffraction, optical and magnetic resonance spectroscopy. Application to proteins, nucleic acids, and synthetic analogs.
- 5524. PHYSICAL BIOCHEMISTRY AND ENZYME KINETICS.** (4 or, §Chem 5524; prereq 2 qtrs physical chemistry...Biol 5001 desirable)
Application of thermodynamics and enzyme kinetics; solvent effect structure-function relation.
- 5744. BIOCHEMISTRY LABORATORY: THEORY AND PRACTICE.** (4 or, §5745; prereq lab work in analytical and organic chemistry, #)
Principal techniques of biochemistry experimental work; instrumentation and methods for isolation and characterization of proteins, lipids, and carbohydrates. Chromatography, electrophoresis, spectrophotometry, potentiometry, and fluorometry.
- 5751-5752-5753. GENERAL BIOCHEMISTRY.** (4 or per qtr, §MdBc 5751-5752-5753; prereq 3 qtrs organic chemistry, 2 qtrs physical chemistry, 1 qtr biochemistry or #)
Structure, function, metabolism, and metabolic regulation of components in biological systems.
- 5950. SPECIAL TOPICS.** (1-5 or per qtr; prereq #, Δ)
- 5970. DIRECTED STUDIES.** (1-3 or per qtr; prereq #, Δ)
Individual study of selected topics or problems with emphasis on selected readings and use of scientific literature.

College of Biological Sciences

CLA students may take up to 16 credits of course work offered by other colleges. The credits may be applied toward CLA degrees, but may not be used to fulfill group distribution requirements. Descriptions of courses offered by the College of Biological Sciences can be found in the bulletin of that college.

Information about requirements for entering the College of Biological Sciences can be found in section III.

Biology (Biol)

College of Biological Sciences

Staff — *Dean*, Richard S. Caldecott, 123 Snyder Hall; *Associate Dean*, LaVell Henderson, 123 Snyder Hall; *Director of Student Services*, Kathleen Peterson, 223 Snyder Hall; College of Biological Sciences departmental faculties

Biologists concern themselves 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 in space and time.

General Education—Courses especially appropriate for nonscience and nonbiology majors include BioC 1301, 1302, 1303; Biol 1008, 1009, 1101, 1102, 1103, 1105, 1106, 1109, 3051, 3112; Bot 1009, 1012, 3071; EBB 3001, 3004, 3111; GCB 3002, 3008, 3022, 3201.

B.A. MAJOR SEQUENCE

Required Preparatory Courses—1009 or Δ ; Chem 1004-1005; Math 1211-1221-1231

With permission of the departmental office, a two-quarter sequence in statistics (either Stat 5021-5022 or PubH 5450-5451-5452-5453) may be substituted for Math 1231.

Major Requirements—Chem 3301, 3302, 3305, 3306, and 4 additional chemistry or Phys 1104-1105-1106 with 1107-1108-1109, or 1271-1281-1291 with 1275-1285-1295; a two-qtr sequence in physics (1041-1045, 1042-1046) plus a course in mathematics, statistics, computer science, or physical science may be substituted with approval of the major adviser and the department office

3011, 3012, 3041, 5001, 5003, 5004, 5013

9 additional 3xxx-5xxx cr, including at least one course involving laboratory or field work in biological sciences (consult the *College of Biological Sciences Bulletin* for list of acceptable courses), and one of the following: Bot 3131 or 5131, EBB 5156, GCB 5114 or 5134, MicB 5321. Courses from any of the following areas can be applied to the major: biochemistry, biology, botany, ecology and behavioral biology, genetics and cell biology, microbiology.

Major project: minimum of 4 cr in 5970 or 5990 taken in the biochemistry, botany, ecology and behavioral biology, genetics and cell biology, or microbiology department

The following courses are recommended to fulfill the upper division composition requirement: Comp 3015, Comp 3027, Rhet 3562, Rhet 3551.

Permission of the department is required for admission to the major.

MINOR SEQUENCE

Minor Requirements—Minimum of 15 3xxx-5xxx cr chosen from courses carrying the following designators: BioC, Biol, Bot, EBB, GCB, MicB, PhsI

One course about animals, Biol 1106 or 3011 and one course about plants, Biol 1103 or 3012

The minor program must be approved in the Student Services office, 223 Snyder Hall.

0001. PREPARATION FOR BIOLOGY. (No or, §1009; does not count toward any CBS or CLA degree)

Recitations and laboratory exercises dealing with topics in mathematics, chemistry, and biology identified as especially important for satisfactory performance subsequently in Biol 1009.

1008. INTRODUCTORY BIOLOGY: AN EVOLUTIONARY APPROACH. (4 or)

Evolution as the unifying principle in biology; includes organization and change in the biological world and the origin of humans.

Major Requirements and Course Descriptions

- 1009 (formerly 1011). GENERAL BIOLOGY.** (5 cr, §1011)
Introduction to the principles of biology. The cell, metabolism, heredity, reproduction, ecology, and evolution. Includes laboratory.
- 1011. GENERAL BIOLOGY**
See 1009.
- 1101. HEREDITY AND HUMAN SOCIETY.** (4 cr, §GCB 3002; no cr if taken after 5003 or GCB 3022; for students in programs not directly related to biological sciences) V Woodward
Principles of heredity and their social and cultural implications.
- 1102. MICROBES AND MAN.** (4 cr)
Microorganisms in relationship to humans and their environment in the processing and preservation of food, waste disposal, and environmental factors; bacterial products of industrial and pharmaceutical importance; role of microorganisms in recycling elements of the biosphere; microorganisms and disease.
- 1103. GENERAL BOTANY.** (5 cr, §3012; prereq 1009; students who plan to major in biology in CLA or any bioscience major in CBS should take 3012) Wetmore, Charvat
Levels of organization of plants, plant function, plant growth and development, plant reproduction.
- 1105. ECOLOGY AND EVOLUTION.** (4 cr; prereq 1009 or 1101) Abrams
Understanding of evolutionary processes is developed through examination of interactions of organisms with their environments. Predictions about living systems, including that of humans.
- 1106. GENERAL ZOOLOGY.** (5 cr; prereq 1009) Schmid, Underhill
Survey of animal phyla; structure, function, behavior, adaptation, and evolutionary relationships.
- 1109. MAN, NATURE, AND DISEASE.** (4 cr; prereq 1009) Gilbertson
The study of disease as a natural phenomenon, with emphasis on the natural history of disease from a worldwide perspective.
- 1951, 1952, 1953. BIOLOGY COLLOQUIUM.** (1/1 or 2/1 or 2 cr; for prospective majors; S-N only; prereq 1009 or §1009, #)
Encourages and allows active participation in education. Provides an orientation to the biological sciences as well as interaction with other biology students and faculty members.
- 3011. ANIMAL BIOLOGY.** (5 cr; prereq 1009, Chem 1005) Goldstein, W Herman, Rosenberg
Comparison of ways different phyla have solved similar physiological problems. Laboratory includes survey of major animal groups and physiological experiments.
- 3012. PLANT BIOLOGY.** (5 cr, §1103; prereq 1009, Chem 1005) Pratt, Koukkari
Plant diversity and evolution; structure and function of the plant cell and of the whole organism; growth and development of plants.
- 3041. ECOLOGY.** (4 cr; prereq 1009, Math 1211 or #)
Interactions of plant and animal populations and their environments. Organization, functioning, and development of ecological systems; population growth and regulation. Human impact on the biosphere in modern times.
- 3042. FIELD PROBLEMS IN ECOLOGY.** (2 cr; prereq 3041 or EBB 3004 or #)
Student research projects on selected ecological problems.
- 3051. BIOLOGY AND THE FUTURE OF MAN.** (4 cr; S-N only)
Nontechnical discussion of biological factors affecting the quality of life; e.g., pollution, chemical and biological warfare, population growth, food supply, resource sufficiency, value of wilderness, genetics and eugenics, public health, aging, behavior control, and biological aspects of ethics, morals, and societal organization.
- 3112. BIOLOGICAL RHYTHMS.** (4 cr, §5112; prereq 1009 or #) Koukkari, Regal
Timing mechanisms and rhythms of organisms in physiological processes, ecological adaptation, and health; current hypotheses concerning their cellular and molecular nature.
- 3950H. UNDERGRADUATE SEMINAR.** (2 cr per qtr; S-N only; prereq # or Δ)
Each quarter different members of the faculty lead discussions of topics of current interest.
- 3960H. HONORS SEMINAR.** (1 cr per qtr; S-N only; prereq Δ ; limited to participants in the CBS Honors Program)
Oral reports on topics of current interest to biologists; progress reports on laboratory and field research by participants.
- 3980. DIRECTED INSTRUCTION.** (1-5 cr per qtr; prereq #)
- 5001. BIOCHEMISTRY.** (4 cr, §3021, §BioC 5001; prereq 1009, 12 cr organic chemistry or #)
Biochemistry and biophysics of cells; emphasis on enzyme catalysis, cellular energetics, biosynthesis of cellular constituents, and cellular regulatory mechanisms.
- BioC 5025. LABORATORY IN BIOCHEMISTRY.** (2 cr; prereq Biol 5001 or §Biol 5001)
Discussions of techniques and problem-solving approaches illustrated with laboratory experiments and demonstrations.

- 5003. GENETICS.** (4 cr, §GCB 3022, §GCB 5022; prereq 5001)
Introduction to the nature of genetic information, its transmission from parents to offspring, its expression in cells and organisms, and its course in populations.
- 5004. CELL BIOLOGY.** (3 cr; prereq 5001)
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.
- 5013 (formerly 3013). MICROBIOLOGY.** (5 cr, §3013, §MicB 3103, §MicB 5105, §VPB 3103; prereq 5001) Chapman, Dworkin, C Woodward
Taxonomy, anatomy, physiology, biochemistry, and ecology of microbes. Emphasis on molecular structure in relation to bacterial function.
- 5061. DEVELOPMENTAL BIOLOGY.** (3 cr; prereq 5003, 5004)
Developing systems and control mechanisms of development, from the molecule to the organism.
- 5065. LABORATORY IN DEVELOPMENTAL BIOLOGY.** (2 cr; prereq 5061 or 15061)
Laboratory to accompany 5061.
- 5112. RHYTHMS AND CIRCADIAN REGULATION.** (4 cr, §3112; primarily for grad students; prereq 15 cr biology, 10 cr chemistry or #) Koukkari
For description, see 3112.
- 5501. BIOCHEMICAL EVOLUTION.** (4 cr; prereq 5 cr biochemistry) Seal
Molecular evolution covering prebiotic evolution and the phylogeny of important functional molecules and biochemical systems in living organisms.
- 5950. SPECIAL TOPICS IN BIOLOGY.** (1-5 cr per qtr; prereq Δ)
- 5951. THE BIOLOGIST AS SCIENTIST, EDUCATOR, AND CITIZEN.** (3 cr; prereq 15 cr biological sciences) Hooper, Cunningham, V Woodward
The role of the scientist in decision making and persuasion; teaching methods in biology; the organizational structure of the academic and governmental worlds.

COURSES OFFERED AT LAKE ITASCA FORESTRY AND BIOLOGICAL STATION

- 5850. SPECIAL TOPICS IN BIOLOGY.** (1-5 cr per qtr; prereq Δ) Staff
Taught at the Lake Itasca Forestry and Biological Station during the summer Biology Session.
- 5870su. ITASCA SEMINAR.** (1 cr; prereq Δ) Staff
Weekly seminars led by faculty members and visiting lecturers. Required of all students enrolled for fewer than seven credits.
- 5890su. RESEARCH PROBLEMS AT ITASCA IN ECOLOGY AND BEHAVIORAL BIOLOGY; OR ENTOMOLOGY, FISHERIES, AND WILDLIFE; OR PLANT PATHOLOGY; OR SOIL SCIENCE; OR ZOOLOGY.** (Cr ar; prereq Δ) Staff
Undergraduate and graduate students may develop a short-term research project in any departmental area listed above during one or both terms.

Biometry (PubH)

School of Public Health

Staff—Head and Director of Undergraduate Studies, Marcus O. Kjelsberg, 1226 Mayo Memorial Building

Professors: Boen, Johnson, Kjelsberg, McHugh

Associate Professors: Bartsch, Ellis, Finkelstein, Gatewood, Goldman

Assistant Professors: Jeffries, Le

Biometry, an interdisciplinary field in the biological and health sciences, interrelates biomedical statistics and health computer science in the study of quantitative concepts and research procedures of the life and health sciences.

Bioscience and health science research centers, pharmaceutical and related industries, and voluntary and governmental health agencies at all levels employ biometricians. A career as a professional biometrician normally requires graduate study, available at Minnesota and other universities.

Major Requirements and Course Descriptions

B.A. MAJOR SEQUENCE

Required Preparatory Courses — Biol 1009; Chem 1004-1005; Math 1211-1221-1231 or 1311-1321-1331 or 1511-1521-1531 or 1611-1621

Major Requirements — 5430, 5450, 5451, 5452, 5453, 5459; Math 3211, 3221 (or 3066, 3142); at least 10 credits chosen from 5431, 5432, 5454, 5455, 5456, 5460, 5462, Stat 5121-5122 (or 5131-5132-5133), 5211, 5301, 5302

- 3400. DIRECTED STUDIES.** (Cr ar [may be repeated for cr]; prereq #) Staff
Guided individual reading or study.
- 5400. INTRODUCTION TO QUANTITATIVE METHODS IN THE HEALTH AND LIFE SCIENCES.** (4 cr; for students majoring in biological and health sciences; prereq Biol 1009, Chem 1004, Math 1111 or 1201 or #) Le
Basic quantitative methods for the design and analysis of clinical and laboratory studies.
- 5430. BIOMEDICAL COMPUTING I.** (4 or; prereq Math 1111) Ellis
Digital computers and their use in biology and medicine through the BASIC programming language. Simple algorithms for data processing; using and modifying statistical and graphical library programs; elements of conversational programming.
- 5431. BIOMEDICAL COMPUTING II.** (4 or; prereq 5430 or #) Gatewood
Further health-related applications of digital computers using the FORTRAN programming language. Computer organization; use of input/output devices; statistical analysis package programs; sequential file management.
- 5432. BIOMEDICAL COMPUTING III.** (4 or; prereq 5431 or #) Finkelstein
Special purpose computer systems and languages that are useful in biology and medicine for computer-aided instruction, hospital information systems, patient monitoring and simulation.
- 5450. BIOMETRY I.** (3 or; prereq ¶5451...familiarity with basic concepts of calculus desirable) Jeffries
Basic concepts in probability, binomial, Poisson, and normal probability models for random phenomena in the biological and health sciences.
- 5451. BIOMETRY LABORATORY I.** (2 or; prereq ¶5450) Jeffries
Application of concepts of probability models for random phenomena in the biological and health sciences.
- 5452. BIOMETRY II.** (3 or; prereq 5450 and ¶5453) Jeffries
Testing statistical hypotheses and interval estimation; χ^2 applied to frequency data; regression analysis; correlation; analysis of variance; contrasts and multiple comparison techniques.
- 5453. BIOMETRY LABORATORY II.** (2 or; prereq ¶5452) Jeffries
Applications of concepts of testing and estimation of the parameters of basic probability models, of χ^2 to goodness of fit and heterogeneity tests, of regression to bioassay, and of analysis of variance to bioassay.
- 5454. BIOMETRY III.** (3 or; prereq 5452 and ¶5455) Goldman
Nested, randomized block, factorial, and split plot designs.
- 5455. BIOMETRY LABORATORY III.** (2 or; prereq ¶5454) Le
Basic designs illustrated with examples from the biological sciences.
- 5456. BIOMETRY CONSULTING SEMINAR.** (Cr ar; prereq biometry major) Boen, staff
Consultant and client interaction; communication and formulation of the biometric problem. Role and responsibility of the biometrician. Robustness and relevance of frequently used analytical techniques. Biometry student internship experiences.
- 5459. INTRODUCTION TO MATHEMATICAL THEORY IN BIOMETRY.** (Cr ar; prereq 2 qtrs of calculus or #) Jeffries
Generating functions, curve fitting, iterative estimation, tests, propagation of error, and related topics. Illustrations from epidemics and population growth, bioassay, clinical trials, demography, and other bio-health science areas.
- 5460. DEMOGRAPHY AND HEALTH.** (3 or, §Soc 5561; prereq biometry major or #) McHugh
Needs, sources, collection, and interpretation of data in the areas of population, mortality, morbidity, natality, and health services.
- 5462. CLINICAL TRIALS AND LIFE TABLE TECHNIQUES.** (3 or; prereq biometry major or #) Kjelsberg
Methodology of large-scale collaborative clinical trials; case examples; operational aspects of a data center. Elementary life table techniques and application to follow-up studies in medicine and public health.

Botany (Bot)

College of Biological Sciences

Staff—Head, Douglas C. Pratt, 220 Biological Sciences Center; *Director of Undergraduate Studies*, Thomas K. Soulen, 660 Biological Sciences Center; *Director of Graduate Studies*, David J. McLaughlin, 776 Biological Sciences Center

Professors: Frenkel, Hall, Jonas, Koukkari, McLaughlin, Morley, Ownbey, Pratt

Associate Professors: Charvat, Guilfoyle, Jendrisak, Soulen, Wetmore

Assistant Professor: Biesboer

Botanists 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 by which plants convert light into chemical energy; and the use of plants in the interpretation of the history and prehistory of the world and their impact on human civilizations.

A major leading to the B.S. is available through the College of Biological Sciences.

General Education—Courses especially appropriate for nonmajors include Biol 1103 and Bot 1009, 1012.

MINOR SEQUENCE

Required Preparatory Courses—Biol 1009, 1103 or 3012

Minor Requirements—Three courses plus one seminar to total a minimum of 15 cr in botany, chosen from: 3131 or 5131, 3109 or 5111, 3201, 5103, 5105

The program must be approved by the director of undergraduate studies.

- 1009. MINNESOTA PLANT LIFE.** (4 cr; suitable for nonmajors) Morley
Identification of the more common and conspicuous Minnesota plants with some discussion of their basic distinctions, life cycles, habitat requirements, distribution, and ecological relations. Lectures, demonstrations, six or seven field trips.
- 1012. PLANTS USEFUL TO MAN.** (4 cr; for majors or nonmajors) Jonas
Roles that plants have played in human biological and cultural development. Lectures and demonstration of material.
- Biol 1103. GENERAL BOTANY.** (5 cr, §Biol 3012; prereq Biol 1009; students who plan to major in biology in CLA or any bioscience major in CBS should take Biol 3012) Wetmore, Charvat, Koukkari
Levels of organization of plants, plant function, plant growth and development, plant reproduction.
- 3109. PLANT ANATOMY.** (5 cr; prereq Biol 1103 or 3012) Hall
Structure and development of plants with special reference to vascular plants.
- 3131. SURVEY OF PLANT PHYSIOLOGY.** (4 cr, §5131, §PIPh 3131, §PIPh 5131; prereq Biol 1103 or 3012, BioC 1302 or §Biol 1302 or Biol 5001) Soulen, Guilfoyle
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 laboratory, see 5132.
- 3201. INTRODUCTORY TAXONOMY.** (4 cr; prereq Biol 1103 or 3012) Morley
Taxonomy of ferns, gymnosperms, and flowering plants (representative material drawn largely from Minnesota spring flora). Families of plants and their relationships; floral structure and function; taxonomic terms; nomenclature; literature; methods of collection and identification. Two or three field trips.
- 3950. UNDERGRADUATE PROSEMINAR.** (1 or per qtr; prereq #)
Biological topics of current interest.
- 5103. BIOLOGY OF NONVASCULAR PLANTS.** (5 cr; prereq Biol 1103 or 3012) McLaughlin
Algae, fungi, lichens, and bryophytes. Characteristics of groups, evolutionary relationships, life cycles, comparative morphology (including ultrastructure), comparative nutrition. Laboratory emphasizes living material and isolation of algae and fungi into culture.

Major Requirements and Course Descriptions

- 5105. MORPHOLOGY OF VASCULAR PLANTS.** (5 cr; prereq Biol 1103 or 3012 or #) Hall
Vegetative and reproductive structure of living and fossil vascular plants. Evolutionary relationships based on phylogenetic principles.
- 5111. DEVELOPMENTAL PLANT ANATOMY.** (5 cr; prereq Biol 1103 or 3012) Biesboer
Microscopic structure of vascular plants; development in root, stem, and leaf.
- 5131. SURVEY OF PLANT PHYSIOLOGY.** (4 cr, §3131, §PIPh 3131, §PIPh 5131; prereq Biol 1103 or 3012, BioC 1302 or ¶BioC 1302 or Biol 5001) Soulen, Guilfoyle
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. Includes a weekly discussion section.
- 5132. PLANT PHYSIOLOGY LABORATORY.** (2 cr; prereq 3131 or 5131 or ¶3131 or ¶5131)
Laboratory course to accompany 3131 or 5131.
- 5182. PLANT METABOLISM.** (3 cr, §PIPh 5182; prereq 5131 or equiv, course in biochemistry) Soulen
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.
- 5183. WATER, MINERALS, AND TRANSLOCATION.** (4 cr, §PIPh 5183; prereq 5131 or equiv) Markhart, Stadelmann
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.
- 5184. PLANT GROWTH AND DEVELOPMENT.** (3 cr, §PIPh 5184; prereq 5131 or equiv) Guilfoyle
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, and how plant growth substances control these developmental events.
- 5205. FLORA OF MINNESOTA.** (4 cr; prereq 3201 or #) Ownbey
Vascular plants of Minnesota; taxonomic and floristic relationships; geographical distribution and variation; collection and identification. Field trips.
- 5211. SURVEY OF ANGIOSPERM FAMILIES.** (5 cr; prereq 3201 or #; offered 1983-84 and alt yrs) Morley
Characteristics and relationships of orders and families of flowering plants on a worldwide basis.
- 5212. PRINCIPLES OF ANGIOSPERM PHYLOGENY.** (3 cr; prereq 3201 or #; offered 1982-83 and alt yrs) Morley
Evolutionary relationships and the various means of judging them within the angiosperms. Laboratory investigation of representative and critical groups.
- 5231. INTRODUCTION TO THE ALGAE.** (5 cr; prereq 10 cr in botany or biology or #; offered 1982-83 and alt yrs)
Structure, reproduction, and life histories of major algal divisions.
- 5960. SPECIAL TOPICS.** (Cr ar; prereq #, Δ) Staff
Treatment in depth of a specialized botanical topic.
- 5970. DIRECTED STUDIES.** (Cr ar; prereq Biol 1103 or 3012, #, Δ) Staff
Study of selected topics with emphasis on readings and use of scientific literature.
- 5990. DIRECTED RESEARCH.** (Cr ar; prereq #, Δ) Staff
Laboratory or field investigation of selected areas of research.

COURSES OFFERED AT LAKE ITASCA FORESTRY AND BIOLOGICAL STATION

- 5801su. PLAINS AND BOREAL FLORA.** (5 cr; prereq course in taxonomy; offered annually)
Survey of the summer flowering plants and ferns of the state with particular reference to the local flora. Identification by technical keys; important plant families; field recognition of common species; habitat preferences; collecting methods; literature; taxonomic methods.
- 5805su. AQUATIC FLOWERING PLANTS.** (5 cr; prereq course in taxonomy; offered annually)
The higher plants of aquatic and marsh habitats. Identification and collection; association of species; relations to the habitat; adaptive morphology and food value to wildlife.
- 5811su. FRESHWATER ALGAE.** (5 cr; prereq 10 cr botany, biology or zoology; offered annually)
The taxonomy and morphology of freshwater algae as related to ecology. Culturing techniques and identification of field collections, and utilization of this information in teaching and research emphasized.
- 5815su. BRYOPHYTES.** (5 cr; prereq 10 cr biology or #; offered when feasible)
Field and laboratory study of the mosses and liverworts of Minnesota with emphasis on their local ecology and taxonomy.

5821su. LICHENS. (5 cr; prereq 10 or in botany or zoology or #; offered when feasible)

Taxonomy, ecology, and floristics of lichens of northern Minnesota; identification, sampling methods, micro-chemistry as a taxonomic tool.

5825su. BIOLOGY OF FERNS. (5 cr; prereq Δ)

Field and laboratory study of the lower vascular plants including ferns, horsetails, club mosses, and quillworts; their evolution, classification, morphology, and ecology. Emphasis on field exploration for rare taxa (including natural hybrid forms) and life cycles.

CELL BIOLOGY

See Genetics and Cell Biology.

Chemistry (Chem)

Institute of Technology

Staff—Chair, Harold S. Swofford, Jr., 139 Smith Hall; *Academic Vice Chair,* Richard F. Borch

Professors: Bloomfield, Brasted, Britton, Bryant, Carr, Crawford, Dahler, Davis, Dodson, Fenton, Gassman, Gentry, Hexter, Kreevoy, Leete, Lipsky, Lumry, Mead, L. Miller, W. Miller, Moscovitz, Noland, Overend, Pignolet, Prager, Reynolds, Swofford, Truhlar, Wertz, Wilson

Associate Professors: Borch, Conroy, Gougoutas, Gray, E. Miller

Assistant Professors: Barbara, Barany, Dixon, Ellis, Evans, Farneth, Fisher, Fristad, Gladfelder, Hoye, Livinghouse, Mann, Stankovich

Adjunct Faculty — Professor: Wittcoff

For Students Taking Beginning Courses—Many beginning chemistry courses require high school chemistry and mathematics. Consult individual course descriptions.

Beginning fall 1982, students enrolling in 1031 will take a test during the first class period to determine their level of preparation; on the basis of the test results, some students may be advised—not required—to choose the alternate entry sequence 1004-1005, which offers more review of elementary material.

Note — You must present a deposit card for admission to a laboratory section. See the *Class Schedule* for information about deposit cards.

B.A. MAJOR SEQUENCE

Required Preparatory Courses—1031-1032, 1133; Math 3211

Major Requirements—3331, 3332, 3333, 3335, 3336, 5133, 5134, 5533, 5534, 5535, 5536, 5538, 5731, 5732, 5734, 5735

Math 1211-1221-1231, 3211

Phys 1271-1281-1291, 1275-1285-1295

Three qtrs German (may be used to meet language requirement)

Major project: 2-cr (minimum) research project

More information, including a list of areas recommended for electives and for the major project, is available at the undergraduate advising office, 147b Smith Hall (373-7858).

1001-1002†. CHEMICAL PRINCIPLES AND COVALENT SYSTEMS. (5 cr per qtr, §1004-1005, §1014, §1031-1032;

BioC 1301 is an alternative to 1002 for some students; primarily for forestry and nursing students; a terminal course; prereq 2 yrs high school mathematics...1 yr high school chemistry recommended; 4 lect, 1 rec, and one 3-hr lab per wk)

Principles of chemical change; structural concepts of nuclei, atoms, molecules; laws of dynamic behavior of matter; equilibrium concepts, especially those relevant to living systems; application of principles with emphasis on organic and biological species.

Major Requirements and Course Descriptions

- 1003. PHYSICAL WORLD, CHEMISTRY.** (5 cr, §any other college chemistry course; prereq 1 yr high school algebra ...high school chemistry recommended; a terminal course...cannot be used as prereq for any other advanced chemistry course; 4 lect, 1 rec, and one 2-hr lab per wk)
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.
- 1004-1005†. GENERAL PRINCIPLES OF CHEMISTRY.** (5 cr per qtr, §1001-1002, §1014, §1031-1032; for non-chemistry majors; prereq 1 yr high school chemistry or equiv, 4 yrs high school mathematics, placement index of Y or predicted mathematics GPA 1.90 on ACT or Math 0009 or college course in algebra...high school physics recommended; 4 lect, 1 rec, and one 3-hr lab per wk)
Chemistry from the standpoint of atomic structure; periodic properties of elements and compounds derivable from structural considerations; laws of behavior of matter, theories of solutions, acids, bases, and equilibrium.
- 1006. PRINCIPLES OF SOLUTION CHEMISTRY.** (4 cr; prereq 1005 or 1032; 3 lect and one 4-hr lab per wk)
Chemistry of selected cations and anions. Detection methods—spectrophotometric, potentiometric, and chromatographic procedures. Metal ion studies including systematics; acid-base principles; influence on the environment; importance in biological systems; formation and stereochemistry of complexes.
- 1008. PHYSICAL WORLD, CHEMISTRY.** (4 cr, §any other college chemistry courses; prereq 1 yr high school algebra ...high school chemistry recommended; a terminal course...cannot be used as prereq for any other chemistry course)
Same as Chem 1003, but without lab.
- 1031-1032†. CHEMICAL PRINCIPLES I AND II.** (5 cr per qtr, §1001-1002, §1004-1005, §1014; prereq 1 yr high school chemistry, 4 yrs high school mathematics, placement index of Y or predicted mathematics GPA 1.90 on ACT or Math 0009 or college course in algebra, chemistry or chemical engineering major or #...high school physics recommended; 4 lect, 1 lab recitation and one 3-hr lab per wk)
Stoichiometry, development and use of structural concepts, energetics, geometry of molecules, bonding, the behavior of gaseous and liquid states. The solid state, theory of solutions, equilibrium, gas and condensed phases, behavior and nature of the solution process, acids and bases.
- 1133. ELEMENTARY QUANTITATIVE ANALYSIS.** (5 cr; prereq 1032; 3 lect hrs, two 4-hr labs per wk)
Theory and practice of chemical methods of analysis.
- 3100. QUANTITATIVE ANALYSIS LECTURE.** (3 cr, 3100-3101†; for non-chemistry majors; prereq 1005 or 1032)
Introduction to the theory of quantitative chemical analysis.
- 3101. QUANTITATIVE ANALYSIS LABORATORY.** (2 cr, 3100-3101†; prereq 3100 or §3100)
Laboratory introduction to quantitative chemical analysis.
- 3301. ELEMENTARY ORGANIC CHEMISTRY I.** (4 cr, §3331; for non-chemistry majors; prereq 1005 or 1032 or equiv; 4 lect hrs per wk)
Important classes of organic compounds, both aliphatic and aromatic; some heterocyclic compounds.
- 3302. ELEMENTARY ORGANIC CHEMISTRY II.** (4 cr; prereq 3301, 3305 or §3305 [passing grade in 3305 required for or in 3302]; 4 lect hrs per wk)
Continuation of Chem 3301.
- 3303. ELEMENTARY ORGANIC CHEMISTRY III.** (4 cr; prereq 3302, 3306 or §3306 [passing grade in 3306 required for or in 3303]; 4 lect hrs per wk)
Basic principles of organic chemistry and survey of organic reaction mechanisms, to coordinate knowledge acquired in 3301, 3302, 3305, 3306.
- 3305. ELEMENTARY ORGANIC CHEMISTRY LABORATORY I.** (2 cr; prereq 3301 or §3301; 1 lab conf, 4 lab hrs per wk)
Laboratory: techniques used in preparation of typical organic substances.
- 3306. ELEMENTARY ORGANIC CHEMISTRY LABORATORY II.** (2 cr; prereq 3302 or §3302; 1 lab conf, 4 lab hrs per wk)
Continuation of 3305.
- 3331. INTRODUCTORY ORGANIC CHEMISTRY I.** (5 cr, §3301; for chemistry and chemical engineering majors; prereq 1133 or 1 yr college chemistry; 5 lect hrs per wk)
Important classes of organic compounds; their constitutions, configurations, and conformations; relationship between molecular structure and chemical reactivity.
- 3332. INTRODUCTORY ORGANIC CHEMISTRY II.** (3 cr, 3332-3335†; prereq 3331; 3 lect hrs per wk)
Reactions of organic compounds, nucleophilic substitution and addition; electrophilic substitution and addition; elimination reactions; molecular rearrangements; oxidation and reduction.
- 3333. INTRODUCTORY ORGANIC CHEMISTRY III.** (3 cr; prereq 3332; 3 lect hrs per wk)
Free radical reactions, electrocyclic reactions, photochemistry, organic synthesis, heterocyclic compounds, synthetic polymers, chemistry of natural products and life.

- 3335. INTRODUCTORY ORGANIC CHEMISTRY II LABORATORY.** (2 cr; prereq 3332 or 13332 [13332 is recommended]; two 4-hr labs per wk)
Laboratory to accompany 3332.
- 3336. INTRODUCTORY ORGANIC CHEMISTRY III LABORATORY.** (2 cr; prereq 3333 or 13333 [13333 is recommended]; two 4-hr labs per wk)
Laboratory to accompany 3333.
- 3499. SENIOR THESIS.** (Cr ar; prereq 4th yr, #)
Written final senior thesis report.
- 3970. DIRECTED STUDIES.** (Cr ar; prereq #)
Faculty-guided individual learning experience on or off campus in areas not covered by regular courses.
- 3991, 3992, 3993. SPECIAL TOPICS IN CHEMISTRY.** (Cr ar; prereq #)
Topics in chemistry, areas of current research. Primarily for 3rd- and 4th-year chemistry majors.
- 5122. ADVANCED ANALYTICAL CHEMISTRY.** (4 cr; prereq 1 yr organic chemistry and course in thermodynamics)
Equilibria in aqueous and nonaqueous systems.
- 5126. MODERN ANALYTICAL CHEMISTRY.** (4 cr; prereq 3332 and 3335; 2 lect hrs, two 3-hr labs per wk; primarily for chemical engineering majors)
Strategies and techniques for solving modern analytical problems. Use of modern instruments in analysis.
- 5127. ANALOG AND DIGITAL INSTRUMENTATION.** (5 cr; prereq Phys 1291, Math 1231 or 1331 or equiv or #; 4 lect, 4 lab hrs per wk)
Basic principles and applications of electronic circuitry; servo systems, operational amplifiers, feedback control, oscillators, digital gates, and converters for signal processing and control of chemical measurement systems.
- 5128. THE SMALL COMPUTER IN THE CHEMICAL LABORATORY.** (5 cr; prereq 5127 or #; 3 lect hrs, two 4-hr labs per wk)
Applications of the laboratory computer to the control of chemical instrumentation; acquisition of data. Hardware (interfacing) and software (assembly language programming) aspects of automating the chemical experiment.
- 5133. CHEMICAL INSTRUMENTATION AND ANALYSIS LECTURE.** (3 cr, \$5126; prereq 1133, 5534)
Methodology and practices for solving analytical problems. Modern instrumental techniques used in analysis.
- 5134. CHEMICAL INSTRUMENTATION AND ANALYSIS LABORATORY.** (2 cr; prereq 5133; two 4-hr labs per wk)
Application of spectroscopic methods of analysis (visible, UV, IR, atomic absorption, and flame emission), electrochemical methods of analysis (potentiometry, polarography, and anodic stripping), and separation methods of analysis (gas chromatography, liquid-liquid chromatography, and extraction).
- 5139. CHROMATOGRAPHY AND SEPARATION SCIENCE.** (4 cr; prereq 5133, 5134 or equiv or #; 3 lect hrs, one 4-hr lab per wk)
Fundamental and practical aspects of gas liquid chromatography, modern liquid chromatography, electrophoresis and other techniques used for analysis and separations.
- 5301. SPECTRAL METHODS FOR ORGANIC QUALITATIVE ANALYSIS.** (4 cr, \$8302; prereq 3303 or 3333 or equiv; 3 lect and 1 conf hrs per wk)
Nuclear magnetic resonance, mass, and ultraviolet infrared spectral analysis as applied to solution of organic problems.
- 5302. ORGANIC SYNTHESIS.** (4 cr; prereq 3303 or 3333 or equiv, #; 8 lab and 2 conf hrs per wk)
Reactions of typical functional groups; modern laboratory methods of organic synthesis.
- 5305. INTERMEDIATE ORGANIC CHEMISTRY.** (4 cr; prereq 3303 or 3333 or equiv; 3 lect and 1 rec hrs per wk)
Physical organic chemistry, with applications to typical chemistry problems. Reactions of typical functional groups; modern laboratory methods of organic synthesis.
- 5309. APPLICATIONS OF MOLECULAR ORBITAL THEORY IN ORGANIC CHEMISTRY.** (4 cr; prereq 5536 or Phys 3501 or #)
Application of quantum mechanics to organic reactions and photochemistry.
- 5342. CHEMISTRY OF NATURAL PRODUCTS.** (3 cr; prereq 3303 or 3333 or equiv; offered 1982-83 and alt yrs)
Biosynthesis of secondary natural products. Emphasis on alkaloids, terpenes, and acetogenins.
- 5343. CHEMISTRY OF NATURAL PRODUCTS (STERIODS).** (8 cr; prereq 3303 or 3333 or equiv; offered when demand warrants)
Steroidal hormones, their isolation, proof of structure, synthesis, and action.
- 5344. HETEROCYCLIC COMPOUNDS.** (3 cr; prereq 3303 or 3333 or equiv; offered 1983-84 and alt yrs)
Typical classes of heterocyclic compounds, their chemical and physical properties and uses. Synthesis.
- 5365. ORGANIC QUALITATIVE ANALYSIS.** (4 cr; prereq 3303 or 3333 or equiv; 8 lab and 2 conf hrs per wk)
Reactions of typical functional groups; methods of organic structure determination.

Major Requirements and Course Descriptions

- 5520-5521. ELEMENTARY PHYSICAL CHEMISTRY.** (3 cr per qtr; prereq 1 yr college chemistry, Math 3211, Phys 1291 or 1106 or ¶Phys 1291)
General survey. 5520: Chemical thermodynamics. 5521: Kinetics, statistical mechanics, structure.
- 5522. PHYSICAL BIOCHEMISTRY OF SOLUTIONS.** (4 cr, §BioC 5522; prereq 2 qtrs physical chemistry...BioC 5001 or Biol 3021 desirable)
Physical chemistry of equilibrium and transport phenomena in solution with application to biochemical systems. Macromolecular solutions, phase transitions, cooperative binding, conformational transitions, protein polymerization, micelle formation, sedimentation equilibrium and velocity, translational and rotational diffusion, viscosity.
- 5523. PHYSICAL BIOCHEMISTRY: STRUCTURE AND INTRAMOLECULAR FORCES.** (4 cr, §BioC 5523; prereq 5522 or 2 qtrs physical chemistry...BioC 5001 or Biol 3021 desirable)
Methods of structure determination for biological macromolecules. Scattering and diffraction, optical and magnetic resonance spectroscopy. Application to proteins, nucleic acids, and synthetic analogs.
- 5533. QUANTUM CHEMISTRY.** (4 cr, §5531; prereq 1 yr college chemistry, Phys 1291 or ¶Phys 1291, or Phys 1106 with #, Math 3211)
Principles of quantum mechanics; applications to atomic and molecular structure and to spectroscopy.
- 5534. CHEMICAL THERMODYNAMICS.** (4 cr; prereq 1 yr college chemistry, Math 3211, Phys 1291 or ¶Phys 1291, or Phys 1106 with #)
Principles of thermodynamics; application to chemical systems.
- 5535. STATISTICAL MECHANICS AND REACTION KINETICS.** (4 cr; prereq 5534)
(Continuation of 5534) Statistical thermodynamics and the kinetic theory of gases; application to reaction rate theory. Phenomenological kinetics and experimental methods.
- 5536. QUANTUM CHEMISTRY LABORATORY.** (2 cr; prereq 5533 or ¶5533)
Experiments illustrating quantum mechanical principles and methods.
- 5538. PHYSICAL CHEMISTRY LABORATORY.** (1 cr; prereq 5535 or ¶5535)
Experiments in thermodynamics and reaction kinetics.
- 5580. PHYSICAL CHEMISTRY OF POLYMERS.** (3 cr; prereq 5534 or 5535 or #; offered 1983-84 and all yrs)
Molecular weight distribution, statistical mechanics of polymer solutions, network polymers, viscosity, light scattering, viscoelastic behavior.
- 5610. POLYMER SCIENCE.** (4 cr, §610, §MatS 5610; prereq physical chemistry or MatS 5011 or #; 3 lect and 3 lab hrs 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.
- 5731. INORGANIC CHEMISTRY I.** (3 cr; prereq 5533; 3 lect hrs per wk)
Structure, bonding, thermochemistry, acid-base chemistry, physical and chemical properties of inorganic substances. Systems in which *s* and *p* electrons are important.
- 5732. INORGANIC CHEMISTRY II.** (3 cr; prereq 5731; 3 lect hrs per wk)
See description of 5731. Emphasis on transition metal compounds in which *d* electrons are important. Current topics such as boron hydrides, inert gas compounds, organometallic compounds, and biologically important metal compounds.
- 5734. INORGANIC CHEMISTRY LABORATORY I.** (2 cr; prereq ¶5731 or 5731 or #; 1 lect, 3 lab hrs per wk)
Laboratory to accompany 5731.
- 5735. INORGANIC CHEMISTRY LABORATORY II.** (2 cr; prereq ¶5732 or 5732, 5734 or #; 1 lect, 3 lab hrs per wk)
Laboratory to accompany 5732.
- 5751. PHYSICAL INORGANIC CHEMISTRY I.** (4 cr; prereq 5732 or equiv or #)
Physical methods and concepts applied to inorganic and organometallic systems including NMR, IR, UV-VIS, ESR, Mössbauer and mass spectroscopy, magnetic measurements, X-ray crystallography.
- 5752. PHYSICAL INORGANIC CHEMISTRY II.** (4 cr; prereq 5751 or equiv or #)
Solution thermodynamics and kinetics applied to inorganic and organometallic systems, determination of reaction mechanisms; symmetry and ligand field concepts.
- 5761. ORGANOMETALLIC CHEMISTRY.** (4 cr; prereq 5732 or equiv or #)
Syntheses, reactions, structures, and other important properties of main group and transition metal organometallic compounds; treatment in terms of modern electronic and structural theory; emphasis on their use as stoichiometric and homogeneous catalytic reagents in organic and inorganic systems.
- 5762. SURVEY OF THE CHEMISTRY OF THE TRANSITION METALS.** (4 cr; prereq 5732 or equiv or #)
Reactions and properties of the transition metals and their compounds. Modern coordination chemistry including magnetic and spectroscopic properties and qualitative ligand field theory.
- 5763. SURVEY OF THE CHEMISTRY OF THE NONTRANSITION ELEMENTS.** (4 cr; prereq 5732 or equiv or #)
Reactions and properties of the nontransition elements, including the rare gases, and their compounds.

5803. THE CHEMISTRY OF INDUSTRY. (4 cr; prereq chemistry sr or grad student or #)

The basic industrial and polymer chemistry and technology on which industry is based. Relationship of basic properties to industrial utility. Emphasis on economics, social problems, and the industrial environment.

5991, 5992, 5993. SELECTED TOPICS IN CHEMISTRY. (Cr ar; prereq Δ , sr)

Topics of current interest. Consult department for details for a particular quarter.

Chicano Studies (Chic)

Staff — Chair, to be announced, 483 Ford Hall

Assistant Professors: Cisneros, Valdés, Vallejos

The department offers an interdisciplinary program leading to a major and a minor in Chicano studies. Courses are designed for students interested in the social, historical, and cultural experience of the Mexican population in the United States. The program specializes in bilingual-bicultural education and in various fields of Chicano studies.

B.A. MAJOR SEQUENCE

Required Preparatory Courses — 1105, 1106, 1107; Span 1404, 1405, 1406 or equiv

Major Requirements — 8 cr selected from 3210, 3211, 3212, 3213, 3221, 3330, 3427, 3428, 3441, 3442, 3507, 3508, 3510, 3511

16 additional cr in 3xxx-level courses (appropriate courses from other departments accepted with approval of adviser)

Major project: essay completed in 5970 (at least 3 cr)

MINOR SEQUENCE

Required Preparatory Courses—Minimum of two courses from the following: 1105, 1106, 1107

Minor Requirements—16 cr in 3xxx- or 5xxx-level courses selected with approval of adviser

1105f. INTRODUCTION TO CHICANO STUDIES: THE BEGINNINGS. (4 cr)

Convergence of Europe and America in Mesoamerica, leading to the emergence of Mexican society. Pre-Columbian Mesoamerican civilizations, Iberian civilization, the society that developed as a result of conquest of Mesoamerica by Spain.

1106w. INTRODUCTION TO CHICANO STUDIES: THE MEXICAN-AMERICAN EXPERIENCE, 1821-1960. (4 cr)

Convergence of Spanish-Mexican and Anglo-American society in the Spanish borderlands, now termed the Southwest. Aspects of this convergence; its historical consequences.

1107s. INTRODUCTION TO CHICANO STUDIES: THE CHICANO IN CONTEMPORARY SOCIETY. (4 cr)

Conditions that led to Chicano social, political, economic, and cultural consciousness; forms in which it has been expressed. The farmworker struggle, land-grant litigation, urban strife, education.

1201, 1202, 1203. SPANISH FOR SPANISH SPEAKERS. (5 cr per qtr, §Span 1101-1102-1103; limited to Chicanos and other Spanish-speaking minorities with little or no formal training in Spanish)

1201: Pronunciation, basic patterns, amplification of vocabulary. 1202: Variant forms and structures. 1203: Fluency and basic writing skills.

3112f. BILINGUAL EDUCATION: PRINCIPLES, PRACTICES, AND PHILOSOPHY. (5 cr; educational or general psychology helpful)

Philosophy and principles of bilingual education.

3113w. BILINGUAL EDUCATION: METHODS AND MATERIALS AT THE ELEMENTARY AND PRESCHOOL LEVELS. (5 cr; educational or general psychology helpful)

Physical dexterity activities, intellectual and mental development through memorization of rhymes, rounds, songs, dances, and other cultural material. All material in Spanish.

Major Requirements and Course Descriptions

- 3114s. BILINGUAL EDUCATION: SECONDARY SCHOOL EMPHASIS; PRACTICES, METHODS, AND MATERIALS.** (5 or; educational or general psychology helpful)
Methods and philosophy of education of bilingual-bicultural secondary school students to make American education relevant and valuable. Critiques of materials by class members; application to school situations that can serve as clinical field studies.
- 3116s. LATINOS IN EDUCATION.** (4 or)
Social, cultural, and professional issues encountered by the Spanish-speaking and other minorities in pursuit of opportunities in higher education.
- 3210. CHICANOS IN THE BIG CITY.** (4 or)
Latino life and society in the urban United States. Historical, geographic, social, economic, political, and cultural perspectives.
- 3211w. CHICANO PHILOSOPHY.** (4 or)
The antithesis and thesis of Anglo-American and Mexican philosophy, studied to arrive at the synthesized Chicano philosophy. The Chicano as product of three philosophies; the Chicano's place in existential philosophy.
- 3212s. LA CHICANA.** (4 or)
Study of the philosophy and psychology of the Chicana in order to understand the Chicana. Women of *la raza*; their impact on literature, history, sociology, and politics. Literature by and about Chicanas.
- 3213. CHICANO MUSIC AND ART.** (4 or)
Overview with focus on contemporary musical and artistic development in Texas. Interrelation of sociocultural concepts including *la familia, el barrio, la comunidad, and la raza*.
- 3221. CURANDERISMO, MEXICAN-AMERICAN FOLK MEDICINE.** (4 or; prereq 1106 or #)
Relationship of people and natural medicinal remedies in Mexican-American folk cultures; religious rites and ceremonialism in the life of the Southwestern and Mexican Indians.
- 3330. CHICANO HISTORY: TOPICS.** (4 or per qtr; prereq 1105, 1106, 1107 or 3324)
Mexican-American history: migration, labor movements, Chicanos in agriculture, the *pachuco* phenomenon, border conflict, regional history.
- 3341w. CHICANO-TEJANO HISTORY.** (4 or)
The Chicano in Texas, 1550 to the present.
- 3405. SPANISH FOR THE SPANISH-SPEAKING—INTERMEDIATE CONVERSATION AND COMPOSITION.** (4 or; prereq 1201, 1202, 1203 or 1 yr of Spanish)
Development of oral and writing skills; conversations and compositions on cultural and historical topics concerning the Chicano experience.
- 3406. SPANISH FOR THE SPANISH-SPEAKING—ADVANCED CONVERSATION AND COMPOSITION.** (4 or; prereq 1201, 1202, 1203 or 1 yr of Spanish and 3405)
Oral and writing skills; discussions and compositions related to Chicano thought and literature.
- 3411. CHICANOS AND LANGUAGE RIGHTS.** (4 or; prereq knowledge of world standard Spanish)
Nature of ethnolinguistic communities, the human rights debate, and the link between human rights and language choice. Focus on Spanish-speaking peoples of United States and third world.
- 3427. HISTORY OF CUBA AND PUERTO RICO.** (4 or, §Hist 3427)
Historical development from Spanish conquest to present; conquest and colonization, slavery, Hispanic Caribbean society and culture, Operation Bootstrap, Cuban Revolution.
- 3441. SURVEY OF CHICANO HISTORY TO 1900.** (4 or, §Hist 3441)
Spanish conquest and colonization of the borderlands, Mexican society in the early 19th century, Mexican-American War and its aftermath.
- 3442. SURVEY OF CHICANO HISTORY, 1900 TO PRESENT.** (4 or, §Hist 3442)
Twentieth-century Chicano experience including migration and repatriation, contemporary politics, society and culture.
- 3507. INTRODUCTION TO CHICANO LITERATURE.** (4 or)
Chicano fiction, poetry, and drama.
- 3508. INTRODUCTION TO CHICANO LITERATURE: TEXT AND CONTEXT.** (4 or)
Major literary works by Chicano writers in their social and historical context.
- 3510. CHICANO LITERATURE: TOPICS.** (4 or per qtr [12 or max]; prereq 3507 or 3508 or #...some knowledge of Spanish recommended)
New dimensions in Chicano literature; prominent themes, figures, tendencies, trends.
- 3511. CHICANO LITERATURE: TEXT AND CONTEXT.** (4 or)
Fiction, poetry, and drama by Chicano writers: Rudolfo Gonzalez, Alurista, José Villarreal, Thomas Rivera, Luis Valdez, and others.
- 3615. CONTEMPORARY CHICANO PARTICIPATION IN POLITICS.** (4 or)
Recent and contemporary Chicano political organizations and personalities in the United States; their societal impact.

- 3617. THE CHICANOS AS A NATIONAL MINORITY.** (4 cr)
Chicanos as a national minority from historical and socioeconomic perspectives.
- 3711. CHICANOS: SOCIOPSYCHOLOGICAL PERSPECTIVES I.** (4 cr; prereq 1105, introductory course in psychology or sociology or #)
Sociological and psychological literature about the Chicano. Inter- and intra-ethnic perceptions, attitudes, and motivational processes.
- 3712. CHICANOS: SOCIOPSYCHOLOGICAL PERSPECTIVES II.** (4 cr; prereq 3711 or #)
Continuation of 3711.
- 3970f,w,s,au. DIRECTED STUDIES.** (Cr ar; prereq #)
Guided individual reading or study.
- 5970. DIRECTED STUDIES.** (Cr ar; prereq #)
Guided individual reading or study.

Child Psychology (CPsy)

College of Education

Staff—*Director*, W. Andrew Collins, 196 Child Development; *Director of Graduate Studies*, Herbert L. Pick, 206b Child Development; *Director of Undergraduate Studies*, Megan R. Gunnar, 104c Child Development; *Departmental Honors Adviser*, to be announced
Professors: Charlesworth, Collins, Hartup, Maratsos (on leave, 1982-83), Moore, A. Pick, H. Pick, Salapatek, Sroufe, Tapp, Yonas
Associate Professor: Perlmutter
Assistant Professors: Breslow (on leave, 1982-83), Dolgin, Gunnar
Instructors: Adolf, Galle, Mooney-McLoone

Adjunct Faculty—Egeland (Psychoeducational Studies), Garmezy (Psychology), Hafner (Health Care Psychology), Turnure (Psychoeducational Studies), Weinberg (Psychoeducational Studies)

Child psychology concerns behavioral development and maintenance from the prenatal period to maturity in the spheres of cognition, ethology, genetics, language, learning, perception, and social behavior.

Detailed information regarding the major in child psychology, independent or directed study courses, and other current course offerings is available from the undergraduate advisory committee, 106 Child Development, or in 104 Child Development. Honors contract registration is available for all courses offered by the Department of Child Psychology with the exception of those offered for S-N credit only. Qualified students should consult the Honors office, 115 Johnston Hall.

For information about the specialized curriculum in nursery school and kindergarten education, see the *College of Education Bulletin*. If you are interested in studies leading to licensure for nursery school education, consult the adviser for the licensure program, 226 Child Development.

General Courses—1301, 3302, 3303/5303, 3304, 3332, and 5301 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, 1004; Psy 1005 or CPsy 3330 (research methods section)

Major Requirements—One course from 3302, 3303 or 5303, 3304
Psy 3801 or equiv
Two courses from 3331, 3347, 5329, 5331, 5341, 5343, 5345

Major Requirements and Course Descriptions

Two courses from 3311, 3313, 5311, 5313, 5315, 5319, 5333, 5334, 5335, 5339
Minimum of 8 additional cr in any 3xxx and 5xxx child psychology courses, which may include two of the following courses: 3330 (sections other than research methods), 3980, 5970, 5990; each course may only be counted once toward the major
Psychology cr may not be counted toward the 30 3xxx-5xxx cr outside the major.

MINOR SEQUENCE

Required Preparatory Courses—1301; Psy 1001

Minor Requirements—3302 or 3303 or 5303 or 3304

One course from 3331 or 5331, 3347, 5329, 5341, 5343, 5345

One course from 3311 or 5311, 3313 or 5313, 5315, 5319, 5333, 5334, 5335, 5339

Minimum of 4 additional cr in any 3xxx or 5xxx child psychology course

- 1301f,w,s,su. INTRODUCTORY CHILD PSYCHOLOGY.** (4 cr, §5301; prereq 5 cr introductory psychology)
Science of child behavior; review of theories and research.
- 1970f,w,s,su. DIRECTED STUDY IN CHILD PSYCHOLOGY.** (Cr ar; prereq #)
Readings in child psychology.
- 3302. 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.
- 3303f,w,s,su. ADOLESCENT PSYCHOLOGY.** (4 cr, §5303; prereq 5 cr introductory psychology)
Physical, cognitive, and social development during adolescence.
- 3304. INTRODUCTION TO MATURITY AND AGING.** (4 cr; prereq 1301 or equiv)
Empirical and theoretical issues in developmental psychology of maturity and aging; perceptual-motor, cognitive, and social-psychological changes from young adulthood to old age.
- 3311f,s,su. BEHAVIORAL AND EMOTIONAL PROBLEMS.** (4 cr, §5311; prereq 1301 or equiv)
Description, etiology, development of behavioral and emotional problems of children; treatment where germane. Does not include problems deriving primarily from sensory or physical handicap, mental retardation, or neurological impairment.
- 3313. PSYCHOLOGY OF ATYPICAL CHILDREN.** (4 cr, §5313; prereq 1301 or equiv)
Research, assessment, and behavior associated with atypicality; evaluation of research in areas of major concern for sensory, language, intellectual, and physical deviation.
- 3330f,w,s. DIRECTED EXPERIENCES.** (1-4 cr per qtr; prereq 1301 or equiv)
Intellectual and/or social development of children, adolescents, and 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.
- 3331f,s,su. PROCESSES OF SOCIALIZATION OF CHILDREN.** (4 cr, §5331; prereq 1301 or equiv)
Processes of social learning: identification, social influence, imitation, reward and punishment, internalization, and object choice.
- 3332. CROSS-CULTURAL CHILD DEVELOPMENT.** (4 cr; prereq 4 cr child psychology)
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.
- 3347. CHILDREN'S LEARNING AND INTELLECTUAL SKILLS.** (4 cr; prereq 1301 or #)
Current research on learning, problem solving, intellectual performance in children; practical applications.
- 3360. HONORS SEMINAR I: CURRENT RESEARCH IN DEVELOPMENTAL PSYCHOLOGY.** (4 cr per qtr; primarily for child psychology majors; prereq 1301 or equiv, #)
Introduction to ongoing research programs, preparation for independent research (thesis research if honors major), discussion of career opportunities, other topics. Open to all students; required for honors majors. Normally taken in junior year.
- 3361. HONORS SEMINAR II: RESEARCH AND THEORY IN DEVELOPMENTAL PSYCHOLOGY.** (4 cr; primarily for child psychology majors; prereq 1301 or equiv, #)
History, theory, and systems of research in developmental psychology; interpreting recurring issues. Open to all students; required of honors majors. Normally taken in senior year.
- 3980f,w,s. DIRECTED INSTRUCTION.** (1-4 cr per qtr [4 cr max]; S-N only; prereq #)
Undergraduates serve as teaching assistants in courses they have completed for credit.

- 5301. ADVANCED CHILD DEVELOPMENT.** (4 cr, §1301; prereq 5 cr child psychology)
Theory and research in child development with emphasis on perception, language, learning, cognition, personality, and social development.
- 5303f,w,s,su. ADOLESCENT PSYCHOLOGY.** (4 cr, §3303; prereq 5 cr introductory psychology)
For description, see 3303.
- 5310. TOPICS IN CHILD PSYCHOLOGY.** (1-4 cr per qtr; prereq 1301)
Selected topics in the general content area.
- 5311f,s,su. BEHAVIORAL AND EMOTIONAL PROBLEMS.** (4 cr, §3311; prereq 1301 or equiv)
For description, see 3311.
- 5313. PSYCHOLOGY OF ATYPICAL CHILDREN.** (4 cr, §3313; prereq 1301 or equiv)
For description, see 3313.
- 5315. INTRODUCTION TO MENTAL RETARDATION.** (4 cr, §PsyS 5120; prereq 1301 or equiv)
Psychological and educational problems related to the mentally retarded.
- 5319. CLINICAL PROCEDURES WITH CHILDREN AND YOUTH.** (4 cr; prereq 12 cr in psychology, educational psychology, sociology or child psychology)
Assessment and intervention procedures of clinical child psychology in clinical and community settings. Primarily for students not majoring in clinical psychology.
- 5329. GENETICS, ETHOLOGY, AND DEVELOPMENT.** (4 cr; prereq 1301 or equiv; offered alt yrs)
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.
- 5331f,s,su. PROCESSES OF SOCIALIZATION OF CHILDREN.** (4 cr, §3331; prereq 1301 or equiv)
For description, see 3331.
- 5333. PERSONALITY DEVELOPMENT.** (4 cr; prereq 3331 or 5331)
Psychoanalytic and behavioral theory formulations, related research literature in content areas (e.g., attachment, dependency, aggression, competence, and sex typing).
- 5334. CHILDREN AND YOUTH IN SOCIETY.** (4 cr; prereq 4 cr child psychology)
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.
- 5335. PEER RELATIONS.** (4 cr; prereq 3331 or 5331; offered alt yrs)
Peer influences, social interactions and relations; developmental changes.
- 5339. PARENT-CHILD RELATIONS.** (4 cr; prereq 3331 or 5331; offered alt yrs)
Parent-child relationships and evaluation of research in such areas as cross-cultural child-rearing perspectives, alternative parenting roles, economics of parent-child relations, rights of parents and children.
- 5341. PERCEPTUAL DEVELOPMENT.** (4 cr; prereq 1301 or #; offered alt yrs)
Perceptual learning and the development of sensory and perceptual processes.
- 5343. COGNITIVE DEVELOPMENT.** (4 cr; prereq 1301 or #; offered alt yrs)
Cognitive processes; relevant theory, research literature, and methodology.
- 5345. LANGUAGE DEVELOPMENT.** (4 cr; prereq 1301 or #; offered alt yrs)
Structure and function of language; factors influencing development; methodological problems, language scales, theories.
- 5970f,w,s,su. DIRECTED STUDY IN CHILD PSYCHOLOGY.** (Cr ar; prereq #)
Independent reading.
- 5990f,w,s,su. DIRECTED RESEARCH IN CHILD PSYCHOLOGY.** (Cr ar; prereq #)
Individual empirical investigation.

CHINESE

See East Asian Studies.

Classical Civilization (CICv)

Staff—Chair, Thomas Clayton, 205½ Folwell Hall

Faculty—Akehurst (French and Italian), Aris (Chemical Engineering and Materials Science), Beck (Social, Psychological, and Philosophical Foundations of Education), Cooper (Art History, on leave 1982-85), Gibbon (Center for Ancient Studies), Kelly (History), Peterson (Philosophy), Solomon (Classics), Sonkowsky (Classics), Spencer (Anthropology), Tracy (History), Wilson (History of Medicine)

Major Requirements and Course Descriptions

This undergraduate, interdisciplinary program focuses on the study of Greek and Roman cultures and their influence on Western civilization. Its 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 Manual*, available in the Classical Civilization office, 205½ Folwell Hall. Seminars are offered annually.

B.A. MAJOR SEQUENCE

Required Preparatory Courses—CLA Route I (Route II not accepted) course work in Greek or Latin (five courses for a minimum of 23 cr)

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.

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—CLA Route II course work in Greek or Latin

Minor Requirements—15-25 cr in approved classical civilization courses at the 3xxx level (one course from each of the four designated areas required for the major) selected with guidance of faculty adviser.

3340. PRACTICUM IN ARCHAEOLOGICAL FIELD TECHNIQUES. (4 or; prereq classical civilization major or #, one course in ancient art or archaeology) Gibbon

Excavation methods for classical sites. Class meets at selected Minnesota site for day-long sessions for one-half quarter. Use of field procedures including handling of instruments, setting up field notebooks, preparation of trenches, excavation, and recording and analysis of strata and artifacts.

3940. PROSEMINAR: CLASSICAL TRADITIONS IN WESTERN CULTURE. (4 or; prereq #)

The nature of Greco-Roman classical traditions manifested in various cultural spheres: language and literature, fine arts, history, science, philosophy, theology, and other disciplines; the political, social, educational, and religious life of society.

Classics

Staff—*Chair*, Jackson Hershbell; *Director of Language Instruction*, Gerald Erickson

Professor Emeritus: McDonald

Professors: Hershbell, Keuls, Kraabel, Sonkowsky

Associate Professors: Coulson, Erickson, Sheets

Assistant Professors: Belfiore, Miller, Solomon

Classics is concerned with the study of the human experience of ancient Greece and Rome. The field encompasses prehistoric time as well as the interrelationships between classical culture and the ancient Near East and Minoan-Mycenaean civilizations. Classics also embraces Greek and Latin studies in the medieval, Renaissance, and modern periods. Greek and Latin literatures and archaeological and artistic remains are studied from humanistic perspectives in various fields: literature, philology, metrics, oral reading, rhetoric and poetics, archaeology, mythology, religion, philosophy, art criticism, daily life.

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 designation "Clas" do not require knowledge of Greek or Latin.

Major programs are offered in Greek, Latin, Greek and Latin (double major), and classical civilization (interdepartmental). If you wish to undertake advanced work in both languages or design double majors, you should consult the department early to plan a program. Courses in classics may form part of any of the four majors.

B.A. MAJOR SEQUENCE—GREEK

Required Preparatory Courses—1104 or 1122 or 3052 or 15 cr of 1110 and Δ or equiv

Major Requirements—25 cr in Greek courses above 3052

15 additional cr in 3xxx-5xxx classics courses, or related courses in other departments, or in Greek and/or Latin courses above 3052, or in a combination of these

MINOR SEQUENCE—GREEK

Required Preparatory Courses—1104 or 1122 or 3052

Minor Requirements—10 cr in Greek courses above 3052

5 cr in Greek courses above 3052, or in 3xxx-5xxx classics courses

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)

Major Requirements—25 cr in Latin courses above 3052

15 additional cr in 3xxx-5xxx classics courses, or related courses in other departments, or in Latin and/or Greek courses above 3052, or in a combination of these

MINOR SEQUENCE—LATIN

Required Preparatory Courses—1104 or 1122 or 3052 or four yrs high school Latin

Minor Requirements—10 cr in Latin courses above 3052

5 cr in Latin courses above 3052, or in 3xxx-5xxx classics courses

B.A. MAJOR SEQUENCE—GREEK-LATIN

Required Preparatory Courses—Grk 1104 or 1122 or 3052 or 15 cr of 1110 and Δ or equiv

Lat 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)

Major Requirements—25 cr in Greek courses above 3052

25 cr in Latin courses above 3052

30 additional cr in 3xxx-5xxx classics courses, or related courses in other departments, or in Greek and/or Latin courses above 3052, or in a combination of these

GREEK (Grk)

1101f-1102w†. **BEGINNING CLASSICAL GREEK.** (5 or per qtr, §3051-3052†; prereq 1101 or equiv for 1102)

1103s. **SELECTIONS FROM GREEK LITERATURE.** (5 or, §3051-3052†; prereq 1102 or equiv)

Prose and poetry.

Major Requirements and Course Descriptions

- 1104f. GREEK PROSE.** (5 cr, §3051-3052†; prereq 1103 or 2 yrs high school Greek or Δ)
Selections from Lysias and/or Plato.
- 1111f-1122w†. HONORS COURSE: BEGINNING CLASSICAL GREEK.** (5 cr per qtr; prereq regis in honors program or high ability as indicated by college entrance records)
- 3051f-3052w†. BEGINNING ANCIENT GREEK: ACCELERATED.** (5 cr per qtr, §1101-1102, §1103, §1104)
Previous experience in another foreign language desirable.
- 3105w. GREEK DRAMA.** (5 cr; prereq 1104 or Δ)
Euripides.
- 3106s. GREEK POETRY.** (5 cr; prereq 1122 or 3052 or 3105 or Δ)
Selections from Homer.
- 3120. INDIVIDUALIZED INTRODUCTION TO BIBLICAL GREEK.** (2-5 cr per qtr [10 cr max], §1101-1102-1103, §1110; prereq #)
Flexible approach to basic phonology, morphology, and syntax of biblical (KOINE) Greek at student's pace. Computer-assisted instruction, class meetings, and tutorials.
- 3451, 3452, 3453, 3454, 3455, 3456, 3457, 3458 (formerly 3461, 3462, 3463, 3464, 3465, 3467). 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.
- 3960. HONORS TUTORIAL.** (5 cr per qtr; prereq Δ)
- 3970. DIRECTED STUDIES.** (1-5 cr per qtr; prereq #, Δ)
Guided individual reading or study.
- 5012. PROSE COMPOSITION.** (4 cr; prereq 3106 or Δ)
- 5120. BIBLICAL AND PATRISTIC GREEK.** (2-5 cr per qtr [10 cr max]; prereq 3120 or grad student)
Septuagint, Philo, Josephus, New Testament, Apostolic Fathers, and other patristic literature to 5th century A.D. Reading and discussion of selected texts in the major genres.
- 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.
- 5621. GREEK PALEOGRAPHY.** (4 cr; prereq 5 3xxx-5xxx cr in Greek or #)
Styles of writing in literary papyri and later manuscripts; transmission of ancient texts.
- 5715. INTRODUCTION TO CLASSICAL PHILOLOGY.** (4 cr, §Lat 5715; prereq #)
Historical grammar of Greek and Latin from their Indo-European origin to the classical norms.
- 5716. HISTORY OF GREEK.** (4 cr; prereq Grk or Lat 5715 or equiv, 2 yrs Greek)
Reading and analysis of documents illustrating the evolution of the Greek language from Mycenaean to modern times.
- 5718. GREEK DIALECTS.** (4 cr; prereq 3 yrs Greek or #)
The nature and extent of dialectal variation within ancient Greek studied through reading and analysis of inscriptions and earlier Greek literature.
- 5970. DIRECTED STUDIES.** (1-5 cr per qtr; prereq #, Δ)
Guided individual reading or study.

LATIN (Lat)

- 1101f-1102w†. BEGINNING LATIN.** (5 cr per qtr, §3051-3052†; prereq 1101 or equiv for 1102)
- 1103s. SELECTIONS FROM LATIN LITERATURE.** (5 cr, §3051-3052†; prereq 1102 or equiv)
Prose and poetry.
- 1104f. LATIN PROSE.** (5 cr; prereq 1103 or 3 yrs high school Latin or Δ)
Selections from Caesar and Cicero.
- 1111f-1122w†. HONORS COURSE: BEGINNING LATIN.** (5 cr per qtr; prereq regis in honors program or high ability as indicated by college entrance records)
- 3001. BEGINNING LATIN: INTENSIVE ACCELERATED.** (10 cr, §1101-1102†, §1103, §3051-3052†)
Ten class hours weekly, plus individual and small group sessions. Grammar, syntax, composition, and reading.
- 3051f-3052w†. ACCELERATED BEGINNING LATIN.** (5 cr per qtr, §1101-1102†, §1103, §1104)
Previous experience in another foreign language desirable.

- 3105w. LATIN POETRY.** (5 cr; prereq 1104 or Δ)
Selections from Catullus and Ovid.
- 3106s. LATIN POETRY.** (5 cr; prereq 1122 or 3052 or 3105 or Δ)
Selected books from Virgil's *Aeneid*.
- 3451, 3452, 3453, 3454, 3455, 3456, 3457, 3458 (formerly 3461, 3462, 3463, 3464, 3465, 3466, 3467, 3471, 3472, 3473, 3474, 3475, 3476, 3477). 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.
- 3960. HONORS TUTORIAL.** (5 cr per qtr; prereq Δ)
- 3970. DIRECTED STUDIES.** (1-5 cr per qtr; prereq #, Δ)
Guided individual reading or study.
- 5012. PROSE COMPOSITION.** (4 cr; prereq 3106 or Δ)
- 5038. ORAL INTERPRETATION OF CLASSICAL LATIN LITERATURE.** (5 cr; prereq 2 yrs Latin or equiv and Th 3801 or 3321 or #)
Phonetics, prosody, and oral performance of texts in classical Latin.
- 5235. MEDIEVAL LATIN.** (4 cr; prereq #)
Literature from 5th to 12th centuries; Carolingian and 12th-century Renaissance.
- 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 Elegiac Poetry. 5360: Drama. 5370: Satire. 5380: Law. 5390: Religious Texts.
- 5621. LATIN PALEOGRAPHY.** (4 cr; prereq 3 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.
- 5715. INTRODUCTION TO CLASSICAL PHILOLOGY.** (4 cr, §Grk 5715; prereq #)
Historical grammar of Greek and Latin from their Indo-European origin to the classical norms.
- 5717. HISTORY OF LATIN.** (4 cr; prereq Grk or Lat 5715 or equiv or #, 2 yrs Latin)
Reading and analysis of documents illustrating the evolution of the Latin language from its origins to late antiquity.
- 5733. VULGAR LATIN.** (4 cr; prereq 3 yrs Latin or #)
Reading and analysis of sources for colloquial Latin. Romance dialectology.
- 5735. ITALIC DIALECTS.** (4 cr; prereq Grk or Lat 5715 or #)
Reading and analysis of inscriptions illustrating Oscan, Umbrian, archaic Latin, Sabellian, and Venetic. Italic dialectology.
- 5970. DIRECTED STUDIES.** (1-5 cr per qtr; prereq #, Δ)
Guided individual reading or study.

CLASSICS (Clas)

These courses may be of interest to students of literature, archaeology, and culture. They may be applied to majors in classical civilization, the interdepartmental program described in preceding pages. They may also be applied to majors in Greek, Latin, or Greek-Latin. Knowledge of Greek or Latin is not required for these courses.

CLASSICAL HUMANITIES

- 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.
- 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.
- 1003. AGE OF ALEXANDER.** (4 cr)
Military conquests of Alexander the Great and their results; Hellenistic philosophy, art, science, religion, and literature.
- 1004. AGE OF CAESAR.** (4 cr)
Roman Republic from its origins to Caesar's death.

Major Requirements and Course Descriptions

- 1005. AGE OF AUGUSTUS.** (4 cr)
"Golden age" of Latin literature; the monuments. Transition from republic to empire.
- 1006. AGE OF NERO.** (4 cr)
The Roman Empire; "silver age" of Latin literature and rise of Christianity; art and architecture.
- 1011, 1022, 1033, 1044, 1055, 1066. HONORS COURSES: INTRODUCTION TO CLASSICAL CIVILIZATION.** (5 or 6 cr)
per qtr; prereq regis in honors program or # or Δ)
Students attend lectures in 1001, 1002, 1003, 1004, 1005, 1006 and meet with lecturer one additional period each week.
- 1042. GREEK AND ROMAN MYTHOLOGY I.** (4 cr) Solomon
Heroes, gods, and goddesses of ancient Greece and Rome. Stories of the myths and stories behind the myths.
- 1045. BASIC PROGRAM IN TECHNICAL TERMINOLOGY AND WORD STUDY.** (2 cr, §3045; prereq §1048, §3046, §3048)
Study of prefixes, suffixes, and high frequency roots from Greek and Latin through computer-assisted instruction; principles of word compounding; methods and techniques of word analysis.
- 1048. TECHNICAL TERMS OF THE MEDICAL AND BIOLOGICAL SCIENCES.** (2 cr, §3048; prereq 1045 or §1045 or 3045 or §3045)
Study of roots and terms basic to the medical and biological sciences in English contexts.
- 1141. TECHNICAL TERMS FOR NURSING.** (2 cr, §1048, §3048)
Study of Greek and Latin prefixes, suffixes, and roots basic to the vocabulary of nursing through computer-assisted instruction.
- 3006. GREAT FIGURES IN ANCIENT BIOGRAPHY.** (4 cr)
Important historical and legendary personages in classical literature; their accomplishments, factors that shaped their characters, criteria for "greatness," the social and political milieu in which they functioned, the hero myth and history; psychohistorical approach to biography; development of views toward the figures in later ages.
- 3045. BASIC PROGRAM IN TECHNICAL TERMINOLOGY AND WORD STUDY.** (2 cr, §1045; prereq §1048, §3046, §3048)
Same as 1045, with additional, more advanced work required.
- 3046. ADVANCED ETYMOLOGY: VOCABULARY OF THE SCIENCES AND HUMANITIES.** (2 cr; prereq 1045 or §1045 or 3045 or §3045)
Latin and Greek roots that have English derivatives; regularities of linguistic change (Grimm's law), principles of etymology, and lessons on specialized terminology in various fields. Computer-assisted instruction.
- 3048. TECHNICAL TERMS OF THE MEDICAL AND BIOLOGICAL SCIENCES.** (2 cr, §1048; prereq 1045 or §1045 or 3045 or §3045)
Same as 1048, with additional, more advanced work required.
- 3071. GREEK AND HELLENISTIC RELIGIONS.** (4 cr; prereq jr) Kraabel
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.
- 3072. THE NEW TESTAMENT.** (4 cr; prereq jr) Kraabel
First-century Israel under Roman rule. Jesus of Nazareth. Earliest Christian communities. Jewish Christianity. Mission to gentiles. Paul the apostle. Beginnings of New Testament.
- 3073. ROMAN RELIGION AND EARLY CHRISTIANITY.** (4 cr; prereq jr) Kraabel
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.
- 3081. CLASSICAL EPIC IN TRANSLATION.** (4 cr, §5081; prereq 8 cr in English literature or in foreign literature or Δ)
Homer's *Iliad* and *Odyssey*; Virgil's *Aeneid*; cultural context of epic, the heroic character, epic formulas, and poetic techniques.
- 3082. GREEK TRAGEDY IN TRANSLATION (AESCHYLUS, SOPHOCLES, EURIPIDES).** (4 cr, §5082; prereq 8 cr in English literature or in foreign literature or Δ)
Origin of European drama as distinct literary form; characteristics of Greek tragedy; ancient theatres and theatrical conventions. Selected tragedies. Problems related to cultural patterns of the time.
- 3083. ARISTOPHANES AND ROMAN DRAMA IN TRANSLATION (ARISTOPHANES, MENANDER, PLAUTUS, TERENCE, SENECA).** (4 cr, §5083; prereq 8 cr in English literature or in foreign literature or Δ)
Greek and Roman comic theatre; several comedies discussed. Roman tragic drama as exemplified by tragedies of Seneca.

- 3088. SURVEY OF ROMAN LITERATURE.** (4 or; prereq 8 or in English literature or in foreign literature or Δ)
Major genres and periods and several principal authors. Focus on Roman literary tradition, its evolution and influence.
- 3145. GREEK AND ROMAN MYTHOLOGY II: ANALYSIS AND TRADITION.** (4 or; prereq 1042 or #) Solomon
Methods of interpreting Greco-Roman myth, from Homer to Freud, Jung, and Levi-Strauss; artistic survival of classical myth in literature, painting, and music.
- 3181. HONORS COURSE: CLASSICAL EPIC IN TRANSLATION.** (5 or; prereq regis in honors program or # or Δ)
Students attend lectures in 3081 and meet with lecturer one additional period each week.
- 3282. HONORS COURSE: GREEK TRAGEDY IN TRANSLATION (AESCHYLUS, SOPHOCLES, EURIPIDES).** (5 or; prereq regis in honors program or # or Δ)
Students attend lectures in 3082 and meet with lecturer one additional period each week.
- 3383. HONORS COURSE: ARISTOPHANES AND ROMAN DRAMA IN TRANSLATION (ARISTOPHANES, MENANDER, PLAUTUS, TERENCE, SENECA).** (5 or; prereq regis in honors program or # or Δ)
Students attend lectures in 3083 and meet with lecturer one additional period each week.
- 3970. DIRECTED STUDIES.** (1-5 or per qtr; prereq #, Δ)
Guided individual reading or study.
- 5002. ANCIENT SATIRE.** (4 or; prereq two courses in English literature or in foreign literature or Δ)
Ancient satire from Homer to Juvenal. Translations of Homer, Aesop, Archilochus, Aristophanes, and Lucian. The form of Roman satire; Lucilius, Horace, Persius, Petronius, Martial, and Juvenal. Survival of Roman satire in English literature.
- 5003. ANCIENT NOVEL AND ROMANCE.** (4 or; prereq two courses in English literature or in foreign literature or Δ)
Development of the ancient novel. Translations of ancient Greek novelists and of Apuleius and Petronius.
- 5004. EROTICISM AND FAMILY LIFE IN THE GRECO-ROMAN WORLD.** (4 or) Erickson
Greek and Roman family life in the shaping of personality; diachronic change in modes of erotic expression; narcissism and homosexuality; status and roles of women; evolving views of sexual morality in ancient world compared to present trends. Examples from art and literature.
- 5005. MADNESS AND DEVIANT BEHAVIOR IN ANCIENT GREECE AND ROME.** (4 or; prereq 2 or in classics) Erickson
Definitions of madness in Greece and Rome, theories of its etiology; assessment of predisposing factors in Greece and Rome; madness in mythology, legend, and history; cross-cultural comparison with contemporary United States.
- 5017, 5018. WOMEN IN CLASSICAL ANTIQUITY.** (4 or per qtr)
Women's role in the classical world, in literature, and in the social structure. Women's legal and economic position.
5017: Greek world. 5018: Roman world.
- 5020. PROBLEMS IN POST-ARISTOTELIAN PHILOSOPHY.** (4 or per qtr, §Phil 5020; prereq 5085 or 5086 or Phil 3001 or 3002 or 3900 or 5008 or 5012 or #)
Problems in philosophy after Aristotle and before Augustine. Topics may include the Stoics, Epicureans, Cynics, Sceptics, neo-Pythagoreans, middle and late Platonists.
- 5065. ANCIENT LITERARY CRITICISM.** (4 or; prereq 8 or in English literature or in foreign literature or Δ)
Aristotle's *Poetics*, Horace's *Ars Poetica*, and Longinus's *On The Sublime* (in translation). History of literary value judgments in antiquity; applications of principles of criticism to ancient writers; Alexandrianism; formation of concept of the classics.
- 5071. GREEK AND HELLENISTIC RELIGIONS.** (4 or, §3071; prereq #) Kraabel
Meets with 3071. Additional work for graduate credit.
- 5072. THE NEW TESTAMENT.** (4 or, §3072; prereq #) Kraabel
Meets with 3072. Additional work for graduate credit.
- 5073. ROMAN RELIGION AND EARLY CHRISTIANITY.** (4 or, §3073; prereq #) Kraabel
Meets with 3073. Additional work for graduate credit.
- 5080. NEW TESTAMENT PROSEMINAR.** (4 or per qtr [12 or max]; prereq 3072 or 5072 or #)
Selected topics in study of the New Testament and related ancient literatures. Topics announced in *Class Schedule*.
- 5081. CLASSICAL EPIC IN TRANSLATION.** (4 or, §3081)
Meets with 3081. Advanced independent work required.
- 5082. GREEK TRAGEDY IN TRANSLATION (AESCHYLUS, SOPHOCLES, EURIPIDES).** (4 or, §3082)
Meets with 3082. Additional independent work required.

Major Requirements and Course Descriptions

- 5083. ARISTOPHANES AND ROMAN DRAMA IN TRANSLATION (ARISTOPHANES, MENANDER, PLAUTUS, TERENCE, SENECA).** (4 cr, §3083)
Meets with 3083. Advanced independent work required.
- 5085. GREEK PHILOSOPHY: THE PRE-SOCRATICS TO PLATO.** (4 cr) Hershbell
Fragments of the pre-Socratics and Sophists and selected dialogues of Plato.
- 5086. GREEK PHILOSOPHY: ARISTOTLE AND POST-ARISTOTELIAN THOUGHT.** (4 cr; prereq Δ) Hershbell
Excerpts from the writings of Aristotle; his metaphysical and ethical writings. Stoic and Sceptic writers; Epicurus; Diogenes Laertius; Sextus Empiricus; Plutarch's polemical works against the Stoics.
- 5145. CLASSICAL MYTHOLOGY: METHODOLOGY, INTERPRETATION, AND TRADITION.** (4 cr, §3145; prereq 1042 or #) Solomon
Same classwork as 3145; independent reading and research assignments in consultation with the instructor.
- 5280. SEMINAR IN GREEK MYTHOLOGY.** (4 cr; prereq 1042 or 3145 or 5145, #)
Examination of several Greek gods and heroic myths. Reading of all significant ancient and modern sources.
- 5794. PROSEMINAR: INTRODUCTION TO CLASSICAL STUDIES.** (4 cr; prereq grad major or #)
Research in classical scholarship, methods, bibliography, textual history, and criticism.
- 5970. DIRECTED STUDIES.** (1-5 cr per qtr; prereq #, Δ)
Guided individual reading or study.

ARCHAEOLOGY

- 1043. INTRODUCTION TO GREEK AND ROMAN ARCHAEOLOGY.** (4 cr)
Archaeological evidence about daily life in prehistoric and classical times; food production, town building, and craft industries of Greece and Italy.
- 3051. GREEK ARCHAEOLOGY: ARCHAIC, CLASSICAL, AND HELLENISTIC.** (4 cr; 1043 recommended)
An introductory survey of Greek archaeology with emphasis on the archaic, classical, and Hellenistic periods.
- 5089. INTRODUCTION TO BIBLICAL ARCHAEOLOGY.** (4 cr)
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.
- 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.
- 5102. ARCHAIC AND CLASSICAL GREEK ART AND ARCHAEOLOGY.** (4 cr; prereq jr or #)
Architecture, sculpture, and painting in Greek lands from 9th through 5th centuries B.C. Examination of the material remains of Greek culture; archaeological problems such as identifying and dating buildings; analysis of methods and techniques.
- 5103. HELLENISTIC ART AND ARCHAEOLOGY.** (4 cr; prereq jr or #)
Sculpture, architecture, painting, and topography in the developing centers of Hellenistic culture in the eastern Mediterranean area from the beginning of the 4th century B.C. to the end of the Hellenistic period.
- 5109. ETRUSCAN ART, ARCHITECTURE, AND ARCHAEOLOGY.** (4 cr; prereq jr or #)
The developing culture of the Etruscan people from their appearance in Italy around 1100 B.C. until their eclipse in the 1st century B.C. studied through the material remains of Etruscan civilization.
- 5110. PROSEMINAR: CLASSICAL ARCHAEOLOGY.** (4 cr per qtr; prereq #)
- 5120. FIELD RESEARCH IN ARCHAEOLOGY.** (3-6 cr per qtr; prereq #)
Field excavation, survey, and research at archaeological sites in the Mediterranean area. Techniques of excavation and exploration; interpretation of archaeological materials.

Communication Disorders (CDIs)

Staff—Chair, Charles E. Speaks, 115 Shevlin Hall; *Director of Undergraduate Studies,* Emily K. Oxman, 115 Shevlin Hall; *Director of Graduate Studies,* Patricia A. Broen, 115 Shevlin Hall

Professors: Brookshire, Darley, Lassman, Martin, McDermott, Siegel, Speaks, Starr, Ward

Associate Professors: Broen, Haroldson, Moller, Nelson, Olsen

Assistant Professors: T. Doyle, Reichle, Van Tasell, Yanz

Instructors and Lecturers: Ambroe, S. Doyle, Oxman

The curriculum and activities of the Department of Communication Disorders focus on the study of normal and abnormal hearing, speech, and language, and the application of knowledge to the identification, prevention, evaluation, and clinical management of hearing, speech, and language problems.

The undergraduate major in speech and hearing science offers an opportunity for broad study of the processes of normal and disordered hearing, language, speech, and voice. Some students complete the speech and hearing science major and pursue vocational opportunities or graduate study in related fields. Other students complete graduate work in speech and language pathology or audiology. The M.A. programs in speech and language pathology and audiology provide the educational and clinical background required to qualify 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—5301, 5302, 5303, 5304¹, 5305, 5306¹, and 5513¹, which address the processes of normal hearing, speech, language, and voice, offer an understanding of the multidisciplinary foundations of human communication. Other courses, such as 3101, 5101, 5102, which survey problems of human communication, and 5502, 5504¹, 5506¹, 5507, 5508, 5701¹, 5703¹, and 5704¹, which deal with specific problems of human communication, may be of interest to majors in linguistics, psychology, child psychology, speech-communication, education, or medical-dental fields.

B.S. MAJOR SEQUENCE—SPEECH AND HEARING SCIENCE

Required Preparatory Courses—Math 1111; Ling 3001 or 5001; Psy 1001, 1004-1005; Phys 1041-1042 or Biol 1009 with Phys 1001 or 1041

Major Requirements—5301, 5302, 5303, 5304 or 5306, 5305; CPsy 1301; Psy 3011, 3031; PsyF 5110

Four courses from 3101, 5304, 5306, 5502, 5504, 5506, 5507, 5508, 5513, 5701, 5702, 5703, 5704, 5705, 5706, 5707

One of the following groups:

1. at least two courses from CPsy 5341, 5343; Psy 3051, 3124, 5011
2. at least two courses from Ling 5006, 5201, 5202, 5302; CPsy 5345; Psy 5054; PsyS 5100
3. at least two courses from Math 1008, 1142, 1211, 1221, 1231
4. Psy 5017, 5018, 5019
5. PsyS 5120 or CPsy 5315; PsyS 5123

Recommended elective courses are Anth 1102; Chem 1004-1005; Econ 1001-1002 or 1004-1005; GCB 3002, 3022; Ling 3301; Soc 1001; Spch 1101

MINOR SEQUENCE—SPEECH AND HEARING SCIENCE

Minor Requirements—Minimum of 15 cr selected from one or more of the following groups:

1. introductory and survey courses—3101, 5101, 5102
2. basic communication processes—5301, 5302, 5303, 5304, 5305, 5306
3. speech and language disorders—5502, 5504, 5506, 5507, 5508, 5513, 5514
4. disorders of the auditory system—5701, 5702, 5703, 5704, 5705, 5706, 5707

3100f, w, s, su. CLINICAL AND RESEARCH OBSERVATION. (2 cr per qtr; S-N only; prereq Δ)

Supervised observation of clinical procedures, such as evaluation and treatment of persons with communication disorders, or of research relating to normal and disordered communication.

¹Prerequisites required.

Major Requirements and Course Descriptions

- 3101f,s,su. INTRODUCTION TO SPEECH PATHOLOGY AND AUDIOLOGY.** (4 cr) McDermott, Haroldson
Concepts basic to understanding normal and abnormal speech and hearing functions. Selected communication problems. Strategies and systems of delivery of clinical services.
- 5101s. COMMUNICATION PROBLEMS OF CHILDREN.** (3 cr) S Doyle and 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. Emphasis on understanding and managing children with communication impairments in regular classrooms.
- 5102w. COMMUNICATION PROBLEMS OF ADULTS.** (3 cr) Haroldson and staff
Problems of hearing, speech, language, and voice in adults for persons interested in human communication. Implications for familial, social, academic, and vocational adjustments.
- 5202su. SYMPOSIUM IN SPEECH SCIENCE, PATHOLOGY, AND AUDIOLOGY.** (4 cr)
- 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.
- 5302f. ANATOMY AND PHYSIOLOGY OF THE SPEECH AND HEARING MECHANISMS.** (4 cr) Lassman, McDermott
Gross anatomy, physiology, and function of structures related to phonation, articulation, and audition.
- 5303f. PHONETICS LABORATORY.** (2 cr) Broen
Phonetic analysis of speech, the IPA classification system and articulatory correlates of English phonemes. Laboratory transcription of isolated sounds, words, and connected speech.
- 5304w. SPEECH SCIENCE.** (4 cr; prereq 5301, 5302, 5303 or #) Speaks, Van Tasell
Acoustic characteristics of speech. Theories of and review of research in speech production and speech perception. Techniques for speech analysis and synthesis.
- 5305f. LANGUAGE DEVELOPMENT AND RETARDATION.** (4 cr) Siegel
Language development as related to delayed or retarded language.
- 5306s. HEARING SCIENCE.** (4 cr; prereq 5301, 5302 or #) Ward
Fundamental concepts in normal audition. Psychoacoustic methods; sensitivity and acuity; loudness, pitch, timbre; distortion, aural harmonics; masking, adaptation; auditory reflex, binaural phenomena, localization. Laboratory.
- 5502s. STUTTERING.** (4 cr) Haroldson, Martin
Description, nature, and treatment of stuttering in children and adults. Involvement at various levels in therapeutic and research activities.
- 5504w. ARTICULATION DISORDERS.** (4 cr; prereq 5301, 5302) McDermott
Impaired articulation performance and associated factors. Principles of diagnosis and clinical management. Observation of clinical activities.
- 5506s. APHASIA.** (4 cr; prereq 5302 or #) Brookshire
Etiology, diagnosis, evaluation, and treatment of brain damaged, communicatively impaired adults. Clinical case materials; observation of evaluation and treatment of adult aphasic individuals.
- 5507f. CLEFT PALATE, ORAL-FACIAL ANOMALIES AND SPEECH.** (4 cr) Starr, Moller
Relationships between oral-facial structures and speech. Speech problems associated with dental and palatal anomalies and their clinical management. Observations of clinical activities.
- 5508s. VOICE DISORDERS.** (4 cr) Starr, Haroldson
Physical and physiological bases of normal voice production. Voice disorders (pitch, loudness, quality) and their symptomatology, etiology, and clinical management. Laryngectomy and other organic disorders.
- 5513w. LANGUAGE DELAY.** (4 cr; prereq 5305 or #) Broen, Reichle
Language problems in severely handicapped populations.
- 5514s. LANGUAGE ASSESSMENT AND REMEDIATION.** (4 cr; prereq 5305 or #) Siegel
Approaches to assessment and remediation for children with delayed speech and language.
- 5701w. HEARING LOSS AND AUDIOMETRY.** (4 cr; prereq 5301, 5302 or #) Yanz
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. Laboratory.
- 5702f. ADVANCED AUDIOMETRY.** (5 cr; prereq 5701 or #) Yanz
Procedures for speech discrimination testing, pediatric testing, detection and evaluation of pseudohypacusis. Behavioral diagnostic procedures for determining site of lesion; auditory pathologies. Laboratory.
- 5703w. COMMUNICATION PROBLEMS OF THE HEARING IMPAIRED.** (5 cr; prereq 5701 or #) Van Tasell
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.

- 5704w,su. NOISE AND MAN.** (4 cr; prereq 5301 or #) Ward
Temporary and permanent effects of steady, intermittent, and impulse noise on hearing and health. Annoyance and community noise. Noise measurement, reduction, and control; ear defenders and their limitations. Hearing conservation programs; preemployment testing and monitoring audiometry.
- 5705s. OBJECTIVE MEASURES OF AUDITORY FUNCTION.** (3 cr; prereq 5701 or #; offered 1982-83 and alt yrs)
Yanz
Advanced techniques for the physiological evaluation of the auditory system. Acoustic immittance, auditory evoked potentials; electronystagmography, galvanic skin response, electrocardiac response. Laboratory.
- 5706f. HEARING AIDS.** (3 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.
- 5707s. AUDIOLOGY IN EDUCATIONAL SETTINGS.** (3 cr; prereq 5703 or #; offered 1983-84 and alt yrs) Van Tasell
Audiological services for hearing-impaired children. 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.
- 5900. TOPICS IN COMMUNICATION DISORDERS.** (4 or per qtr)
- 5970f,w,s,su. DIRECTED STUDIES.** (Cr ar; prereq #) Staff
Guided individual reading or study.

Comparative Literature (CLit)

Staff — Director, Wlad Godzich, 113 Folwell Hall

Professors: Anderson (English), Chejne (Spanish and Portuguese), Clayton (English), Firchow (English), Hurrell (English and Theatre Arts), Liberman (German), Liu (East Asian Studies), Mather (East Asian Studies), Renaud (French and Italian), Schneider (French and Italian), Sousa (Spanish and Portuguese), Spadaccini (Spanish and Portuguese), Weiss (German), Zahareas (Spanish and Portuguese)

Associate Professors: Duroche (German), Godzich (Comparative Literature), Haley (English), Mishler (Scandinavian)

Assistant Professor: Bensmaia (French and Italian)

Comparative literature deals with the study of the history, theory, and criticism of various national literatures in their interrelations and in their relations to other disciplines. The courses offered stress the development of critical perspectives that cut across individual linguistic and cultural boundaries.

The program intends soon to offer courses in film analysis and film theory. For details, see the *Class Schedule* or direct inquiries to the program secretary.

The program does not offer an undergraduate major, but the courses listed below are available as electives for CLA students. For a description of the graduate programs offered in comparative literature, write to the department, 113 Folwell Hall, 9 Pleasant Street S.E., University of Minnesota, Minneapolis, Minnesota 55455.

- 5111, 5112. 20TH-CENTURY WRITERS: ENGLISH AND CONTINENTAL.** (4 cr per qtr; prereq 6 cr of literature courses exclusive of English composition, reading knowledge of French or German) Firchow
Modern European writers of various nations and cultures (among them Huxley, Hesse, Camus).
- 5181. THE PSYCHOANALYTIC STUDY OF LITERATURE.** (4 cr; prereq reading knowledge of French, German or Scandinavian) Mishler
Readings in Freud and Freudian theory. Application of theory to literary texts.
- 5311. FANTASY LITERATURE.** (4 cr; prereq reading knowledge of French or German) Firchow
Fantasy literature (chiefly in the novel) from ca. 1800 to the present. Among authors considered: E. T. A. Hoffmann, Gautier, Gogol, Carroll, Chesterton, Morgenstern, Hesse, C. S. Lewis, Tolkien.
- 5321. LITERATURE AND PHENOMENOLOGY.** (4 cr; prereq reading knowledge of French or German) Duroche
Literary texts from a variety of literatures and languages—a phenomenological perspective. Theoretical foundations of selected critics, notably Ingarden and Merleau-Ponty.

Major Requirements and Course Descriptions

- 5325. THE RENAISSANCE AND THE BAROQUE: PROBLEMS OF PERIODIZATION.** (4 cr; prereq reading knowledge of at least one: French, German, Spanish, Italian or Dutch...or #) Renaud
Reflections in the arts, mainly literature, of events in several European cultures and how they related to events in the other cultures at a given time. Encounter of resurgent economic and sociopolitical forces with established ways of viewing, thinking, and believing in each culture; the network of intersecting values among the cultures.
- 5414. EUROPEAN FOLKTALES.** (4 cr) Liberman
An overview of folktales as a genre of folklore with emphasis on fairy tales (wonder tales). Comparative study of Germanic, romance, and Slavic tales: their message, structure, and history.
- 5588. ASPECTS OF CONTEMPORARY CRITICISM.** (5 cr, §Fren 5588; students who do not read French must have reading knowledge of Russian, German, Italian or Spanish)
Criticism in contemporary France. Taught in English.
- 5591. DADA AND SURREALISM.** (5 cr, §Fren 5591; prereq one 3xxx-5xxx literature course, reading knowledge of French, German or Spanish)
Origins, activities, and literary accomplishments of dada and surrealism.
- 5910. TOPICS IN COMPARATIVE LITERATURE.** (3-6 cr per qtr; prereq reading knowledge of French, German or Spanish or #)
Topics specified in the *Class Schedule*.
- 5970. DIRECTED READING IN COMPARATIVE LITERATURE.** (1-4 cr per qtr; prereq #) Staff
Guided individual reading or study.

COMPOSITION

See English.

Computer Science (CSci)

Institute of Technology

Staff—*Acting Head*, Kurt Maly, 115 Lind Hall; *Associate Head and Director of Graduate Studies*, William D. Munro, 120 Lind Hall

Professors: Franta, Ibarra, Munro, Rosen, Sahni, Stein

Associate Professors: Frankowski, Maly, Thompson

Assistant Professors: Berzins, Boley, Bruell, Carlis, Chan, Du, Schneider

Computer science is concerned with the study of the hardware and software (programming) aspects of high speed computing devices and the applications of these devices to a wide range of technological and business problems. A bachelor's degree program in computer science can be completed in either CLA or IT (the IT program is described in the *Institute of Technology Bulletin*). Both curricula are designed to provide a broad foundation in the basic subjects of computer science.

The CLA major program, which offers a choice of alternatives among required courses, is flexible enough that you can plan a concentration either in computer science or in interdisciplinary areas involving the applications of computers. The concentrations offer preparation both for industrial and governmental positions involving computer usage and for graduate work.

Admission—Computer science admits a limited number of undergraduate majors annually. You can obtain information about admission requirements from advisers in the department office.

Transfer Students—If you have a calculus and computer programming background, you can enter the program as a junior if your earlier college work is substantially equivalent to that required by CLA during the first two years. If you have not completed course work equivalent to 3104, 3105, 3106, and 3107, you will be required to take these courses. They are usually offered in the summer. Consult advisers in the department office.

General Education—3101 and 1100, 1101 cover the FORTRAN computer language and programming applications and techniques. 3001 deals with the impact of computers on society. Introduction to numeric and nonnumeric algorithms and languages for implementing them is covered in 3105, 3106. 3107 and 5101 are concerned with the organization and logical structure of computer systems and the representation of programs and data (machine and assembly language programming).

B.A. MAJOR SEQUENCE

Required Preparatory Courses—Math 1211-1221-1231 or 1311-1321-1331 or 1611-1621; Math 3142 and 3211 or 3511 and 3211 (for students with better than average mathematical ability) or 3511 and 3521 (for students with high mathematical ability); Stat 3091 or 5121 (students intending to take additional work in statistics must take 5121)

Major Requirements—3001, 3103, 3105-3106, 3107, 3134, 3400, 5102, 5106, 5121, 5201, 5301, 5400

At least 12 cr in 5xxx computer science courses

All courses listed above must be taken A-N (except courses offered only S-N).

- 1100. INTRODUCTION TO FORTRAN PROGRAMMING I.** (2 cr, §3101; informal lab)
Computer programming using FORTRAN; elementary-intermediate level applications. See 3101.
- 1101. INTRODUCTION TO FORTRAN PROGRAMMING II.** (2 cr, §3101; informal lab)
(Continuation of 1100) Extended applications, including numerical methods.
- 3001. PERSPECTIVES ON COMPUTERS AND SOCIETY.** (4 cr, §NSci 3201; prereq soph or #; informal lab)
The impact of computers on society. Partnership or confrontation. History of development. Potential for use. Computer utility. Privacy in a computer society. The future of computers. The ultimate machine. Computers in business, industry, art, music, the home.
- 3103. INTRODUCTION TO PROGRAMMING LANGUAGES AND PROBLEM SOLVING.** (3 cr; prereq §3131 or §3134)
Problem solving. Algorithms. Programming language concepts: sequencing, decision making, data description, operation, name assignment, iteration, subprogram units. Program development: style, structure, checkout, maintenance.
- 3105. FUNDAMENTALS OF ALGORITHMS AND LANGUAGES I.** (4 cr; prereq Math 1211, 3101 or 3104 or #; informal lab)
Informal and formal approaches to algorithms, their properties and specification through an algorithmic language; problem solving and software engineering aspects of solution implementations; analysis of algorithms and techniques for algorithm development; errors, their causes and effects as studied in several numerical applications.
- 3106. FUNDAMENTALS OF ALGORITHMS AND LANGUAGES II.** (4 cr; prereq 3105 or #; informal lab)
Nonnumeric applications of computer science; system processors and processes; basic information structures and their relation to algorithm complexities; nonnumeric programming languages; text processing; recursion as an algorithm development technique and its implementation in a programming language; introduction to artificial intelligence.
- 3107. INTRODUCTION TO THE STRUCTURE AND PROGRAMMING OF COMPUTER SYSTEMS.** (4 cr, §5101; for CSci majors...nonmajors should take 5101; prereq 3101 or 3103 and 3131 or 3134 or #; informal lab)
Organization and logical structure of computer systems. Representation of programs and data. Number systems, primitive computer systems, programming in machine language. More sophisticated systems, assembly language, sequencing, decision making, arithmetic, logical operations, character manipulation, iteration, subroutines, data description, introduction to assembler software.
- 3131. FORTRAN LABORATORY.** (2 cr, §1100, §1101; prereq 3103 or §3103)
FORTRAN programming language, applications, techniques. Concepts from 3103 studied in terms of FORTRAN. Designed to develop competence in FORTRAN programming.
- 3134. PASCAL LABORATORY.** (2 cr; prereq 3103 or §3103)
Pascal programming language, applications, techniques. Concepts from 3103 studied in terms of Pascal. Designed to develop students' competence in Pascal programming.
- 3400. DISCRETE STRUCTURES OF COMPUTER SCIENCE.** (4 cr; prereq Math 1231 or 1331 or equiv or #)
Sets and multisets. Proof techniques. Propositional calculus. Combinatorics. Algorithms. Computability and unsolvability. Graphs. Trees.

Major Requirements and Course Descriptions

- 5001. THEORY AND APPLICATION OF LINEAR PROGRAMMING ALGORITHMS.** (4 cr; prereq 1101 or 3101 or 3108 and 3131 or 3134, Math 3142 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.
- 5002. COMPUTATIONAL METHODS FOR NONLINEAR PROGRAMMING.** (4 cr; prereq 5001 or #; informal lab)
Convex functions and domains; nonlinear optimality conditions and duality; unconstrained minimization methods; convergence rates; minimization methods for linear and nonlinear constraints; penalty functions; acceleration of convergence; nonconvex problems.
- 5101. STRUCTURE AND PROGRAMMING OF SOFTWARE SYSTEMS I.** (4 cr, §3107; for non-CSci majors...majors should take 3107; prereq 1101 or 3101 or 3103 and 3131 or 3134 or equiv or #; informal lab)
Topics are essentially the same as those listed for 3107, but the emphasis and projects are geared to nonmajors.
- 5102. STRUCTURE AND PROGRAMMING OF SOFTWARE SYSTEMS II.** (4 cr; prereq 3107 or 5101 or #; informal lab)
Extensions of basic machine architecture; closed subroutines; macros and conditional assembly; input-output; assembly and loading; dynamic resource allocation; introduction to operating systems, job control language, and processes.
- 5104. SYSTEM SIMULATION: LANGUAGES AND TECHNIQUES.** (4 cr; prereq 3107 or 5101, Stat 3091 or #; informal lab)
Methodologies relevant to simulation including queuing theory, variable generation, design of experiments, data collection, statistical analysis of output. Simulation languages, both flow and event oriented, including GPSS, SIMULA, SIMSCRIPT. Application to job shops; operations research and modeling of computer and communications systems.
- 5105. THEORY OF MACHINE ARITHMETIC.** (4 cr; prereq 3107 or 5101 or #; informal lab)
Residue class arithmetic. Congruences and complement arithmetic. Integral additive and subtractive accumulators. Multiplication and division by shifting and accumulation. Applications to absolute value and sign arithmetic, scaling and floating point operation.
- 5106. STRUCTURE OF HIGHER LEVEL LANGUAGES.** (4 cr; prereq 5102 and 5121 or #)
Formal definition of the syntax and semantics of programming languages; semantics both by means of interpreters and by using the axiomatic approach. Concepts underlying programming languages and their instantiations in a selected group of languages. Program description at compilation time and execution time.
- 5107. COMPUTER GRAPHICS I.** (4 cr; prereq 3107 or 5101, 5121 or #)
Definition of interactive computer graphics, its goals and problems. A model system. Data structures for computer graphics, picture structure and transformations. Perspective views of three-dimensional objects. Structures of graphical programming languages. Interaction handling.
- 5117. COMPUTER GRAPHICS II.** (4 cr; prereq 5107 or #)
Display processor architecture. Data base management and display file handling. Multilevel software systems for enhanced portability and protocol handling in graphical networks. Examples of graphical programming systems. Methodology of curve and surface interpolation and approximation. Programs for three-dimensional display, curve and surface approximation.
- 5121. INTRODUCTION TO DATA STRUCTURES.** (4 cr; prereq 3106 and 3400 or #; informal lab)
Basic concepts of data and its representation. Sequential and linked representations. Arrays, stacks, and queues. Chains, circular lists, and doubly linked lists. Dynamic storage management. Garbage collection and storage compaction. Generalized lists. Strings. Binary trees and trees. Tree traversal. Graphs. Activity networks.
- 5122. ADVANCED DATA STRUCTURES.** (4 cr; prereq 5121 or #; informal lab)
Internal and external sorting. Symbol tables. Optimal binary trees. AVL trees. Hashing. B-trees, trees. Files and indexes. ISAM, multilists, inverted files, cellular partitions, differential files.
- 5199. PROBLEMS IN LANGUAGES AND SYSTEMS.** (1-4 cr [may be repeated for cr]; prereq #)
Individual study arranged with faculty member.
- 5200. PRINCIPLES OF CONTINUOUS SYSTEM SIMULATION.** (4 cr; prereq 3101 or 3104, and Math 3221 or #; 3 lect, 1 lab hrs per wk)
Analog computation. Digital simulation of continuous systems. Hybrid computation. Programming systems. Applications of hybrid computation.
- 5201. INTRODUCTION TO COMPUTER ARCHITECTURE.** (4 cr; prereq 3400, 3107 or 5101 or #)
Gates, elementary digital logic; register transfers, micro operations; processor architecture; organization of microprogram control, arithmetic unit, I/O, memory; case studies.
- 5211. DATA COMMUNICATIONS AND COMPUTER NETWORKS.** (4 cr; prereq 5102 or #; informal lab)
Network classification and services. Hardware components: multiplexors, concentrators, communications media. Network protocols and architectures. Research areas.
- 5299. PROBLEMS IN MACHINE DESIGN.** (1-4 cr [may be repeated for cr]; prereq #)
Individual study arranged with faculty member.

- 5301. NUMERICAL ANALYSIS.** (4 cr; prereq Math 3142 or #; knowledge of a scientific computer language is assumed; informal lab)
 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. Introduction to numerical solution of ordinary differential equations.
- 5302. NUMERICAL ANALYSIS.** (4 cr; prereq 5301 or #; informal lab)
 Norms, condition numbers and error analysis. Convergence rates for iterative methods. Numerical approximation methods. Least squares. Fast Fourier transform. Spline interpolation. Gaussian quadrature. Computation of eigenvalues and eigenvectors. Stability and error analysis of methods for solution of ordinary differential equations.
- 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.
- 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.
- 5399. PROBLEMS IN NUMERICAL ANALYSIS.** (1-4 cr [may be repeated for cr]; prereq #)
 Individual study arranged with faculty member.
- 5400. INTRODUCTION TO AUTOMATA THEORY.** (4 cr; prereq 3105 and 3400 or #)
 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.
- 5401. INTRODUCTION TO FORMAL LANGUAGES.** (4 cr; prereq 5400; informal lab)
 Formal grammars and languages and their related automata. Language hierarchy. Context-free languages and grammars. Pushdown automata. Normal form theorems. Operations on languages. Decidability and undecidability results. Parsing algorithms. Applications to programming.
- 5499. PROBLEMS IN COMPUTATIONAL THEORY OR LOGIC.** (1-4 cr [may be repeated for cr]; prereq #)
 Individual study arranged with faculty member.
- 5501. ARTIFICIAL INTELLIGENCE.** (4 cr; prereq 5121 or #; informal lab)
 Concept of a "mechanized" intelligence, operational definitions of intelligence. Heuristic search techniques: problem representation, world model representation, solution search. Application to game-playing systems. Natural language processing and semantic information systems. Machine perception and integrated robots. The future of artificial intelligence.
- 5502. INTRODUCTION TO OPERATING SYSTEMS.** (4 cr; prereq 5102 and 5121 or #; informal lab)
 Definition and historical development of operating systems. Abstractions and implementations of features common to most systems. Concurrency and related control problems. Resource allocation. Storage allocation. The process manager and the kernel of an operating system. Sharing. Capability-based addressing. Protection. Performance measurement and analysis.
- 5503. INTRODUCTION TO COMPILERS I.** (4 cr; prereq 3107 or 5101 and 5121 or #; informal lab)
 A higher level language (PL/5), machine language, loaders, linkage editors; mapping PL/5 onto machine language, code generation techniques; derivation of an intermediate language and implementation of code generators for intermediate onto machine language. Students write the back end of a PL/5 compiler.
- 5504. INTRODUCTION TO COMPILERS II.** (4 cr; prereq 5503 or #; informal lab)
 Lexical scanning, preprocessing and macro expansion, symbol tables, parsing, intermediate text generation, error detection and correction. Students design and implement a front end for a PL/5 compiler.
- 5521. PATTERN RECOGNITION.** (4 cr; prereq Math 3142 or equiv, Stat 3091 or #; informal lab)
 Definition of 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.
- 5702. THE PRINCIPLES OF DATA BASE SYSTEMS.** (4 cr; prereq 5122 or #; informal lab)
 Fundamental concepts. Conceptual data organization. Data models. Data manipulation languages. Data base design. Security and integrity. Performance evaluation. Query optimization. Distributed data base systems.
- 5703. DATA BASE SYSTEM DESIGN.** (4 cr; prereq 5702 and #; informal lab)
 Application of data base concepts to the design and development of data base systems and data base applications. Design of current commercial and research-oriented data base systems. Techniques of using data base systems for applications.
- 5599, 5699, 5799. PROBLEMS: NONNUMERIC COMPUTATION, CONTROL SCIENCE, INFORMATION SCIENCE.**
 (1-4 cr [may be repeated for cr]; prereq #)
 Individual study arranged with faculty member.

Major Requirements and Course Descriptions

Dance

College of Education

Staff—*Dance Coordinator*, Nadine Jette, 159 Norris Hall

Associate Professor: Jette

Lecturers: Bonsignore, Cheng, Fagnoli, Jasmin, Maud, Shapiro, Voss

This program provides background and experience for students interested in dance as a performing art. At least 25 credits are required. You should consult the dance coordinator as early as possible to plan your program.

MINOR SEQUENCE

Required Preparatory Courses—1515, 1615, 1715

Minor Requirements—3182, 3183, 3390, 3391, 3395, 3397

11 or selected from 3181, 3281, 3282, 3283, 3392, 3396, 3398, 3399, 5181, 5700
All courses must be taken on A-N grading.

DANISH

See Scandinavian.

DUTCH

See German.

East Asian Studies

Staff—*Chair*, Byron K. Marshall, 113 Folwell Hall

Regents' Professor—Turner (Political Science)

Professors: Benjamin (Political Science), Copeland (Japanese), Farmer (History), Hsu (Geography), Liu (Chinese), Marshall (History), Mather (Chinese), Poor (Art History), Shohara (Japanese), Spencer (Anthropology), Taylor (History), Tuan (Geography), S. Wang (Chinese)

Associate Professors: Kagan (Music), Matsumoto (Japanese), Yu (Humanities)

Assistant Professors: Cass (Chinese), Hutters (Chinese), Jacobsen (Japanese), Swann (Japanese)

Adjunct Faculty: Tsuchida (Asian/Pacific American Learning Resource Center), R. Wang (East Asian Library)

East Asian studies embraces the languages of China and Japan as well as the literature, history, and culture of East Asian societies. The department offers degrees in three areas—Chinese, Japanese, and East Asian studies—and its faculty is drawn from both humanities and social science disciplines. Students may emphasize linguistic, literary, or multidisciplinary approaches. Programs are planned in consultation with advisers. Students considering graduate work should begin their planning early in order to ensure appropriate preparation. Interested students may consult with an adviser in the department office, 113 Folwell Hall.

General Education—Courses designated EAS have no language requirements or other prerequisites (unless specifically noted) and are particularly suitable for nonmajors interested in the contemporary societies, diverse cultures, and historical experience of this important area of the world. For other courses of general interest, see Chn 3161, 3162, 3163, 3201, 3202 and Jpn 3161, 3163, 3164.

B.A. MAJOR SEQUENCE—EAST ASIAN STUDIES

Required Preparatory Courses—Chn 1011-1012-1013 or Jpn 1011-1012-1013

Two courses selected from the following: 1032, 1063, 1461, 1462, 1463 (juniors and seniors may substitute Hist 3451, 3452, 3453, 3461, 3462, 3463)

Major Requirements—3211 (should be taken early in program)

Completion of intermediate Chinese or Japanese (Chn 3023 or Jpn 3023)

Students may choose either a social sciences or a humanities focus:

Social Science Focus: Three history courses selected from 3464, 3465, 3467, 3468, 3471, 3472, 3868, or 5xxx courses on China or Japan; three social science courses selected from 3281, Anth 5533, Econ 5301, 5315, 5401, Geog 3213, 5811, Pol 5434, 5454, Soc 5511, 5952, or SPFE 5131; four additional courses from the approved list, of which at least two must be selected from courses in the humanities listed below

Humanities Focus: Four literature courses selected from Chn 3161, 3162, 3163, Jpn 3161, 3163, 3164, or 5xxx courses on China or Japan; two humanities courses selected from 3001, 3013, 3201, 3202, 3808, ArH 5765, 5766, 5767, 5769, Mus 5810, Chn 3201, 3202; four additional courses in the social sciences selected from those listed above, of which no more than two may be in history

Major project: completed in 3300

MINOR SEQUENCE—EAST ASIAN STUDIES

Five courses at the 3xxx or 5xxx level, of which no more than two may be in language study. Courses must be selected from the approved list for the East Asian studies major and must include one course from at least three of the disciplines represented.

Program approval must be obtained from the department. No more than 20 percent of the total credits may be taken on an S-N basis.

B.A. MAJOR SEQUENCE—CHINESE

Required Preparatory Courses—1011-1012-1013

Major Requirements—3401-3042-3043; 3031-3032-3033, usually taken in conjunction with 3021-3022-3023 or with 3041-3042-3043; four courses (16 cr) selected from 3161, 3162, 3163, 3201, 3202, or from any courses numbered 51xx or above

MINOR SEQUENCE—CHINESE

Required Preparatory Courses—1011, 1012, 1013

Minor Requirements—3021, 3022, 3023

Two additional 3xxx or 5xxx Chn courses, of which only one may be in directed or independent study

The minor program must have department approval. Courses may not be taken on an S-N basis.

B.A. MAJOR SEQUENCE—JAPANESE

Required Preparatory Courses—1011-1012-1013

Major Requirements—3051-3052-3053, usually taken in conjunction with 3021-3022-3023; 3031-3032-3033; 5451 or 5452, usually taken in conjunction with 3031; 3163 (qualified students may substitute 5041 or 5460), 3161 and 3164 (qualified students may substitute 5361, 5362, 5363 or 5364 for either or both)

Major Requirements and Course Descriptions

MINOR SEQUENCE—JAPANESE

Required Preparatory Courses—1011, 1012, 1013

Minor Requirements—3021, 3022, 3023

Two additional 3xxx or 5xxx Jpn courses, of which only one may be in directed or independent study

The minor program must have department approval. Courses may not be taken on an S-N basis.

EAST ASIAN STUDIES (EAS)

- 1032. RELIGIONS OF EAST ASIA.** (4 cr, §RelS 1032) Mather
Religious aspects of Confucianism, Taoism, Buddhism, and Shintoism as practiced in East Asia; Christian missions in East Asia.
- 1063. CHINA: THE MIDDLE KINGDOM.** (4 cr)
Interdisciplinary introduction to fundamental themes and institutions of Chinese culture, from beginnings through modern age, through study of works of philosophy, literature, art, music, religion. Contacts with the West.
- 1461. INTRODUCTION TO EAST ASIA: EARLY CIVILIZATION.** (4 cr, §Hist 1461, §Hist 3461) Taylor
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 introduction of Buddhism from India.
- 1462. INTRODUCTION TO EAST ASIA: THE IMPERIAL AGE.** (4 cr, §Hist 1462, §Hist 3462) Marshall, Taylor
Historical survey of early Japan and medieval Vietnam, Korea, and China from T'ang empire until end of 18th century. Diffusion of Chinese and Buddhist cultural forms and maturation of distinct societies in China, Japan, Vietnam, and Korea.
- 1463. INTRODUCTION TO EAST ASIA IN MODERN TIMES.** (4 cr, §Hist 1463, §Hist 3463) Farmer, 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.
- 3001. CHINESE-JAPANESE CALLIGRAPHY.** (4 cr) Matsumoto
Chinese calligraphic styles; aesthetic analysis; demonstration, practice of techniques.
- 3013. INTRODUCTION TO FAR EASTERN ART.** (4 cr, §ArH 1016, §ArH 3013) Poor
Major themes of Far Eastern art. Arts of China and Japan.
- 3201. INTRODUCTION TO THE WORLD OF ANCIENT JAPAN.** (4 cr) Copeland, Marshall, Poor
Cultural history of the Nara and Heian court societies from 8th to 12th centuries, viewed through art, religion, and literature with illustrated lectures and readings in translation.
- 3202. INTRODUCTION TO THE WORLD OF THE SAMURAI.** (4 cr) Copeland, Kagan, Marshall, Poor
Cultural history of feudal Japan from 12th through 18th centuries, viewed through art, religion, music, and literature with illustrated lectures and readings in translation.
- 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.
- 3281. CULTURE AND SOCIETY OF CHINA AND JAPAN.** (4 cr, §Anth 3281; prereq Anth 1102 or #) Spencer
Chinese institutions and other cultural manifestations. Influences on cultures of Japan, Korea, Vietnam. Analysis of and comparison between contemporary Chinese and Japanese societies.
- 3300. PROSEMINAR: INTERDISCIPLINARY TOPICS IN EAST ASIAN STUDIES.** (4 or per qtr [12 or max])
Introductory proseminar taught by faculty members from two or more disciplines.
- 3464. EARLY MODERN CHINA, 1350-1750.** (4 cr, §Hist 3464, §Hist 5464) Farmer
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.
- 3465. CHINA'S RESPONSE TO THE WEST, 1750-1911.** (4 cr, §Hist 3465, §Hist 5465) Farmer
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.
- 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.

- 3468. PEOPLE'S REPUBLIC OF CHINA: THE COMMUNIST REVOLUTION, 1900 TO PRESENT.** (4 or, §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.
- 3471. 20TH-CENTURY JAPAN.** (4 or, §Hist 3471, §Hist 5471) Marshall
Development of an industrial society, parliamentary government, mass culture, and imperialism from Meiji reforms of 19th century through World War II to contemporary period.
- 3472. EARLY MODERN JAPAN.** (4 or, §Hist 3472, §Hist 5472) Marshall
Tradition and change in society and culture under the Tokugawa shoguns, 1600-1867; growth of cities and decline of samurai class; response to Western intrusion.
- 3808. MUSIC IN EAST ASIA.** (4 or, §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.
- 3868. ASIANS IN AMERICA: AN ETHNIC PERSPECTIVE.** (4 or, §Hist 3868) Tsuchida
Experience of Asians in the United States from 1850 to present, examined from a minority perspective.
- 3970. DIRECTED STUDIES.** (1-15 or; prereq #, Δ)
Guided individual reading or study.

CHINESE (Chn)

- 1011-1012-1013. BEGINNING MODERN CHINESE.** (5 or per qtr)
Speaking and reading modern standard Chinese through structured practice.
- 3021-3022-3023. INTERMEDIATE MODERN CHINESE.** (5 or per qtr; prereq 1013)
Modern standard Chinese, expanded through conversation and reading.
- 3031-3032-3033. INTRODUCTORY CLASSICAL CHINESE.** (4 or per qtr; prereq 1013) Mather, Wang
Extensive training in reading literary Chinese texts. 3031: Biographies from *Shih-chi*. 3032: Mencius. 3033: T'ang poetry.
- 3041, 3042, 3043. THIRD-YEAR MODERN CHINESE.** (4 or per qtr, §5041, 5042, 5043; prereq 3023 for 3041...3031 for 3042...3042 for 3043)
3041: Reading and analysis of 20th-century texts. 3042, 3043: Reading and analysis of vernacular texts.
- 3051, 3052. ADVANCED CHINESE CONVERSATION AND COMPOSITION.** (4 or per qtr, §5051, 5052; prereq 3023 or #)
Conversation and pronunciation. Exercises in composition and translation, English into Chinese.
- 3090. HONORS TUTORIAL.** (1-4 or per qtr; prereq Δ)
Individual projects.
- 3161. CHINESE POETRY IN ENGLISH TRANSLATION.** (4 or)
Major poets examined in context of their intellectual, social, and aesthetic traditions. Knowledge of Chinese not required.
- 3162. CHINESE FICTION IN ENGLISH TRANSLATION.** (4 or)
Chinese narrative prose, 1200 to 1900. Intellectual, social, and aesthetic traditions. Knowledge of Chinese not required.
- 3163 (formerly 3064). 20TH-CENTURY CHINESE LITERATURE IN ENGLISH.** (4 or) Hutters
Main trends in Chinese literature from May 4th period (ca. 1919) to present day. Knowledge of Chinese not required.
- 3201. HERITAGE OF CHINA: EARLY PERIOD.** (4 or, §Hum 3201) Mather, Yu
Chinese culture from beginnings through 10th century: literature, philosophy, history, visual arts, and music. Confucianism, Taoism, and Buddhism. Primary texts read in translation.
- 3202. HERITAGE OF CHINA: MEDIEVAL TO MODERN.** (4 or, §Hum 3202) Mather, Yu
Chinese culture from 11th century to present: literature, philosophy, history, visual arts, and music. Western contacts and cultural upheaval. Primary texts read in translation.
- 3970. DIRECTED STUDIES.** (1-4 or per qtr; prereq 3023 or #)
Guided individual reading or study.
- 5041f, 5042w, 5043s. THIRD-YEAR MODERN CHINESE.** (5 or per qtr, §3041, 3042, 3043; prereq 3023 for 5041...5041 for 5042...5042 for 5043)
For description, see 3041, 3042, 3043; additional work required.
- 5051, 5052. ADVANCED CHINESE CONVERSATION AND COMPOSITION.** (4 or per qtr, §3051, 3052; prereq 3023 or #, grad standing)
For description, see 3051, 3052; additional work required.

Major Requirements and Course Descriptions

- 5101. READINGS IN MODERN CHINESE PROSE.** (4 cr; prereq 3043 or #)
Reading and discussion of representative samples of Chinese expository prose.
- 5102. READINGS IN MODERN CHINESE FICTION.** (4 cr; prereq 3043 or #) Huters
Reading and analysis of selected short fiction from 1918 to present day.
- 5103. READINGS IN CHINESE DRAMA.** (4 cr; prereq 3033, 3043 or #) Liu
Critical reading of representative plays from 13th century to present. Dimensions of vernacular style.
- 5104. READINGS IN CHINESE POETRY.** (4 cr; prereq 3033 or #) Yu
Reading and analysis of works of selected major poets and poetic forms from first anthologies through 12th century.
- 5105. READINGS IN CHINESE VERNACULAR FICTION.** (4 cr; prereq 3043 or #) Cass
Selections from great works of traditional fiction including short stories and novels such as *Journey to the West* and *Dream of the Red Chamber*.
- 5106. READINGS IN TRADITIONAL CHINESE PROSE.** (4 cr; prereq 3031, 3032 or 3033)
Selections from classical Chinese prose such as pre-Han philosophical texts and historical texts of premodern period.
- 5107. READINGS IN CHINESE FOLKTALES.** (4 cr; prereq 3033, 3043 or #) Liu
Critical reading of published texts of transcribed folktales with emphasis on linguistic patterns of natural narrative, rhythm, and structure of spoken Chinese preserved in the texts.
- 5251. STRUCTURE OF STANDARD CHINESE.** (4 cr; prereq 1013 and Ling 3001) Wang
Phonological and syntactic structures of modern standard Chinese.
- 5252. HISTORY OF THE CHINESE LANGUAGE.** (4 cr; prereq 3031...Ling 3601 highly recommended) Wang
Sources and methods in study of historical development of the Chinese language.
- 5451, 5452. STUDIES IN CHINESE LINGUISTICS.** (4 cr per qtr; prereq 5251 or 5252) Wang
Syntax of modern standard Chinese, Chinese dialectology, Chinese historical phonology, grammar of classical Chinese.
- 5460. TOPICS IN CHINESE LITERATURE.** (4 cr per qtr; prereq 3031)
Texts from all periods of Chinese civilization and from all genres — poetic, expository, narrative, and dramatic. Topics announced in advance.
- 5471. CHINESE BIBLIOGRAPHY.** (4 cr; prereq 3033, #)
Primary sources and reference materials for study of Chinese humanities; designed to prepare students for independent research.
- 5472. RESEARCH METHODS.** (4 cr; prereq 3033)
Philological and textual research in the Chinese humanities.
- 5970. DIRECTED STUDIES.** (1-4 cr per qtr; prereq Δ)
Guided individual reading or study.
- 5990. COLLOQUIUM ON EAST ASIA.** (1-4 cr per qtr; prereq jr or sr or grad student, #)
Student research and reports.

JAPANESE (Jpn)

- 1011-1012-1013. BEGINNING JAPANESE.** (5 cr per qtr)
Reading, writing, and speaking Japanese.
- 3021-3022-3023. INTERMEDIATE JAPANESE.** (5 cr per qtr; prereq 1013)
Foundation for reading knowledge of Japanese. Review and pattern drill.
- 3031-3032-3033. 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.
- 3051, 3052, 3053. ADVANCED JAPANESE CONVERSATION AND COMPOSITION.** (4 cr per qtr, §5051, 5052, 5053)
Verbal expression, oral and written; grammar review; idioms and nuances; short compositions, correspondence.
- 3090. HONORS TUTORIAL.** (1-4 cr per qtr; prereq Δ)
Individual projects.
- 3161. MODERN JAPANESE LITERATURE AND WESTERN CULTURE.** (4 cr)
Japanese novels after 1900 by authors influenced by impact of Western culture. Knowledge of Japanese not required.
- 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.

- 3164. MODERN JAPANESE LITERATURE IN ENGLISH TRANSLATION.** (4 cr)
Twentieth-century Japanese literature examined in context of traditional expression. Knowledge of Japanese not required.
- 3970. DIRECTED STUDIES.** (1-15 cr; prereq Δ)
Guided individual reading or study.
- 5041-5042-5043. CLASSICAL JAPANESE.** (5 cr per qtr; prereq 3033) Copeland
Classical Japanese; masterpieces of Japanese literature in classical language; grammatical construction.
- 5051, 5052, 5053. ADVANCED JAPANESE CONVERSATION AND COMPOSITION.** (4 cr per qtr, §3051, 3052, 3053;
prereq 3023 or #, grad standing)
For description, see 3051, 3052, 3053; additional work required.
- 5251. HISTORY OF JAPANESE LANGUAGE.** (4 cr; prereq 3033 or 5451 or #) Jacobsen
Development of Japanese grammar from classical to modern language.
- 5361, 5362. READINGS IN MODERN JAPANESE LITERATURE I.** (4 cr per qtr; prereq 3033)
Traditionalist and aesthetic authors of 19th- and 20th-century Japan.
- 5363, 5364. READINGS IN MODERN JAPANESE LITERATURE II.** (4 cr per qtr; prereq 3033)
Realist, naturalist, and humanist authors of 19th- and 20th-century Japan.
- 5451. STRUCTURE OF JAPANESE: SYNTAX/SEMANTICS.** (4 cr; prereq 3023, Ling 3001 or #) Jacobsen
Analysis of structure and meaning of Japanese sentence patterns.
- 5452. STRUCTURE OF JAPANESE: PHONOLOGY/MORPHOLOGY.** (4 cr; prereq 3023, Ling 3001 or #) Jacobsen
Generative and nongenerative approaches to Japanese sound structure and word structure.
- 5460. PROSEMINAR IN JAPANESE LITERATURE.** (4 cr per qtr [12 cr max]; prereq 5361, 5362)
Selected poetic, expository, narrative, and dramatic texts. Topics specified in *Class Schedule*.
- 5471. RESEARCH METHODS.** (4 cr; prereq 3033)
Philological and textual research in Japanese sources.
- 5472. JAPANESE BIBLIOGRAPHY.** (4 cr; prereq #)
Primary sources, secondary materials in the native research tradition.
- 5650. PROSEMINAR: JAPANESE LINGUISTICS.** (4 cr per qtr [max 12 cr]; prereq 5451 or #) Jacobsen
Selected topics from the syntax, pragmatics, and lexicon of Japanese and/or comparative English and Japanese.
- 5970. DIRECTED STUDIES.** (1-15 cr; prereq Δ)
Guided individual reading or study.
- 5990. COLLOQUIUM ON EAST ASIA.** (1-4 cr per qtr; prereq jr or sr or grad student, #)
Student research and reports.

Ecology and Behavioral Biology (EBB)

College of Biological Sciences

Staff—Head, Edward J. Cushing, 107 Zoology Building; *Director of Undergraduate Studies,* G. David Tilman, 325 Zoology Building

Regents' Professor: Wright

Professors: Birney, Cushing, Davis, Gorham, McKinney, McNaught, Merrell, Parmelee, Phillips, Regal, Schmid, Shapiro, Siniff, Tester, Tordoff, Underhill, Warner

Associate Professors: Barnwell, Bright, Corbin, Gilbertson, Hopkins, Huver, Kottler, Megard, Morrow (on leave 1982-83), Tilman

Assistant Professors: Abrams, Aistad

Adjunct Faculty—Professors: Heinselman, Mech (U.S. Fishery and Wildlife Service)

Ecology and behavioral biology deals with the study of animals and plants and their evolution, behavior, and interactions in communities and ecosystems.

General Education—Courses especially appropriate for nonmajors include Biol 1105, 1106, 1109 and EBB 3001, 3111, 5118.

Major Requirements and Course Descriptions

- Biol 1105. ECOLOGY AND EVOLUTION.** (4 cr; prereq Biol 1009 or 1101) Abrame
Understanding of evolutionary processes developed through examination of interactions of organisms with their environments. Predictions about living systems, including that of humans.
- Biol 1106. GENERAL ZOOLOGY.** (5 cr; prereq Biol 1009) Schmid, Underhill
Survey of animal phyla; structure, function, behavior, adaptation, and evolutionary relationships.
- Biol 1109. MAN, NATURE, AND DISEASE.** (4 cr; prereq Biol 1009) Gilbertson
The study of disease as a natural phenomenon, with emphasis on the natural history of disease from a worldwide perspective.
- Biol 3041. ECOLOGY.** (4 cr; prereq Biol 1009, Math 1211 or #) Staff
Interactions of plant and animal populations and their environments. Organization, functioning, and development of ecological systems; population growth and regulation. Human impact on the biosphere in modern times.
- Biol 3042. FIELD PROBLEMS IN ECOLOGY.** (2 cr; prereq Biol 3041 or EBB 3004 or #)
Student research in selected ecological problems.

INTRODUCTORY ECOLOGY AND BEHAVIORAL BIOLOGY

- 3001. INTRODUCTION TO ECOLOGY.** (4 cr; open to jrs and above but not to biology majors) Corbin, Siniff
Basic concepts in ecology; the organization, development, and functioning of ecosystems; population growth and regulation. Human impact on ecosystems.
- 3004. FUNDAMENTALS OF ECOLOGY.** (4 cr; not open to biology majors; prereq Biol 1009, college algebra) Tester
Relationships between organisms and their environment; ecosystem structure and function emphasizing energy flow, biogeochemical cycling and succession; population dynamics; regional biotic communities.
- 3101. ECOLOGY FOR ENGINEERS AND PHYSICAL SCIENTISTS.** (4 cr, §3001; not open to biology majors; prereq Math 1231) Bright
Spatial and temporal interactions between populations in ecosystems; processes affecting populations; transformations of energy and materials in the biosphere. Lectures and recitations.
- 3111. VERTEBRATE BEHAVIOR.** (4 cr, §AnSc 3111; prereq Biol 1106 or 3011 or #) Phillips
The nature, variety, development, motivation, and evolution of animal behavior emphasizing social interactions and communication.
- 3990. RESEARCH PROBLEMS.** (1-6 or per qtr; prereq #, Δ)
Individual research for undergraduate majors in biology.

COMMUNITY ECOLOGY AND PALEOECOLOGY

- 5008. QUATERNARY ECOLOGY.** (4 cr; prereq Biol 3041 or #; offered alt yrs) Davis
Impact of changes in the physical and biological environment during the Quaternary period on plants and animals; examines such changes as 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. Emphasis on general principles of analysis and methods of investigation and interpretation.
- 5014. ECOLOGY OF PLANT COMMUNITIES.** (5 cr; prereq 3004 or Biol 3041, 1 qtr statistics or #) Cushing
Methods of describing, sampling, and classifying plant communities; theory of their structure, development, and stability of the interactions among their constituent populations. Field trips to examine local vegetation types; analysis of quantitative data.
- 5016. ECOLOGICAL PLANT GEOGRAPHY.** (5 cr; prereq 3004 or Biol 3041, Bot 3201 or 1 Bot 3201 or #; offered alt yrs) Cushing
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

- 5031. EVOLUTIONARY ECOLOGY.** (3 cr; prereq Biol 3041 or equiv, #; offered alt yrs) Corbin
Evolutionary concepts and theory applied to the study of populations, communities, and ecosystems. Current literature and research emphasized.
- 5044. EVOLUTION.** (4 cr; prereq Biol 1106 or 3011) Merrell
Survey of evidence for and causes of biological evolution.
- 5051 (formerly 8001). ANALYSIS OF POPULATIONS.** (4 cr; prereq 3004 or Biol 3041 or #) Siniff
Factors involved in the regulation, growth, and general dynamics of populations. Data needed to describe populations, population growth, population models, and regulatory mechanisms.

- 5052. THEORETICAL POPULATION ECOLOGY.** (4 cr; prereq Biol 3041 or #) Tilman
Theories of population ecology, including models of growth and regulation of single populations, and of interactions between populations, including competition, predation, mutualism, emphasizing assumptions and rationales of models and their predictions for dynamics, stability, and diversity of communities.

ORGANISMAL BIOLOGY AND PHYSIOLOGICAL ECOLOGY

- 5112. INVERTEBRATE BIOLOGY.** (5 cr; prereq Biol 1106 or 3011 or #) Barnwell
Morphology, physiology, behavior, ecology, and evolution of invertebrate groups. Laboratory study of living marine, freshwater, and terrestrial representatives.
- 5114. VERTEBRATE BIOLOGY.** (4 cr; prereq Biol 1106 or 3011) Huver
Vertebrates: their biology, taxonomy, and distribution.
- 5116. INTRODUCTION TO ANIMAL PARASITOLOGY.** (5 cr; prereq Biol 1106 or 3011) Gilbertson
Elementary course dealing with parasitic protozoa, worms, and arthropods and their relation to diseases of humans and animals.
- 5118. SYMBIOSIS.** (3 cr; prereq Biol 1106 or 3011) Gilbertson
Interactions of organisms of different species living in intimate physiological association.
- 5122. PLANT/ANIMAL INTERACTIONS.** (4 cr; prereq Biol 3011, 3012 or #) Staff
Herbivory, pollination, seed dispersal. Implications of interaction for plants and animals at organismal, population, and community levels. Coevolution.
- 5128. ADAPTATION AND MACROEVOLUTION: VERTEBRATES.** (4 cr; prereq Biol 1106 or 3011; offered alt yrs)
Regal
Patterns and problems in evolution at the species level and above are discussed in the context of an introduction to vertebrate phylogeny, ecology, and adaptations. Lectures, demonstrations, and field trips.
- 5129. MAMMALOLOGY.** (5 cr, §FW 5129; prereq Biol 1106 or 3011 or #) Birney
Recent families and orders of mammals of the world and of genera and species of mammals of North America, with emphasis on morphology, evolution, and zoogeographic history.
- 5132. HERPETOLOGY.** (5 cr; prereq Biol 1106 or 3011 or #; offered alt yrs) Regal
Distribution, classification, and evolution of amphibians and reptiles of the world. Physiological, morphological, and behavioral aspects of adaptive trends. Laboratory and lecture.
- 5134. INTRODUCTION TO ORNITHOLOGY.** (5 cr; prereq Biol 1106 or 3011) Tordoff, Warner
Laboratory and field course in structure, classification, distribution, migration, habits, habitats, and identification of birds. Weekend trips scheduled.
- 5136. ICHTHYOLOGY.** (4 cr; prereq 15 or incl Biol 1106 or 3011) Huver
Biology of fishes including development, systematics, anatomy, physiology, and ecology.
- 5154. BEHAVIORAL AND PHYSIOLOGICAL ECOLOGY.** (3 cr; prereq adv course work in either physiology, behavior or ecology) Regal
Aspects of the adaptation of organisms to environments. Orientation, learning and adaptation of behavior, heat and water regulation, bioenergetics, biological rhythms.
- 5155. LABORATORY IN BEHAVIORAL AND PHYSIOLOGICAL ECOLOGY.** (3 cr; prereq 5154, #) Regal
Emphasis on individual directed projects.
- 5156. COMPARATIVE ANIMAL PHYSIOLOGY.** (5 cr; prereq Biol 1106 or 3011, Chem 3302 or #) Schmid
The environment imposes passive stresses upon organisms—not equilibrium. Various physiological adaptations allow maintenance of homeostasis. Introduction to the passive organism—environmental stresses and biological mechanisms by which they are counteracted.

BEHAVIOR

- 5312. NEUROBIOLOGY.** (3 cr; prereq Biol 3011 or #...GCB 5114 highly recommended) Hopkins
Biological survey of nervous systems: their anatomy, integrative physiology, development, and function in behavior.
- 5321. EVOLUTION OF SOCIAL BEHAVIOR.** (4 cr; prereq Biol 1106 or 3011 or #) McKinney
Introduction to current theories and concepts relating to mating systems, spacing systems, and cooperative behavior in animals.
- 5322. COMPARATIVE ETHOLOGY.** (4 cr; prereq 5321 or 5321, #) McKinney
Evolution and adaptive significance of behavior, primarily in vertebrates, with emphasis on comparative methods.
- 5323. MECHANISMS OF ANIMAL BEHAVIOR.** (5 cr; prereq Biol 3011 or 1 qtr of animal physiology) Hopkins
A survey of animal behavior mechanisms: their organization and their functions. Analysis of behavior sequences, motor coordination, fixed action patterns, sensory systems and release mechanisms, mechanisms of animal communication, orientation behavior, feedback mechanisms and control, behavior of small neural networks. Laboratory included.

Major Requirements and Course Descriptions

LIMNOLOGY AND ECOSYSTEM ECOLOGY

- 5601. LIMNOLOGY.** (4 cr, §Geo 5601; prereq Chem 1005 or #) Shapiro, Gorham, Megard
Description and analysis of the events occurring in lakes, reservoirs, and ponds, beginning with their origins and progressing through a study of their physics, chemistry, and biology. Interrelationships of these parameters and effects of civilization on lakes.
- 5604. BIOLOGICAL LIMNOLOGY.** (3 cr; prereq 5601 or 5812 or #) Megard
Survey of the taxonomy and natural history of planktonic and benthic organisms in lakes and streams, descriptions of planktonic and benthic populations, and analyses of processes that regulate population densities of aquatic organisms.
- 5605. LABORATORY IN BIOLOGICAL LIMNOLOGY.** (2 cr; prereq 5601 or 5812 or #) Megard
The morphology and identification of planktonic and benthic organisms in lakes and streams, use of sampling equipment and instruments in the field, and analysis of field data.
- 5606. ECOLOGY OF FISHES.** (5 cr; prereq Biol 1009 or 1106 or equiv plus 10 cr in biological sciences) Underhill
Ecological requirements of fishes with emphasis on nongame species; habitat, food, interactions between species, and behavioral, anatomical, and physiological adaptations. The role of fishes in the aquatic ecosystem with emphasis on fresh waters.
- 5608. ECOSYSTEMS: FORM AND FUNCTION.** (3 cr; prereq 3004 or 5601 or Biol 3041, Chem 1002 or 1005; offered alt yrs) Davis
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.
- 5609. ECOSYSTEMS LABORATORY.** (2 cr; prereq 5608 or §5608; offered 1983-84 and alt yrs) Davis
A field and laboratory course to accompany 5608.
- 5612. BIOGEOCHEMICAL CYCLES.** (3 cr; prereq Biol 3041, 5001 or MicB 5321 or #) Wood
Biogeochemical cycles for essential, nonessential, and toxic elements in the biosphere. Emphasis on human impact on biogeochemical cycles and on the connections between these cycles.
- 5613. ASSESSING THE ECOLOGICAL EFFECTS OF POLLUTION.** (4 cr; prereq Biol 3041 or equiv, Chem 3301, 3302) Gorham
Assessment of effects upon species and ecosystems, methodological problems, initial phases of investigating a new pollutant, problems of prediction.
- 5970. DIRECTED STUDIES.** (Cr ar; prereq #, Δ)

COURSES OFFERED AT LAKE ITASCA FORESTRY AND BIOLOGICAL STATION

- 3800su. INTRODUCTION TO FIELD RESEARCH.** (10 cr; prereq two courses in biology, Δ)
- 5812su. AQUATIC ECOLOGY.** (5 cr; prereq 15 cr of biology, 5 cr of chemistry, Δ)
- 5814su. COMMUNITY STRUCTURE AND FUNCTION.** (5 cr; prereq course in ecology, Δ)
- 5815su. FIELD ETHOLOGY.** (10 cr; prereq course in behavior, Δ...course in statistics recommended)
- 5816su. ECOLOGY OF FRESHWATER ALGAE.** (5 cr; prereq 5813, Bot 5811, Δ; offered when feasible)
- 5817su. VERTEBRATE ECOLOGY.** (5 cr; prereq course in ecology, #, Δ; offered when feasible)
- 5819su. SOILS AND THE ECOSYSTEM.** (5 cr; prereq course in ecology, Δ; offered when feasible)
- 5820su. WETLAND ECOLOGY.** (10 cr; prereq 15 cr of biology, introductory chemistry, course in plant identification, Δ...Biol 3041 recommended; offered when feasible)
- 5821su. QUATERNARY PALEOECOLOGY.** (5 cr; prereq 1 qtr of ecology or #, Δ; offered when feasible)
- 5822su. REGIONAL LIMNOLOGY.** (5 cr; prereq 15 cr of biology, 10 cr of chemistry, Δ; offered when feasible)
- 5831su. NATURAL HISTORY OF INVERTEBRATES.** (5 cr; prereq Biol 1106, Δ; offered when feasible)
- 5832su. NATURAL HISTORY OF VERTEBRATES.** (5 cr; prereq Biol 1106, Δ; offered when feasible)
- 5834su. FIELD ORNITHOLOGY.** (5 cr; prereq Biol 1106, Δ)
- 5843su. ANIMAL PARASITES.** (5 cr; prereq Biol 1106, Δ; offered when feasible)
- 5869su. PHYSIOLOGICAL ECOLOGY.** (5 cr; prereq course in physiology or ecology, Δ; offered when feasible)

Economics (Econ)

Staff—Chair, N. J. Simler, 1035 Management and Economics Building; *Director of Undergraduate Studies,* Edward Coen, 1035 Management and Economics Building; Brownlee, Chipman, Feldman, Foster, Heller, Henderson, Hildreth, Holt, Hurwicz, Ito, Jordan, Kareken, Krueger, Lee, Mohring, Pitt, Porter, Prescott, Richter, Rosenzweig, Ruttan, Sargent, Schuh, Sims, Slemrod, Smith, Swan, Thomson, Wallace

Economics seeks to describe how the economy works, to define criteria for assessing its efficiency in providing goods and services, and to evaluate 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. It will familiarize you with the basic features of the economic environment. For professional work as an economist in business or government, and for college teaching, graduate work is desirable. Prospective public school teachers should consult the *College of Education Bulletin*.

Because of their difficulty, instructor consent is required for admission to the following courses: 5161-5162-5163, 5164-5165-5166, 5171-5172, 5181-5182, 5261-5262-5263, 5461-5462-5463, 5561-5562, 5661, 5671-5672-5673, 5861-5862-5863.

General Education—All courses are open to nonmajors, but those with minimal prerequisites may be of special interest. Courses that require no prior course work in economics are 1001, 1001H, 1002, 1002H, 1004, 1005, 1014, 3001-3002. Those that require only 1001 and 1002 as prerequisites are 3501, 3601, 3701, 3711, 3801, 3970, 5021, 5301, 5307, 5311, 5313, 5315, 5401, 5611, 5621, 5623, 5701.

B.A. and B.S. Majors—The B.A. sequence is relatively nonmathematical and nonquantitative in orientation. The B.S. sequence emphasizes mathematical and statistical methods in economics. If you are contemplating graduate work in economics or a career as a professional economist in business, government, or college teaching, you are advised to select the B.S. program, or to include in a B.A. program approximately the same course work required for the B.S. The adviser for majors and premajors is the director of undergraduate studies.

B.A. MAJOR SEQUENCE

Required Preparatory Courses—1001 or 1001H or 1004; 1002 or 1002H or 1005; Math 1142 or equiv

Major Requirements—Stat 5021-5022 or equiv
3101 or 3101H, 3102 or 3102H, 3103 or 3103H (recommended to be taken in following order: 3101, 3103, 3102)

24 3xxx-5xxx cr; may include two courses from Acct 3101, 3102, BFin 3000, 3300, QA 3055

Composition requirement: Comp 3014 (Writing for the Quantitative Social Sciences) or 3027 (Advanced Expository Writing)

Senior project: major paper (obtain guidelines from department)

Two courses in the major may be taken S-N.

Departmental permission is required to apply more than 8 cr of directed studies courses (3970, 5970) toward the major.

Supporting work in computer science, mathematics, and statistics is recommended.

B.S. MAJOR SEQUENCE

Required Preparatory Courses—1001 or 1001H or 1004; 1002 or 1002H or 1005; Math 1211-1221-1231 or 1311-1321-1331 or 1611-1621 or equiv

Major Requirements and Course Descriptions

Major Requirements—Math 3211 and one qtr linear algebra (Math 3142 recommended)

Stat 5021-5022 or 5121-5122 or 5131-5132 (5131-5132 are more difficult)

5231 or 5261 or Stat 5302 (5261 is more difficult)

3101 or 3101H, 3102 or 3102H, 3103 or 3103H (recommended to be taken in following order: 3101, 3103, 3102)

24 3xxx-5xxx cr; may include two courses selected from Acct 3101, 3102, BFin 3000, 3300, QA 3055, 5000; also may include one Math course with prereq of 3142 or 3211 or 3221 or consent of adviser

Two courses from: 5113 (strongly recommended), 5xxx-level honors courses; and 5161-5162-5163, 5164-5165-5166, 5171-5172, 5181-5182, 5261-5262-5263, 5271-5272, 5461-5462-5463, 5561-5562, 5661, 5671-5672-5673, 5861-5862-5863. Courses in this last group may be taken S-N. Other courses in the major must be taken A-N.

Composition requirement: Comp 3014 (Writing for the Quantitative Social Sciences) or 3027 (Advanced Expository Writing)

Supporting work in computer science is recommended.

MINOR SEQUENCE

Required Preparatory Courses—1001, 1002, knowledge of elementary algebra

Minor Requirements—3101

16 3xxx-5xxx cr

You should submit your minor program for advance approval to the director of undergraduate studies.

GENERAL

1001f,w,s. PRINCIPLES OF MACROECONOMICS. (4 cr, §1004, §1014, §3001, §3002; prereq 3rd-qtr fr or CDS student, knowledge of elementary algebra at level of Math 0006)

National income; money and banking; business cycles; international trade.

1001Hf,w,s. HONORS COURSE: PRINCIPLES OF MACROECONOMICS. (5 cr, §1004, §1014, §3001, §3002; prereq 3rd-qtr fr, knowledge of elementary algebra at level of Math 0006...B avg recommended)

1002f,w,s. PRINCIPLES OF MICROECONOMICS. (4 cr, §1005, §1015, §3001, §3002; prereq 3rd-qtr fr, knowledge of elementary algebra at level of Math 0006)

Demand and supply; competition and monopoly; the distribution of income.

1002Hf,w,s. HONORS COURSE: PRINCIPLES OF MICROECONOMICS. (5 cr, §1005, §1015, §3001, §3002; prereq 3rd-qtr fr, knowledge of elementary algebra at level of Math 0006...B avg recommended)

1004f,w,s. PRINCIPLES OF MACROECONOMICS. (4 cr, §1001; prereq 1 qtr calculus)

For description, see 1001.

1005f,w,s. PRINCIPLES OF MICROECONOMICS. (4 cr, §1002; prereq 1 qtr calculus)

For description, see 1002.

3001f-3002w. ECONOMIC PROBLEMS OF AMERICAN ECONOMY. (4 or per qtr, §1001, §1002, §1004, §1005, §1014, §1015; not available to economics majors as 3xxx-level cr; offered alt yrs)

General education in economics for the average citizen.

3021. SURVEY OF ECONOMIC IDEAS. (3-5 cr; prereq 1001, 1002 or equiv)

Economic thought from Adam Smith to J. M. Keynes; impact of industrial revolution and business cycles on formation of theory.

5021. ECONOMICS, ETHICS, AND ECONOMIC PHILOSOPHY. (3-5 cr; prereq 1001, 1002 or equiv; offered when feasible)

Literature and issues it raises; relation of ethics to economic organization, practice, and policy. Economic philosophies; formulation of economic philosophy.

5031, 5032, 5033. CURRENT ECONOMIC ISSUES. (3-5 cr per qtr [may be repeated for cr with #]; prereq 3101, 3102 or equiv or #: offered when feasible)

Current controversies over economic policy and underlying problems.

ECONOMIC THEORY

- 3101f,w,s. MICROECONOMIC THEORY.** (4 cr, §3105; prereq 1001, 1002, Math 1111 or 1141 or 1131 or equiv [no cr for management students])
Behavior of households, firms, and industries under competitive and monopolistic conditions; factors influencing production, price, and advertising decisions.
- 3101H. HONORS COURSE: MICROECONOMIC THEORY.** (5 cr; prereq 1001, 1002, 1 qtr calculus...B avg recommended)
- 3102f,w,s. MACROECONOMIC THEORY.** (4 cr; prereq 1001, 1002, Math 1111 or 1141 or 1131 or equiv...3101 recommended)
Determinants of national income, employment, and price level; aggregate consumption, investment, and government demand; the money market; the labor market.
- 3102H. HONORS COURSE: MACROECONOMIC THEORY.** (5 cr; prereq 3101 or 3101H or #, 1 qtr calculus...B avg recommended)
- 3103f,w,s. WELFARE ECONOMICS.** (4 cr; prereq 3101 or equiv)
Economic efficiency and the conditions necessary to sustain it. Conflicts between efficiency and income distribution goals. How market structure and public policies increase or decrease efficiency.
- 3103H. HONORS COURSE: WELFARE ECONOMICS.** (5 cr; prereq 3101 or 3101H or #, 1 qtr calculus...B avg recommended)
- 3105. MANAGERIAL ECONOMICS.** (4 cr, §3101, §BGS 3001; for pre-management and School of Management students only; prereq 1001, 1002, 1 qtr calculus)
Theory of the firm; managerial decision problems. Demand theory. Production technology and cost concepts. Pricing and output decisions. Investment behavior.
- 5113. INTRODUCTORY TOPICS IN MATHEMATICAL ECONOMICS.** (4 cr; prereq 3101 or equiv or #, Math 3142, 3211)
Development in mathematical terms of selected models of economic behavior. Topics selected to illustrate the advantages of a mathematical formulation.
- 5141. BUSINESS CYCLES.** (4 cr; prereq 3102, 5721 or equiv)
Ups and downs of business; causes and statistical data; relationship of cycles to economic growth. Methods of forecasting. Proposals for stabilization.
- 5141H. HONORS COURSE: BUSINESS CYCLES.** (5 cr; prereq 3101, 3102, 5721 or equiv...B avg recommended)
- 5151. ELEMENTS OF ECONOMIC ANALYSIS: FIRM AND HOUSEHOLD.** (3 cr, §3101; prereq 1001, 1002, 1 qtr calculus, grad student or #)
Decision making by households and firms under conditions of competition, monopoly, and monopolistic competition.
- 5152. ELEMENTS OF ECONOMIC ANALYSIS: INCOME AND EMPLOYMENT.** (3 cr, §3102; prereq 1001, 1002, 1 qtr calculus, grad student or #)
Determinants of national income, employment, and price level; aggregate consumption, investment, and asset holding.
- 5161-5162-5163. MICROECONOMIC THEORY.** (5 cr per qtr [no grad cr]; prereq 3103, Math 3211 or equiv, #...1 qtr linear algebra 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.
- 5164-5165-5166. MACROECONOMIC THEORY.** (5 cr per qtr [no grad cr]; prereq 3102, 3103, Math 3211 or equiv, #...1 qtr linear algebra recommended)
General equilibrium models for determining output, employment, price level, and rate of interest. Components of demand for goods (especially consumption and investment demand) and for financial assets. Models of economic fluctuations and growth.
- 5171-5172. HISTORY OF ECONOMIC THOUGHT.** (5 cr per qtr [no grad cr]; prereq 5161, 5164)
5171: Classical economists, Marx, beginnings of neoclassical economics. 5172: Development of neoclassical economics through 1930s. Origins of macro theory.
- 5181-5182. DECISION MAKING AND OPERATIONAL ANALYSIS.** (5 cr per qtr [no grad cr]; prereq 3101 or 5151, 2 qtrs calculus, 1 qtr linear algebra, #)
5181: Linear models of economic activity; linear programming and input-output analysis. 5182: Nonlinear models of economic activity; nonlinear programming models.

Major Requirements and Course Descriptions

5271, 5272. BAYESIAN DECISION MAKING. (4 cr per qtr, §Stat 5271-5272, §AgEc 5271-5272; prereq 1002 or equiv, Stat 5122 or equiv for 5271...5271 for 5272)

5271: Rationale for expected utility representation of decision problems. Amount of a venture problem. Production decision by firms. Combinations of ventures, portfolio problems. 5272: Sequential economic decisions. Dynamic programming. Multivariate utility.

ECONOMETRICS

5231. INTRODUCTION TO ECONOMETRICS. (4 cr; prereq QA 3053 or Stat 5022 or equiv or #)

Least-squares estimation in two- and three-variable linear models. Significance tests and confidence intervals. Autocorrelation and multicollinearity. Distributed lags. Simultaneous equation systems. Identification, least squares bias. Two-stage least squares. Case studies.

5261f-5262w-5263s. APPLIED ECONOMETRICS. (5 cr per qtr [no grad cr]; prereq 3101, 3102, Stat 5122, 1 qtr linear algebra, #)

Conceptual basis of econometric theory (omitting many proofs of theorems); application to economic models. Laboratory.

ECONOMIC DEVELOPMENT, COMPARATIVE SYSTEMS, AREA STUDIES

5301. ECONOMIC DEVELOPMENT. (4 cr, §5331; not open to economics majors; prereq 1001, 1002 or equiv)

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.

5307. COMPARATIVE ECONOMIC SYSTEMS. (4 cr, §5337; not open to economics majors; prereq 1001, 1002 or equiv)

Functions of economic systems; market economy, liberal socialism, centrally planned economy. American and Soviet economies.

5311. ECONOMY OF LATIN AMERICA. (4 cr, §5341; not open to economics majors; prereq 1001, 1002 or equiv)

Current economics problems: exchange controls, land reform, inflation, and fluctuation in prices of basic commodities. Evaluation of foreign aid programs.

5313. ECONOMY OF U.S.S.R. (4 cr; prereq 1001, 1002 or equiv)

Economic organization, planning and control of use of resources, and distribution of product. Performance of economy in agriculture and industry under 5-year plans. External economic policy. Public finance, income distribution, economic incentives.

5315. ECONOMICS OF ASIA. (4 cr; prereq 1001, 1002 or equiv)

Economic development following contact with Western civilization. Current problems; population growth, capital formation, international economic relations, choice between types of economic organization.

5331. ECONOMIC DEVELOPMENT. (4 cr, §5301; prereq 3101, 3102 or equiv or #)

For description, see 5301.

5337. COMPARATIVE ECONOMIC SYSTEMS. (4 cr, §5307; prereq 3101, 3102 or #)

For description, see 5307.

5341. ECONOMY OF LATIN AMERICA. (4 cr, §5311; prereq 3101, 3102 or #)

For description, see 5311.

5347, 5348. DEVELOPMENT OF AMERICAN ECONOMY. (4 cr per qtr; prereq 3101, 3102 or equiv or #)

Applications of economic theory and empirical methods to topics in American economic development, particularly during the 19th-century period of accelerated growth and industrialization.

INTERNATIONAL ECONOMICS

5401. INTERNATIONAL ECONOMICS. (4 cr, §5431; not open to economics majors; prereq 1001, 1002 or equiv)

The case for free trade. Effects of tariffs; protection of infant industries; common markets. Balancing international receipts and payments, the role of exchange rates, international monetary reform.

5411. U.S. FOREIGN ECONOMIC POLICY. (4 cr; prereq 5401 or equiv; offered alt yrs)

Development of 20th-century U.S. foreign economic policy; current issues.

5421. THE PROSPECTIVE WORLD ECONOMY. (4 cr, §IntR 5802; prereq 5401 or 5431 or #) Smith

Alternative patterns for a future world economy; their implications for the economic welfare of nations. World institutions and their relation to growth and survival problems.

5431. INTERNATIONAL ECONOMICS. (4 cr, §5401; prereq 3101, 3103 or equiv or #)

For description, see 5401.

- 5461f-5462w-5463s. INTERNATIONAL TRADE AND PAYMENTS THEORY.** (5 cr per qtr [no grad cr]; prereq 3102, 3103, Math 3211 or equiv, #...1 qtr linear algebra recommended)
Gains from trade; effect of trade on factor prices; tariffs; customs unions. Relation of trade theory to growth and development. Balance of payments disequilibrium, exchange rates, capital movements, international liquidity.

LABOR ECONOMICS

- 3501. LABOR ECONOMICS.** (4 cr, §5531; not open to economics majors; prereq 1001, 1002 or equiv)
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.
- 3511. ECONOMICS OF EDUCATION.** (4 cr; prereq 1001, 1002 or equiv)
Schooling as investment in human capital. Postschool investment in human capital. Relationship between education and income. Problems of estimation. Social versus private rates of return to education. Financing higher education.
- 5531. LABOR ECONOMICS.** (4 cr, §3501; prereq 3101, 3102 or equiv)
For description, see 3501.
- 5533. INCOME DISTRIBUTION: FACTS, THEORIES, ISSUES.** (4 cr; prereq 3101)
Measurement and interpretation of income inequalities. Hypotheses about the existing distribution of income. Policies or methods for changing the distribution of income.
- 5534. ECONOMICS SECURITY.** (4 cr, §Ins 3210)
Public and private approaches to problems of economic insecurity. Economic and social implications of private and public programs. Emphasis on economics of income and employment stabilization rather than upon legal or administrative aspects.
- 5535. HEALTH ECONOMICS.** (4 cr; prereq 3101...or grad student and one course in microeconomics)
Demand for health and medical care. Health insurance. Supply of health personnel. Productivity, economies of scale. Financing medical education. Hospital economics. The market for physicians' services. Can competition work?
- 5537. LABOR MARKET BEHAVIOR AND REGULATIONS.** (4 cr; prereq 3501 or 5531 or #)
Public and private policies in regulation of employer-employee-union relations and labor market behavior. Settlement of disputes. Control of employer and union self-help techniques. Economic rather than legal or administrative aspects of policy.
- 5541. CONTEMPORARY LABOR ISSUES.** (4 cr; prereq 3501 or 5531 or #)
Important labor problem areas examined in light of economic, legal, political, and social implications.
- 5561-5562. WAGES AND EMPLOYMENT.** (5 cr per qtr [no grad cr]; prereq 3102, 3103, 1 qtr calculus, #)
Economic analysis of labor markets and their operation under conditions of individual and collective bargaining. Implications of labor market operations for resource allocation, wage and price stability, income and employment growth. Wage structures and wage levels. Wage and employment theories and practices. Economic impact of the union.

INDUSTRIAL ORGANIZATION, TECHNOLOGICAL CHANGE, ENVIRONMENTAL CONTROL, URBAN PROBLEMS

- 3601. INDUSTRIAL ORGANIZATION AND ANTITRUST POLICY.** (4 cr, §5631; not open to economics majors; prereq 1001, 1002 or equiv)
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.
- 5611. ECONOMICS OF ENVIRONMENTAL CONTROL.** (4 cr; prereq 1001, 1002 or equiv)
Pollution as an external diseconomy; use of taxes and subsidies to reduce pollution. Replenishable resources; maximum sustainable yield; role of the discount rate; taxation to protect yields and minimize harvesting costs. Nonreplenishable resources; controlling rates of depletion.
- 5621. ECONOMICS OF URBAN PROBLEMS.** (4 cr; prereq 1001, 1002 or equiv)
Unemployment and central city decay. Minimum guaranteed income proposals. Low income housing policies. Public policies toward health care. Financing public education. Fiscal problems of cities. Mass transit issues.
- 5623. HOUSING MARKETS AND PUBLIC POLICY.** (4 cr; prereq 1001, 1002 or equiv)
Analysis of housing markets. Market failures, externalities and the case for government intervention. Relative efficiency of particular forms of intervention.
- 5631. INDUSTRIAL ORGANIZATION AND ANTITRUST POLICY.** (4 cr, §3601; prereq 3101...3103 recommended)
For description, see 3601.

Major Requirements and Course Descriptions

5631H. HONORS COURSE: INDUSTRIAL ORGANIZATION AND ANTITRUST POLICY. (5 or; prereq 3103 or equiv...B avg recommended)

5661. ECONOMICS OF LOCATION. (5 undergrad cr, 3 grad or; prereq 3103, 1 qtr calculus and # for undergrad students...5161 for grad students)

Location of economic activity in relation to resources and markets. Effects of changes in transport costs. Problems of urban growth.

5671f-5672w-5673s. INDUSTRIAL ORGANIZATION AND GOVERNMENT REGULATION. (5 or per qtr [no grad or]; prereq 3103, Math 3211 or equiv, familiarity with regression analysis, #)

Profit maximization and other theories of business behavior; profits, assets, and barriers to entry; concentration and other aspects of industry structure; performance consequences of alternative industry structures; business pricing practices; determinants of invention and innovation; antitrust, conservation, and direct regulatory activities of federal, state, and local governments.

MONETARY ECONOMICS AND MACROECONOMIC POLICY

3701. MONEY AND BANKING. (4 or, §5701, §5721; not open to economics majors; prereq 1001, 1002 or equiv) Historical development, present characteristics, and economic role of financial institutions. Commercial banking, the Federal Reserve system, and monetary policy.

3711. MONEY, BANKING, AND MACROECONOMIC POLICY. (4 or, §3701, §5701, §5721, §5731; prereq 1001, 1002 or equiv)

Role of banks and other financial intermediaries. Capital markets. Structure of interest rates. Federal Reserve system. National income accounting. Alternative macroeconomic models. Policy goals and instruments. Significant policy issues.

5701. MONEY, BANKING, AND MONETARY POLICY. (4 or, §3701, §5721; not open to economics majors; prereq 1001, 1002 or equiv or #)

Economic role of financial institutions; commercial banks, the money supply, and monetary policy.

5721. MONEY AND BANKING. (4 or, §3701, §5701; prereq 3102 or equiv)

For description, see 3701.

5721H. HONORS COURSE: MONEY AND BANKING. (5 or; prereq 3102 or equiv...B avg recommended)

5731. MACROECONOMIC POLICY. (4 or, §3711; prereq 3102)

For description, see 3711.

5731H. HONORS COURSE: MACROECONOMIC POLICY. (5 or; prereq 3102...B avg recommended)

PUBLIC FINANCE

3801. ELEMENTS OF PUBLIC FINANCE. (4 or, §5821; not open to economics majors; prereq 1001, 1002 or equiv) Tax and expenditure policies, primarily at federal level. Impact of tax structure on the distribution of income. Evaluation of public programs. Optimal mix of public and private sector output.

5821. ELEMENTS OF PUBLIC FINANCE. (4 or, §3801; prereq 3101...3103 recommended)

For description, see 3801.

5821H. HONORS COURSE: ELEMENTS OF PUBLIC FINANCE. (5 or; prereq 3101, 3103...B avg recommended)

5831. COST-BENEFIT ANALYSIS. (4 or; prereq 3101...3103 recommended)

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.

5861f-5862w-5863s. PUBLIC FINANCE. (5 or per qtr [no grad or]; prereq 3102, 3103, #)

Theory of economic policy. Economic effects of taxes, public debt, and public expenditure on resource allocation, employment, and income distribution; techniques of cost-benefit analysis. Current problems of fiscal policy and taxation.

DIRECTED STUDY

3960. TOPICS IN ECONOMICS. (4 or per qtr; prereq 1001, 1002 [others may be stated in *Class Schedule*]) Topics specified in *Class Schedule*.

3970. DIRECTED STUDIES. (Cr ar; prereq #)

Guided individual reading or study in areas not available in regular course offerings.

5970. DIRECTED STUDIES. (Cr ar; prereq #)

For description, see 3970.

College of Education

CLA students may take up to 16 credits of course work offered by other colleges. The credits may be applied toward CLA degrees, but may not be used to fulfill group distribution requirements. Descriptions of courses offered by the College of Education can be found in the bulletin of that college. Information about the requirements for entering the College of Education can be found in section III.

English (Engl)

Staff — *Chair*, J. Lawrence Mitchell, 207 Lind Hall; *Assistant Chair*, J. Dennis Hurrell, 207 Lind Hall; *Director of Graduate Study*, William A. Madden, 205 Lind Hall; *Director of Undergraduate Study*, Gordon W. O'Brien, 204 Lind Hall; *Undergraduate Adviser*, Beverly Atkinson, 204 Lind Hall; *Director of Composition*, Robert Brown, 209 Lind Hall

Professors: Anderson, Bales, Clayton, Firchow, Fruman, Griffin, Hancher, Hurrell, Kendall, MacLeish, Madden, Moore, O'Brien, Reed, Rosendahl, Roth, Stekert, Unger, Wright
Associate Professors: Brown, Browne, Burns, M. Durham, Escure, Furia, Garner, Geffen, Gohke, Haley, Hirsch, Leyasmeyer, McNally, McNaron, Mitchell, Ross, Solotaroff, Sugnet

Assistant Professors: Bridwell, L. Durham, Luke, McClure, Przybylowicz

Department courses examine major literary works written in the English language as works of art, and consider such topics as the place of these major works within Western cultural traditions, theories of art, literary forms and techniques, and the relation of such disciplines as psychology, philosophy, history, and anthropology to literary study and language study. Courses in composition and practical criticism provide intensive practice in writing. All courses are designed to help students develop skills in rhetorical technique and critical reading.

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 both 204 and 207 Lind. Students may place their names on waiting lists for closed English courses in 207 Lind. Information about composition courses is available in 209 Lind.

B. A. MAJOR SEQUENCE

Required Preparatory Course—1009

Major Requirements—Twelve 4-cr courses in English or composition (three may be taken S-N), eleven of them at the 3xx and 5xx levels. They must include four elective courses in English or composition and one course in each of the following categories:

- Shakespeare (3241, 3242, or 3243)
- Literature of the Middle Ages or the Renaissance
- American or English literature of the 17th or 18th century
- American or English literature of the 19th century
- Study of a literary genre
- Study of a single writer
- Literary criticism
- English language

Major project: Major paper written in conjunction with 3960, or 3931-3932; individual offerings of these courses also may be applied to one of the above categories

Courses that may be applied to each of the categories are listed in the *English Major Handbook*, available in the Undergraduate Studies office.

Major Requirements and Course Descriptions

Transfer students must write a major paper and must complete at least three other 3xxx and 5xxx courses in the department.

You are encouraged to complete required courses before choosing electives, which may be concentrated within one area of study, for example, in a literary period, a genre (such as poetry, drama, or the novel), criticism, language, writing, or American literature. Although not required, the department expects majors to complete a survey or genre course in 20th-century literature. With careful planning, elective courses can be valuable as preparation for a career or advanced literature study. The major paper ideally should be the culmination of a major's study of the English language and English literature, using previously acquired perspectives and analytical skills. Prospective majors should consult the undergraduate adviser as early as possible.

MINOR SEQUENCE

Required Preparatory Course—1009

Minor Requirements—Six 4-cr courses in English or composition at the 3xxx and 5xxx levels (one may be taken S-N). They must include:

- One Shakespeare course (3241, 3242, or 3243)
- Two courses in British or American literature before 1850
- One course in English language or literary criticism
- Two other courses in literature, language, or composition (including creative writing)

A list of courses that may be applied to each of the categories may be obtained in the Undergraduate Studies office. Programs must be approved by the undergraduate adviser.

1009. INTRODUCTION TO THE STUDY OF LITERATURE. (4 cr)

Critical reading of selected literary works with emphasis on basic techniques and terminology of literary study: major literary forms, traditions, and conventions; frames of reference; metrics; conventions of literary criticism and scholarship.

1009H. HONORS COURSE: INTRODUCTION TO THE STUDY OF LITERATURE. (4 cr; prereq permission of English undergrad adviser and English honors adviser)

For description, see 1009.

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.

1017. INTRODUCTION TO MODERN POETRY. (4 cr)

Critical discussion of and writing about selected modern poems. Typical authors: Yeats, Eliot, Auden, Thomas, Stevens, Cummings, Moore.

1018. INTRODUCTION TO MODERN FICTION. (4 cr)

Critical discussion of and writing about selected modern novels and stories. Typical authors: Conrad, Lawrence, Joyce, Woolf, Hemingway, Faulkner, Nabokov.

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.

1020 or 1030. INTRODUCTION TO LITERATURE: TOPICS

Topics specified in the *Class Schedule*; course descriptions available before registration from the Undergraduate Studies office.

1241. INTRODUCTION TO SHAKESPEARE. (4 cr)

Lecture survey of Shakespeare's work, treating approximately 10 plays. For students in all colleges of the University.

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, Welty, Faulkner.

3111, 3112, 3113. SURVEY OF ENGLISH LITERATURE. (4 cr per qtr)

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 Browning.

- 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*.
- 3116. THE RENAISSANCE.** (4 cr)
Major and representative works of the Renaissance (1485-1660). Typical authors: More, Sidney, Spenser, Shakespeare, Donne, Milton.
- 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.
- 3118. THE ROMANTIC AGE.** (4 cr)
Major and representative works of the romantic period (1798-1832). Typical authors: Blake, Wordsworth, Coleridge, Byron, Shelley, Keats.
- 3119. THE VICTORIAN AGE.** (4 cr)
Major and representative works of the Victorian period (1832-1901). Typical authors: Tennyson, Browning, Hopkins, Arnold, Dickens, the Brontës.
- 3238. THE EUROPEAN RENAISSANCE IN ENGLAND.** (4 cr)
Masterpieces of Elizabethan literature compared with works by continental figures such as Ariosto, Erasmus, Michelangelo, Cervantes.
- 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 three or four others. 3242: Plays from the middle and late periods. All sections read *King Lear*, *Macbeth*, *The Tempest*, and three or four others.
- 3243. SHAKESPEARE: MAJOR AND REPRESENTATIVE PLAYS.** (8 cr, §3241, §3242; two consecutive meetings two or three times per wk)
Concentrated study of approximately 13 plays, including those required in 3241 and 3242.
- 3247. SPENSER.** (4 cr)
Readings in *The Faerie Queene*; minor poems.
- 3251, 3252. THE KING JAMES BIBLE AS LITERATURE.** (4 cr per qtr)
3251: The Old Testament and literary tradition. The historical narratives, prophets, psalms, and wisdom literature. 3252: The Book of Daniel, the Apocrypha, the New Testament as documents in the history of literature.
- 3283. JONATHAN SWIFT.** (4 cr)
- 3355, 3356, 3357. MODERN BRITISH LITERATURE.** (4 cr per qtr)
Historical survey of important authors, intellectual currents, movements, conventions, genres, and themes. 3355: 1885-1914. Typical authors: Hopkins, Housman, Hardy, Wells, Bennett, Conrad, Shaw, Synge, and early Yeats. 3356: 1914-1939. Typical authors: later Yeats, Eliot, Woolf, Joyce, Lawrence, Huxley, Waugh, Auden, and Thomas. 3357: 1939-1975. Typical authors: Cary, Greene, Murdoch, Fowles, Beckett, Osborne, Pinter, Stoppard, Hughes, and Larkin.
- 3390. MAJOR BRITISH WRITERS.** (4 cr per qtr [12 cr max])
One, two, or three major writers, as specified in the *Class Schedule*. Typical figures: Donne, Pope, Austen, Wordsworth, Dickens, Woolf, Lawrence.
- 3410. MAJOR AMERICAN WRITERS.** (4 cr per qtr [12 cr max])
One, two, or three major and representative writers, as specified in the *Class Schedule*. Typical figures: Poe, Whitman, Dickinson, Twain, Crane, Frost, Cather, Fitzgerald, Faulkner.
- 3411, 3412, 3413. SURVEY OF AMERICAN LITERATURE.** (4 cr per qtr)
Historical survey of important authors, intellectual currents, movements, conventions, genres, and themes. Lecture course, with wide reading. 3411: Beginnings through Hawthorne (to 1850). 3412: Thoreau and Melville through James (1850-1900). 3413: Stephen Crane through World War II (1900-1945).
- 3455. AMERICAN SHORT STORY.** (4 cr)
Typical authors: Irving, Poe, Hawthorne, Twain, Crane, Cather, Faulkner, Welty, Bellow.
- 3481. AMERICAN FOLKLORE.** (4 cr)
Regional, occupational, and ethnic traditions of the United States; the diversity and "American" qualities of expressive traditional folk behavior.
- 3631. SATIRE.** (4 cr)
The satiric tradition in English and American literature; the motives for and uses, techniques, varieties, and results of satire.
- 3635. AUTOBIOGRAPHY.** (4 cr)
Introduction to autobiography as a literary form; its history, purposes, techniques, and variety. Deals with five or more well-known examples of the genre.

Major Requirements and Course Descriptions

- 3710. TOPICS IN LITERARY CRITICISM.** (4 or per qtr [12 or max])
Topics specified in the *Class Schedule*.
- 3718. PRACTICAL CRITICISM.** (4 cr; prereq 1009 or equiv, two literature courses or Δ)
The practice of literary criticism examined through class discussion and writing of papers on works of English and American literature; some attention to critical techniques, approaches, and terminology.
- 3851. THE ENGLISH LANGUAGE.** (4 cr, §5851)
Introduction to the English language including English grammars, phonetics and phonology, British and American dialects, and native-language acquisition.
- 3852. ASPECTS OF THE ENGLISH LANGUAGE.** (4 or)
Introduction to phonetics, morphology, syntax, speech acts, regional and social varieties of English, and application of linguistics to analysis of specific literary texts.
- 3910 or 3920. TOPICS IN ENGLISH AND AMERICAN LITERATURE.** (4 cr per qtr)
Topics specified in the *Class Schedule*.
- 3910H or 3920H. HONORS COURSE: TOPICS IN ENGLISH AND AMERICAN LITERATURE.** (4 or per qtr; prereq consent of English undergrad adviser and English honors adviser)
Topics specified in the *Class Schedule*.
- 3931-3932. ENGLISH QUARTER.** (8 cr per course; both courses are taken in 1 qtr; prereq Δ)
Study of a broad topic of literary investigation crossing and integrating several areas of study. Team taught.
- 3940 or 3950. FIGURES IN ENGLISH AND AMERICAN LITERATURE.** (4 or per qtr)
Figures specified in the *Class Schedule*.
- 3940H or 3950H. HONORS COURSE: FIGURES IN ENGLISH AND AMERICAN LITERATURE.** (4 cr per qtr; prereq consent of English undergrad adviser and English honors adviser)
Figures specified in the *Class Schedule*.
- 3960. JUNIOR-SENIOR SEMINAR.** (4 cr per qtr; prereq consent of director of undergrad studies)
Intensive study of a major literary topic, figure, period, or genre. Designed primarily for majors and honors candidates in English. Topic specified in *Class Schedule*.
- 3960H. HONORS COURSE: JUNIOR-SENIOR SEMINAR.** (4 cr per qtr; prereq consent of director of undergrad studies)
For description, see 3960.
- 3963. HONORS THESIS.** (4 or; prereq honors candidacy in English and consent of English honors adviser)
- 3970. DIRECTED STUDIES.** (1-15 or per qtr; prereq #)
Guided individual reading or study.
- 3980. DIRECTED INSTRUCTION.** (Cr ar; prereq #)
- 5151. 18TH-CENTURY ENGLISH NOVEL.** (4 or)
Novels by such authors as Defoe, Richardson, Fielding, Smollett, Sterne, and Austen.
- 5152. 19TH-CENTURY ENGLISH NOVEL.** (4 or)
Novels by such authors as Scott, Dickens, the Brontës, Thackeray, Eliot, and Hardy.
- 5153. 20TH-CENTURY ENGLISH NOVEL.** (4 cr)
Novels by such authors as Conrad, Ford, Joyce, Woolf, Lawrence, Forster, Cary, and Waugh.
- 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, and Peele.
- 5172. JACOBEAN AND CAROLINE DRAMA.** (4 cr; prereq 3241 or 3242)
Plays of Jonson, Tourneur, Webster, Middleton, Ford, and others.
- 5173. RESTORATION AND 18TH-CENTURY DRAMA.** (4 or; prereq 3241 or 3242)
The heroic play, tragedy, comedy of manners, sentimental comedy.
- 5174. MODERN DRAMA, 1880-1920.** (4 cr)
Beginnings of modern realism, naturalism, and expressionism in English and continental drama.
- 5175. MODERN DRAMA SINCE 1920.** (4 cr)
Chief dramatists, English, American, and continental.
- 5211. OLD ENGLISH (ANGLO-SAXON).** (5 cr)
The language to 1150. Readings in prose and poetry. The culture of the Anglo-Saxons.
- 5212. READINGS IN OLD ENGLISH PROSE AND VERSE.** (4 or; prereq 5211)
Critical reading of texts; introduction to versification.
- 5213. BEOWULF.** (4 cr; prereq 5211)
Reading of considerable portions of text.

- 5215. MAJOR TYPES OF MIDDLE ENGLISH LITERATURE.** (4 or; prereq 5221)
Middle English readings in romance, lyric, allegory, and devotional prose.
- 5216. MAJOR 14TH-CENTURY POETS.** (4 cr; prereq 5221)
Readings in Gower, Langland, and the Pearl-poet.
- 5221. CHAUCER I: THE CANTERBURY TALES.** (5 cr)
Reading *The Canterbury Tales*; Chaucer's language. Prerequisite to all other courses in Middle English literature (5215—5222).
- 5222. CHAUCER II: TROILUS AND CRISEYDE.** (4 or; prereq 5221 or equiv)
Troilus and selections from the shorter poems.
- 5230. SPECIALIZED STUDIES IN RENAISSANCE LITERATURE AND CULTURE.** (4 or per qtr)
Topics specified in the *Class Schedule*.
- 5233. TUDOR AND ELIZABETHAN POETRY.** (4 or)
Such 16th-century poets as Wyatt, Surrey, Spenser, Sidney, Shakespeare, Greville.
- 5240. ADVANCED SHAKESPEARE.** (4 or per qtr [12 or max]); prereq 3241, 3242, or 3243 or #)
Intensive study of a few works, extensive readings on particular topics. Course content varies with the term and instructor.
- 5255, 5256. 17TH-CENTURY PROSE AND POETRY TO 1660.** (4 or per qtr)
5255: Bacon and Jonson to Burton and Herrick. 5256: Herbert and Browne to Marvell and Feltham.
- 5258. METAPHYSICAL AND CAVALIER POETRY.** (4 cr)
Selected poems by John Donne, Ben Jonson, and their successors in the 17th century (e.g., Herbert and Marvell, Herrick and Suckling).
- 5261. MILTON.** (4 or)
Paradise Lost, *Samson Agonistes*, minor poems, *Areopagitica*, and often *Paradise Regained*.
- 5280. MAJOR RESTORATION AND 18TH-CENTURY WRITERS.** (4 or per qtr [12 or max])
Authors vary, as specified in the *Class Schedule*.
- 5311, 5312, 5313. ROMANTIC WRITERS.** (4 or per qtr)
One, two, or three writers examined each quarter, as specified in the *Class Schedule*.
- 5331, 5332, 5333. VICTORIAN STUDIES.** (4 or per qtr)
The impact of revolutionary changes—social, religious, technological, aesthetic—upon English Victorian culture (1830-1900) as evidenced in the works of such writers as Dickens, Tennyson, Carlyle, Ruskin, Browning, Arnold, and Hardy. For individual authors covered, see the *Class Schedule*.
- 5351. 20TH-CENTURY BRITISH POETRY.** (4 or)
Major figures: historical and intellectual background; poetic theory. Includes such figures as Hardy, Housman, Hopkins, Yeats, Eliot, Auden, Thomas, Larkin, and Hughes.
- 5354. CONTEMPORARY BRITISH LITERATURE.** (4 or)
Important authors, intellectual currents, movements, conventions, genres, and themes since 1950.
- 5361. W. B. YEATS.** (4 or)
- 5363, 5364. JAMES JOYCE.** (4 or 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 *Finnegans Wake*.
- 5365. T. S. ELIOT.** (4 or)
- 5414. CONTEMPORARY AMERICAN LITERATURE.** (4 or)
Important authors, intellectual currents, movements, conventions, genres, and themes since 1940.
- 5431, 5432. AMERICAN POETRY.** (4 or per qtr)
Major figures; historical and intellectual background; poetic theory. 5431: Beginnings to 1890. Typical authors: Taylor, Poe, Whitman, Bryant, Dickinson. 5432: Since 1890. Typical authors: Frost, Stevens, Pound, Eliot, Moore, Williams.
- 5451, 5452. AMERICAN NOVEL.** (4 or per qtr)
5451: Through the 19th century. Typical authors: Cooper, Hawthorne, Melville, Stowe, Twain, James. 5452: Late 19th and 20th centuries. Typical authors: James, Dreiser, Cather, Hemingway, Fitzgerald, Faulkner.
- 5471. AMERICAN DRAMA.** (4 or)
American drama from 1914 to present; representative American plays of the 18th, 19th, and early 20th centuries. Emphasis on plays since 1914.
- 5481, 5482, 5483. FOLKLORE.** (4 or 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. Folk customs, festivals, heroes, humor and medicine. 5483: Training in collection of folklore materials.

Major Requirements and Course Descriptions

- 5486, 5487. ANGLO- AND AFRO-AMERICAN FOLKSONG.** (4 cr per qtr; prereq 5486 or # for 5487)
5486: Basic elements of the folksong with emphasis on how the folksong changes over time and space; concentration on such genres as ballads, blues, broadsides, lyrics, and sentimental and topical songs. 5487: How Anglo-American and Afro-American folksong influenced one another and, ultimately, the "folksong revival."
- 5513, 5514. EARLY AMERICAN LITERATURE.** (4 cr per qtr)
5513: To the Revolutionary period. 5514: The Revolutionary period through the first third of the 19th century.
- 5530. EARLY 19TH-CENTURY AMERICAN WRITERS.** (4 cr per qtr [12 cr max])
One, two, or three major and representative figures, as specified in the *Class Schedule*. Typical figures: Hawthorne, Emerson, Poe, Melville, Thoreau.
- 5540. LATE 19TH-CENTURY AMERICAN WRITERS.** (4 cr per qtr [12 cr max])
One, two, or three major and representative figures, as specified in the *Class Schedule*. Typical figures: Whitman, Dickinson, Twain, James, Howells, Crane.
- 5593. BLACK WRITERS OF THE UNITED STATES.** (4 cr)
Prose, poetry, and drama, with emphasis on writers of the 20th century.
- 5596. BLACK POETRY, 1746-1939.** (4 cr, §Afro 5596)
Phyllis Wheatley, Jupiter Hammon, Frances Harper, Paul Laurence Dunbar, Claude McKay, Countee Cullen, Jean Toomer, James Weldon Johnson, Langston Hughes, and Sterling Brown.
- 5597. CONTEMPORARY BLACK POETRY.** (4 cr, §Afro 5597)
Afro-American poetry since 1939: Langston Hughes, Melvin Tolson, Robert Hayden, Gwendolyn Brooks, Amiri Baraka, Don Lee, Nikki Giovanni, Sonia Sanchez, and the "last poets."
- 5610. 20TH-CENTURY WRITERS.** (4 cr per qtr)
Authors specified in the *Class Schedule*.
- 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 the *Class Schedule*.
- 5632. ROMANTIC TRADITION.** (4 cr)
Writers of the romantic period and of the 18th or 20th centuries. The evolution of romanticism or its continuation into the 20th century.
- 5651, 5652. TECHNIQUES OF POETRY.** (4 cr per qtr)
5651: Form and sound; meter, stanza, euphony, free verse. 5652: Figurative language, diction, syntax, imagery, metaphor.
- 5671. THEORY OF THE NOVEL.** (4 cr)
Readings in theoretical criticism of the novel with application to selected British and American fiction.
- 5672. TECHNIQUES OF THE MODERN AND CONTEMPORARY NOVEL.** (4 cr)
Readings in works of such writers as Joyce, Woolf, Faulkner, Nabokov, Pynchon, Barth, and, occasionally, European or Latin-American writers.
- 5691, 5692, 5693. FORM AND IDEA IN DRAMATIC LITERATURE.** (4 cr per qtr; 3241 and 3242 recommended)
Dramatic types, in chronological sequence; analytical reading of representative plays. 5691: Tragic and religious drama (classical, medieval, Renaissance, and modern); theories of tragedy. 5692: Comedy (classical, Renaissance, and modern); theories of comedy. 5693: Experimental and nonrealistic drama.
- 5711. CLASSICS OF LITERARY CRITICISM.** (4 cr)
Major works in the classic critical tradition. Aristotle and Coleridge and such authors as Plato, Horace, Longinus, Sidney, Dryden, Johnson, Hume, and Eliot.
- 5712. LITERARY CRITICISM: PLATO TO DRYDEN.** (4 cr)
Basic texts in Greek and Roman criticism, in English translation; their original meanings and their influence on later tradition. Representative texts of English neoclassical criticism up to 1700.
- 5713. LITERARY CRITICISM: POPE TO ELIOT.** (4 cr; prereq 5712 or #)
English and American criticism from 1700 to the modern period.
- 5714. MODERN AND CONTEMPORARY CRITICAL THEORY.** (4 cr)
Modern and "postmodern" literary criticism—contemporary movements, theory, and practice.
- 5753. LITERATURE AND THE OTHER ARTS.** (4 cr)
Informal exploration of relationships of literature to theatre, music, painting, sculpture, and architecture: how they influence one another and how their aesthetic and social roles are similar and different. Readings in English and American literature and in aesthetic theory; recordings; gallery visits.
- 5815. HISTORY OF ENGLISH LANGUAGE.** (4 cr)
Development of the English language from Old to Early Modern English: phonology, morphology, and syntax.

- 5821. OLD AND MIDDLE ENGLISH DIALECTS.** (4 cr; prereq 5851 or #)
Dialect differentiation in Old and/or Middle English, based on phonemic-graphemic theory with some attention to generative theory; close textual analysis of dialect examples.
- 5831. AMERICAN ENGLISH.** (4 cr)
History of the English language in the United States; significant regional variation.
- 5843. AMERICAN SOCIAL DIALECTS.** (4 cr)
Methods for and results of investigating social and class variation in American English; urban dialects.
- 5851. STRUCTURE OF MODERN ENGLISH.** (4 cr, §3851)
Modern English grammar: phonology, syntax, and semantics; variations and change.
- 5860. STUDIES IN THE ENGLISH LANGUAGE.** (4 cr per qtr; prereq 5851 or #)
Topic (English phonology, syntax, or semantics) specified in the *Class Schedule*.
- 5871. THE LANGUAGE OF LITERATURE.** (4 cr)
The place of linguistic analysis in a theory of literary criticism; stylistic analysis in Europe and America since 1920; theories of linguistic description relevant to critical analysis; applications to texts in prose and poetry.
- 5876. GRAMMAR AND RHETORIC.** (4 cr)
Relationship between competence in English (described by a grammar—a syntax and semantics—of English) and effective performance (described by a rhetoric of English).
- 5910 or 5920. TOPICS IN ENGLISH AND AMERICAN LITERATURE.** (4 cr per qtr)
Topics specified in the *Class Schedule*.
- 5940 or 5950. FIGURES IN ENGLISH AND AMERICAN LITERATURE.** (4 cr per qtr)
Figures specified in the *Class Schedule*.

ENGLISH COMPOSITION (Comp)

The College of Liberal Arts and most other colleges of the University require all students to satisfy a writing practice requirement and to complete a 3xxx-level course in their junior or senior year.

Writing Practice Requirement—Students fulfill this requirement through successful completion of Comp 1011 or 1012. 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—To register for any writing practice course, you must present a Memorandum on Placement, which notes assignment, on the basis of tests and other factors, to one of the following categories:

Category 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-level requirement.

Category 2—Must take Comp 1011 or 1012.

Category 3—Must take Comp 1011.

Category 4—Must complete Comp 0011 before taking Comp 1011.

Category 5—Must register for Comp 1011 pending receipt of information necessary for assignment to another category (results of placement test, for example). Students may be referred for testing.

Concurrent Registration—Concurrent registration in a writing practice and an intermediate or advanced composition course is not permitted.

Transfer Students—Transfer students who have completed two 3-quarter-credit composition courses, or one 3-semester-credit composition course with a grade of A, at another institution are exempt from the writing practice requirement. Transfer students should consult their advisers about obtaining transfer credit, selecting appropriate courses, or referral for testing.

Major Requirements and Course Descriptions

Students exempted from a freshman composition requirement at another college should consult the *Composition office, 209 Lind*, for evaluation.

Students who entered the University before fall 1982 and have not completed the old composition requirement should consult their advisers about selecting appropriate courses.

Upper-Level Writing Course (3011—3085)—Students in most colleges and CLA departments must complete one 3xxx-level 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 will be advised to take an intermediate-level course or to go to the Writing Service to gain additional experience.

Students absent the first day will lose their places in class. Permission of the Program in Composition is required to register after the first class.

Creative writing courses may not be used to fulfill either the writing practice or the upper-level requirement.

International Students—Special sections of composition designed for international students are listed in the *Class Schedule* under English Composition with the designation "ESL only." Questions regarding English placement should be directed to the Program in English as a Second Language, 152 Klaeber Court.

Writing Service—The Program in Composition offers individual instruction without charge to all University students. Students who wish to develop their writing skills are invited to consult the service; faculty members in any department may advise their students to do so. Further information is available in the Composition office, 209 Lind Hall.

Creative Writing—The Program in Composition offers a full selection of creative writing courses for beginning, intermediate, and advanced writers. See descriptions below for 1101, 1104, 3101 and 3104, and 5101, 5102, 5103, 5104, 5105, 5106.

Changes in the various composition requirements may be made subsequent to the publication of this bulletin. Consult the Composition office.

0011. PREPARATION FOR WRITING PRACTICE. (No cr; S-N only; prereq assignment to Category 4...# after 1st day of class)

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.

1011. WRITING PRACTICE I. (5 cr; prereq assignment to Category 2 or 3; students must register for a MWF section and for TTh workshop)

Guided practice in solving writers' problems: defining purpose, organizing and developing content, analyzing audience, drafting the whole essay and its parts, and revising and editing to master fundamentals of expository structure and style. Workshops on basic skills, syntactic fluency, and editing.

1012. WRITING PRACTICE AND LITERATURE. (4 cr; prereq assignment to Category 2)

Essentially the same as 1011, except that literature serves as basis for discussion and writing assignments. Not an introduction to literature or literary studies. No required workshops.

1013. WRITING PRACTICE II. (1-4 cr; S-N only; prereq grade of X in 1011 or 1012)

Intensive work on individual writing problems. Number of credits and curriculum determined by assessment. Students should register for four credits.

1027. INTERMEDIATE EXPOSITORY WRITING. (4 cr; prereq fulfillment of writing practice requirement...students who matriculated before fall 1982 must have completed 1001, Comm 1001 or equiv)

Mastery of expository forms (e.g., comparison, analysis, evaluation); control of tone and diction to achieve a clear, accurate style.

1101. INTRODUCTION TO FICTION WRITING. (4 or per qtr; prereq fulfillment of writing practice requirement)

Principles of composition in the art of fiction.

- 1104. INTRODUCTION TO POETRY WRITING.** (4 cr per qtr; prereq fulfillment of writing practice requirement)
Workshop for beginning students. Discussion of student poems, numerous assignments, formal experiments. No manuscript prerequisite.
- 3011. WRITING ABOUT LITERATURE.** (4 cr; prereq fulfillment of writing practice requirement, jr, written permission of major adviser)
Developing a critical argument about literary texts (novels, poems, plays) with attention to use of secondary sources. Experiments with different modes of explication and criticism.
- 3012. WRITING ABOUT NONFICTION TEXTS.** (4 cr; prereq fulfillment of writing practice requirement, jr, written permission of major adviser)
Effective analysis and argument including proper ways to present and paraphrase texts from such fields as philosophy, history, social work, and anthropology. May include a long research paper.
- 3013. WRITING FOR ARTS OTHER THAN LITERATURE.** (4 cr; prereq fulfillment of writing practice requirement, jr, written permission of major adviser)
Description of painting, sculpture, music, and other art forms as basis for analysis and generalization. Includes reviews and criticism, and use of others' commentaries on the arts.
- 3014. WRITING FOR THE QUANTITATIVE SOCIAL SCIENCES.** (4 cr; prereq fulfillment of writing practice requirement, jr, written permission of major adviser)
Developing strategies for expressing quantitative and statistical information in clear prose, and exercises in effective ways to describe individual case histories. Includes analysis of complex situations and institutions.
- 3015. WRITING ABOUT SCIENCE.** (4 cr; prereq fulfillment of writing practice requirement, jr, written permission of major adviser)
Presentation of problems in science and mathematics in clear expository prose. Includes writing for expert and nonexpert audiences. Emphasis on how to effectively integrate theoretical explanations and empirical evidence.
- 3027. ADVANCED EXPOSITORY WRITING.** (4 cr; prereq fulfillment of writing practice requirement, jr, written permission of major adviser)
Introduction to narration, description, proof, and persuasion; proper framing of arguments and analysis; use and evaluation of sources for longer papers.
- 3031. TECHNICAL WRITING FOR ENGINEERS.** (4 cr; prereq fulfillment of writing practice requirement, jr, permission of major adviser)
Focus on form and style of technical engineering writing in reports, documentation, and correspondence. Exercises and practical examples, tied as much as possible to students' major fields.
- 3032. PREPROFESSIONAL WRITING FOR BUSINESS.** (4 cr; prereq fulfillment of writing practice requirement, jr, permission of major adviser)
Focus on rhetoric, form, and style of business writing in reports, case studies, and correspondence. Exercises and practical examples, tied as much as possible to students' major fields.
- 3050. TOPICS IN ADVANCED COMPOSITION.** (4 cr per qtr [12 or 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*.
- 3080. SPECIAL PROJECTS IN ADVANCED COMPOSITION.** (2 cr per qtr [6 or max]; S-N only; prereq fulfillment of writing practice requirement, jr, permission of major adviser, Δ)
Writing conferences for individual students, in cooperation with their major departments.
- 3085. CONFERENCE COURSE IN ADVANCED COMPOSITION.** (1-4 cr; prereq fulfillment of writing practice requirement, jr, permission of major adviser, Δ)
Writing conferences for individual students; lectures and discussion sessions, in cooperation with students' major departments.
- 3101. INTERMEDIATE FICTION WRITING.** (4 cr; prereq #)
For those with some experience in writing fiction. Discussion of students' works, and set texts, assignments, and experiments.
- 3104. INTERMEDIATE POETRY WRITING.** (4 cr)
For those with some experience in writing poetry. Discussion of students' works, and set texts, assignments, and experiments.
- 5100. ADVANCED NONFICTION WRITING.** (4 cr per qtr [16 cr max]; prereq Δ)
For students with experience in nonfiction writing. Topics include the critical review; the essay as a literary form; copy editing; technical editing and writing. Topics announced in the *Class Schedule*.
- 5101, 5102, 5103. ADVANCED FICTION WRITING.** (4 cr per qtr; S-N only; prereq #)
For students with considerable experience in writing fiction.
- 5104, 5105, 5106. ADVANCED POETRY WRITING.** (4 cr per qtr; S-N only; prereq #)
For students with considerable experience in writing poetry.
- 5970. DIRECTED STUDY IN WRITING.** (1-4 cr; prereq #)
Projects in writing poetry, fiction, drama, and nonfiction, or study of ways to improve writing.

Major Requirements and Course Descriptions

ENGLISH AS A SECOND LANGUAGE

See Linguistics.

FINNISH

See Scandinavian.

Foreign Study (FoSt)

Coordinator, Chip Peterson, 1246 Social Sciences Building (373-2691)

You can earn academic credit applicable toward a CLA degree, or toward a minor in foreign study, for a wide variety of study abroad experiences. Some study opportunities carry University residence credit, but students also are encouraged to consider non-University opportunities before choosing a particular experience.

Advising—Two offices play major roles in study abroad advising. For help in selecting a study abroad opportunity, you should request an appointment at the International Study and Travel Center (ISTC), 44 Coffman Memorial Union, 373-0180, and consult the large collection of brochures and catalogs available in the ISTC library. For advice concerning academic aspects of study abroad—e.g., obtaining credit, relating foreign study to your University program of study, or completing a foreign studies minor (see below)—you should request an appointment at the Foreign Studies Office, 1246 Social Sciences Building, 373-2691, and consult the appropriate academic department. You are encouraged to plan as far in advance as possible to avoid problems in meeting application deadlines, financial aid timetables, and predeparture course requirements.

MINOR SEQUENCE

Minor Requirements—Spch 3451 and 3452

Minimum of 10 weeks of study for academic credit in a foreign country

23 cr in a foreign language appropriate to the country of study

15 3xxx-5xxx cr in course work focusing on the country or countries of study; at least one course must be in humanities and one in social science

The foreign studies minor is designed to help students integrate their study abroad with supporting University course work. Several of the required courses should be taken before departure for the study abroad, so careful advance planning is essential. A more detailed explanation of requirements and a list of suggested courses are available in the Foreign Studies office. For admission to the minor, students must file an application form, which is available in the Foreign Studies office.

PROGRAMS OFFERED BY CLA DEPARTMENTS

Several CLA departments sponsor study abroad programs for which students receive residence credit. To participate in these programs, you register for three or four approved CLA courses. Those programs offered annually appear on the following list. Most are administered by the Extension Classes Office of Study Abroad (ECOSA), 202 Wesbrook Hall, 376-5049; direct inquiries to this office. Information about these programs as well as other special offerings can be obtained at ISTC.

SPANISH IN CUERNAVACA. (12-14 cr; prereq #)

Winter quarter in Cuernavaca, Mexico, cosponsored by Department of Spanish and Portuguese and ECOSA; led by University of Minnesota faculty. Intensive language instruction, culture study, and field trips. Home stay experience. Fulfills Route II requirements.

STUDIO ARTS IN MEXICO. (11-13 cr; prereq #)

Winter quarter in Cuernavaca, Mexico, cosponsored by Department of Studio Arts and ECOSA; led by University of Minnesota faculty. Pre-Hispanic and contemporary Mexican folk art provides source material for studio arts studies. Spanish language instruction. Fulfills Route II requirements. Graduate credit available.

LITERATURE IN LONDON. (12-16 cr; prereq #)

Spring quarter in London, England, cosponsored by Department of English, Department of Theatre Arts, and ECOSA; led by University of Minnesota faculty. Historical, geographical, and cultural perspectives on study of literature and drama. Graduate credit available.

SWEDISH IN VÄXJÖ. (12-16 cr; prereq #)

Spring quarter in Växjö, Sweden, cosponsored by Department of Scandinavian and ECOSA; led by University of Minnesota faculty. Intensive language instruction, culture study, and field trips. Fulfills Route II requirements.

FRENCH LANGUAGE/CULTURE PROGRAM IN FRANCE. (12-16 cr; prereq #)

Spring quarter in France, cosponsored by Department of French and Italian and ECOSA; led by University of Minnesota faculty. Intensive language instruction, culture courses, and field trips. Fulfills Route II requirements.

HEBREW ULPAN IN ISRAEL. (15 cr; prereq #)

Summer program of intensive language instruction while living, working on an Israeli kibbutz. Cosponsored by Program in Ancient Near Eastern and Jewish Studies and ECOSA; led by University of Minnesota faculty. Includes day-long field trips and one-week tour of Israel.

MINNESOTA IN MUNICH SUMMER SESSION. (8 cr; prereq 1104 or 4 qtrs of German, #)

Five-week summer program for intermediate and advanced students of German and for German teachers. Conversation and composition on different levels, contemporary German, modern literature. Residence with Munich families. Led by University of Minnesota and Munich faculty.

SUMMER INTENSIVE CHINESE LANGUAGE INSTITUTE. (5-15 cr; prereq #)

Summer study of second, third, or fourth year Chinese at Nankai University, Tianjin, People's Republic of China. Optional two-week tour following institute. Possibility of continuing study during academic year, subject to Nankai approval.

CIEE PROGRAMS COSPONSORED BY CLA DEPARTMENTS

Several CLA language departments actively contribute to the governance of study abroad programs sponsored by the Council on International Educational Exchange (CIEE). To participate in these programs for residence credit, you register for existing CLA courses comparable to those to be taken abroad. Inquiries should be directed to the appropriate language department.

CIEE LANGUAGE/CULTURE PROGRAM IN BRITTANY. (20-48 cr; prereq #)

Semester or year of study in Rennes, Brittany, France, with emphasis on French language, literature, and civilization. Opportunities to take courses in other disciplines at University of Haute Bretagne for students with advanced language skills.

CIEE CONTEMPORARY FILM PROGRAM IN PARIS. (18-54 cr; prereq #)

Semester or year of study in film criticism and/or history with French faculty. Structural analysis, modern institutions and media, study/criticism of European and American film. Remedial courses in French available. Advanced students also may take courses at Paris universities.

CIEE LANGUAGE/CULTURE PROGRAM, SEVILLE, SPAIN. (18-50 cr; prereq #)

Semester or year of study at University of Seville under supervision of a CIEE director; preceded by one-month, on-site, intensive language practice. Courses taught in Spanish by Seville faculty. Wide range of offerings in social sciences, art history, Spanish language and literature.

CIEE LANGUAGE/CULTURE PROGRAM IN CÁDIZ, SPAIN. (18-25 cr; prereq #)

Semester of study available in fall or spring at University of Cádiz under supervision of a CIEE director. For students seeking Spanish language proficiency. Includes three structured language courses and two or three culture courses using some English texts.

CIEE SUMMER RUSSIAN PROGRAM IN LENINGRAD. (12 cr; prereq #)

Six weeks of intensive language study at Leningrad University, with lectures on literature and culture, excursions, and a two-week field trip to other parts of USSR. Instruction by Soviet professors with on-site coordination by CIEE director.

CIEE LANGUAGE/CULTURE SEMESTER IN LENINGRAD. (20-30 cr; prereq #)

Fourteen weeks of intensive language study at Leningrad University, with lectures on literature and culture, excursions, and an 11-day field trip to other parts of USSR. Instruction by Soviet professors with on-site coordination by CIEE director. Available fall or spring.

CIEE SOVIET STUDIES YEAR IN LENINGRAD. (36-54 cr; prereq #)

Academic year in regular Leningrad University classes, taught in Russian, in social sciences or language/literature. Includes special project and research paper, special program of advanced Russian language instruction, excursions, and two-week field trip to other parts of USSR.

Major Requirements and Course Descriptions

PROGRAMS COSPONSORED BY CLA THROUGH THE FOREIGN STUDIES PROGRAM

Through the courses below, you can receive residence credit for a number of study abroad programs sponsored by the Higher Education Consortium for Urban Affairs (HECUA), the Institute of European Studies (IES), and the University of Kansas, as well as for exchange study at the University of Essex, England. Inquiries concerning all these programs should be directed to the Foreign Studies Office, 1246 Social Sciences, 373-2691.

- 1110/3110. HECUA SCANDINAVIAN URBAN STUDIES TERM.** (1-24 cr; prereq #)
Study of Scandinavian urban development, planning based in Oslo, Norway. Field trips to Norwegian towns, Scandinavian capitals. Lectures, readings, discussions, structured fieldwork. Courses include independent study and introduction to Norwegian language and culture.
- 1120/3120. HECUA SOUTH AMERICAN URBAN SEMESTER.** (1-24 cr; prereq #)
Semester study of urbanization, development problems based in Bogotá, Colombia. Field trips to other Colombian, Latin American cities. Lectures, readings, discussions, structured field experiences. Course work includes Colombian studies, either independent study or intermediate Spanish language.
- 1210/3210. KANSAS PROGRAM IN COSTA RICA.** (1-54 cr; prereq #)
Semester or year study in regular classes at University of Costa Rica under University of Kansas supervision, preceded by month of on-site orientation. Students may choose among wide range of courses in natural sciences, social sciences, humanities.
- 1220/3220. KANSAS PROGRAM IN ERLANGEN, GERMANY.** (1-54 cr; prereq #)
Semester or year study in regular classes at University of Erlangen (near Nürnberg) under University of Kansas supervision, preceded by month of on-site orientation. Students may choose among wide range of courses in natural sciences, social sciences, humanities.
- 1230/3230. KANSAS PROGRAM IN GREAT BRITAIN.** (1-54 cr; prereq #)
Year study in regular classes at University of Exeter or Reading (England) or at University of Stirling or St. Andrews (Scotland) under University of Kansas supervision. Students may choose among a wide variety of courses in natural sciences, social sciences, humanities.
- 1240/3240. KANSAS PROGRAM IN KOREA.** (1-54 cr; prereq #)
Semester or year study in special classes at Ehwa Women's University, Seoul, in coeducational program sponsored by University of Kansas. Courses include Korean history/society, Korean arts/humanities, intensive language study at all levels, and independent study project.
- 1250/3250. KANSAS PROGRAM AT TSUKUBA UNIVERSITY, JAPAN.** (1-54 cr; prereq #)
Year study of Japanese language and society at Tsukuba University under University of Kansas supervision. Area studies courses in humanities and social sciences may be taken in regular Japanese, simplified Japanese for foreigners, or English, according to student's language skills.
- 1410/3410. IES PROGRAM IN DURHAM, ENGLAND.** (1-45 cr; prereq #)
Year study in regular classes at University of Durham under Institute of European Studies sponsorship. Students may choose among wide range of courses in natural sciences, social sciences, humanities.
- 1420/3420. IES PROGRAM IN LONDON.** (1-54 cr; prereq #)
Semester study at Institute of European Studies London Center. Students choose among three tracks: contemporary European politics and history, economics and public policy, or humanities. Includes tutorial (social sciences) or interdisciplinary colloquia (humanities). Spring internships available to full-year students.
- 1430/3430. IES PROGRAM IN NANTES, FRANCE.** (1-54 cr; prereq #)
Semester or year study in Nantes. Institute of European Studies courses supplemented by opportunities to take regular University of Nantes courses. Wide range of course offerings stress French language, literature, and area studies. Some internships available.
- 1440/3440. IES PROGRAM IN PARIS.** (1-54 cr; prereq #)
Semester or year study in courses offered by Institute of European Studies. Curriculum includes French language and literature, history, political science, economics, art history. Opportunities to take regular courses at Paris universities. Some internships available.
- 1450/3450. IES PROGRAM IN MADRID.** (1-54 cr; prereq #)
Semester or year study in courses offered by Institute of European Studies. Curriculum includes Spanish language and literature, history, and social science studies. Opportunities to take regular University of Madrid courses.
- 1460/3460. IES PROGRAM IN VIENNA.** (1-54 cr; prereq #)
Semester or year study in English at Vienna Center of Institute of European Studies. Curriculum emphasizes arts, East-West studies, business/economics, and required intensive German instruction. Advanced students of German may also take University of Vienna courses. Internships available.

1470/3470. IES PROGRAM IN FREIBURG, GERMANY. (1-54 or; prereq #)

Semester or year study at University of Freiburg, in regular university courses and/or courses in German studies offered by Institute of European Studies. Tutorials available in some fields.

1480/3480. IES EUROPEAN COMMUNITY PROGRAM IN GERMANY. (1-27 or; prereq #)

Semester study in English at Institute of European Studies Freiburg Center. Focuses primarily on economics and politics of contemporary Europe and EEC. Related visits to EEC and enterprises affected by EEC policies. All students also study German language.

1490/3490. IES COMPARATIVE LITERATURE PROGRAM. (1-54 or; prereq #)

Year study of French and European literature, plus elective work, at centers operated by Institute of European Studies: fall semester in Paris, spring in Freiburg or Madrid. Each year's seminar is organized around a different theme. Honors paper required.

1610/3610. EXCHANGE STUDY AT UNIVERSITY OF ESSEX, ENGLAND. (1-54 or; prereq #)

Year study in regular classes at University of Essex, in Colchester, East Anglia. Students may choose among wide range of courses in natural sciences, social sciences, humanities.

RECIPROCAL STUDENT EXCHANGES

The University of Minnesota participates in two special exchange programs permitting students to study for a full year in regular classes at a wide variety of institutions overseas in exchange for allowing international students to spend a corresponding year of study here. Direct inquiries concerning exchanges to the International Study and Travel Center, 44 Coffman Union, 373-0180.

INTERNATIONAL RECIPROCAL STUDENT EXCHANGE PROGRAM. (1-54 transfer or; prereq #)

Academic/cultural exchange providing for year of scholarship-supported study in wide variety of subjects at universities in Germany, Hungary, Malaysia, Nigeria, Norway, Tunisia, or Uruguay. Exchangee must return to Twin Cities for one year. Open to all undergraduate and graduate students.

INTERNATIONAL STUDENT EXCHANGE PROGRAM. (18-54 transfer or; prereq #)

Semester or year of study in regular classes of member universities in Africa, Asia, Middle East, Oceania, Latin America, Europe, Canada. Open to sophomores, juniors, seniors, and graduate students in any field of study, subject to placement and acceptance by host institution.

INDIVIDUALIZED STUDY ABROAD

You may earn credit for study abroad outside the auspices of University programs through several different mechanisms:

1. Participation in a study abroad program sponsored by an accredited American college or university usually is accepted for transfer credit by submitting a transcript to the Office of Admissions and Records.
2. Study at an accredited foreign university, whether as a regular student or in a special program for foreigners, generally is accepted for transfer credit by submitting a transcript to the Office of Admissions and Records. This office often requests evaluation of course materials by a consultant in an appropriate academic department.
3. Study at a foreign institution from which credit is not accepted for transfer directly (such as a language institute) is accepted for credit through special examinations offered by the appropriate University academic department.
4. Independent study options are also available. These require approval of and evaluation by an appropriate University faculty member and should be arranged prior to departure for foreign study.

All students who select a program of individualized study should complete a Foreign Study Checklist, available from ISTC or the Foreign Studies Office, and submit it to the coordinator of foreign studies. This checklist records planning, preparation, and agreements with appropriate instructors in order to insure that students' expectations regarding credit are realistic. Students can maintain their status in the college while abroad, including eligibility to

Major Requirements and Course Descriptions

receive certain kinds of financial aid, by registering for FoSt 0900 or 0910 through the Foreign Studies Office. For more information, see the brochure *Earning Credit Through Foreign Study*, available from ISTC or the Foreign Studies Office, or contact the coordinator of foreign studies.

0900. STUDY ABROAD. (No cr; prereq permission of coordinator of foreign study)
This no-credit registration allows students to maintain full-time status in the college.

0910. STUDY ABROAD. (No cr; prereq permission of coordinator of foreign study)
Same as 0900; for part-time students.

SPAN PROGRAM

Administrative Official, Theofanis Stavrou, 652 and 646 Social Sciences Building; *Coordinator*, Judee Kleffman, 309 Social Sciences Building

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 preparation of a research paper upon return to the campus. Course 5960, the basic SPAN course, is open only to those formally admitted to the program; 3001-3002-3003, offered through Continuing Education and Extension, is open to others, with permission. Students who have earned credit for both courses, upon evaluation of their language proficiency, may use them to meet the Route II language requirement.

3001-3002-3003. LANGUAGE, CULTURE, AND SOCIETY. (5 cr per qtr; prereq SPAN membership or #)
Intensive study of the language, culture, and society of countries to be visited by SPAN groups; a separate section for each country. For further information, call SPAN office, 309 Social Sciences Building (376-5219) or Professor Stavrou (373-2708).

5960. SEMINAR FOR FOREIGN STUDY. (12 cr; apply to SPAN office, 309 Social Sciences Building, 376-5219, in spring 1 yr prior to summer abroad)

Directed field study (SPAN program) in selected foreign countries. Each student studies his or her host country and develops a research project during year preceding summer abroad, and writes comprehensive report upon return.

College of Forestry

CLA students may take up to 16 credits of course work offered by other colleges. The credits may be applied toward CLA degrees, but may not be used to fulfill group distribution requirements. Descriptions of courses offered by the College of Forestry can be found in the bulletin of that college.

French and Italian

Staff—*Chair*, F. R. P. Akehurst, 200b Folwell Hall; *Director of Undergraduate Studies*, Joseph Waldauer, 200 Folwell Hall; *Director of Graduate Studies*, Maria Paganini, 200 Folwell Hall

Professors: Akehurst, Conley, Lock, Pipa, Renaud, Schneider, Waldauer

Associate Professors: Paganini, Robinson, Sivert

Assistant Professors: Barnes, Brewer, Caplan, Martinez, Preckshot

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.

Accelerated Sections—Accelerated sections in the Fren and Ital 1101-1102-1103-1104-1105 and Ital 1301-1302 sequences allow highly motivated and qualified students to complete the background requirements and enter advanced courses more rapidly than the usual schedule. Fren 1102-1103 is offered winter quarter and 1104-1105 spring. Ten credits are awarded upon successful completion of each quarter's sequence.

General Education—Fren 3599, 3601, 3602, 3603, 3606, and 3607 are open to all undergraduates, have no prerequisites, and may be applied toward the Route II language requirement. Fren 1202, 1203 are designed to enable students to acquire reading proficiency in two quarters.

Nonspecialist students may profit from the group of Italian literature and civilization courses offered in English (Ital 3555, 5411, 5418, 5559, 5601, 5602, 5603, and 5609), which may be applied toward the Route II language requirement. Basic linguistic proficiency can be acquired either in Ital 1101-1102-1103, in the one-quarter accelerated course Ital 3041, or in the two-quarter course Ital 1301-1302.

French and Italian courses Frit 3590, 3604, 3608, and 5587 have no prerequisites and may be applied to the Route II language requirement.

B.A. MAJOR SEQUENCE—FRENCH

Required Preparatory Courses—1101-1102 (or 1122)-1103; 1104-1105; 3015

Major Requirements—Ten courses above 3015 to include 3016, 3017, 3101, 3102, 3103, three courses from 3209 through 3299; and two additional 3xxx-5xxx courses. Courses 3590, 3599, 3601, 3602, 3603, 3606, 3607, and 5607 may not be applied to 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 Bulletin*.

MINOR SEQUENCE—FRENCH

Minor Requirements—Minimum of four courses, two from group 1 and two from group 2:

1. 3015, 3016, 3017

2. Any 5-cr course between 3017 and 3701 that is acceptable for a major in French

The minor program must be approved by the director of undergraduate studies.

B.A. MAJOR SEQUENCE—ITALIAN

Required Preparatory Courses—1101-1102-1103 or, if eligible, 3041; 1104-1105; 3015

Major Requirements—Ten courses above 3015 to include 3031, 3045, and eight Italian literature and civilization courses

Courses 3555, 3590, 5601, 5602, 5603, and 5609 may not be applied to the Italian major.

MINOR SEQUENCE—ITALIAN

Minor Requirements—Minimum of four courses, two from group 1 and two from group 2:

1. 3015, 3031, 3045

2. Any 5-cr 3xxx or 5xxx course in literature or civilization that is acceptable for a major in Italian

The minor program must be approved by the director of undergraduate studies.

Major Requirements and Course Descriptions

B.A. MAJOR SEQUENCE—FRENCH AND ITALIAN

Required Preparatory Courses—Ital 1101-1102-1103, 1104-1105; Fren 1101-1102-1103, 1104-1105

Major Requirements—Fren 3015, 3101, 3102, 3103; one 3xxx French literature course; Ital 3015; four Italian literature courses to include Ital 3201; Frit 3590 and either Frit 3604 or 3608

FRENCH (Fren)

- 1101-1102-1103f,w,s. BEGINNING FRENCH.** (5 cr per qtr, §1122 for 1102; prereq 1101 within last 3 qtrs for 1102...1:22 or 1102 or 2 yrs high school French for 1103)
Basic listening, speaking, reading, and writing skills. Stress on communicative competence. Some cultural readings. (See Accelerated Sections above and 1122 below.)
- 1104f,w,s. INTERMEDIATE FRENCH.** (5 cr; prereq 1103 or 3 yrs high school French)
Literary and cultural readings. Grammar review and development of writing skills.
- 1105f,w,s. INTERMEDIATE FRENCH.** (5 cr; prereq 1104)
Cultural and literary readings, progressively less structured discussion leading to free expression of ideas through speaking and writing.
- 1122. BEGINNING FRENCH—SPECIAL SECTION.** (5 cr, §1102; prereq 1 yr high school French or student who should begin with 2nd-qr French but has not had 1101 at U of M within last 3 qtrs)
Speaking and understanding French; reading and writing skills; review of grammar and vocabulary of 1101.
- 1202, 1203. READING FRENCH.** (5 cr per qtr; prereq 1101 and #)
1202: Introduction to reading French. 1203: Intermediate and advanced readings
- 3015. FRENCH COMPOSITION AND CONVERSATION.** (5 cr; prereq 1105)
Emphasis on writing, development of communication skills. Based on a consolidation of grammar.
- 3016. ADVANCED FRENCH COMPOSITION AND CONVERSATION.** (5 cr; prereq 3015 or #)
Builds on 3015 with emphasis on aspects of expression and writing. Readings and discussions with attention to different cultural contexts.
- 3017. STYLISTICS THROUGH TRANSLATION.** (5 cr; prereq 3016... or superior achievement in 3015 or #)
Organized around various perspectives: the arts, economics, ecology, politics, sociology.
- 3020. FRENCH COMMUNICATION.** (3 cr per qtr [9 cr max]; prereq 3015)
Intended to increase active command of the language. Recommended for students planning to use the language in a French milieu. Topics change each quarter.
- 3021. PHONETICS AND DICTION.** (2 cr; prereq 3017 or #)
Theoretical background in phonetics as applied to French.
- 3029. ADVANCED CONVERSATION.** (2 cr; prereq 3015)
Emphasizes superior command of oral French. Present-day usage.
- 3101. INTRODUCTION TO FRENCH LITERARY TEXTS: POETRY.** (5 cr; prereq 3015 or equiv)
Approaches to literary analysis and techniques examined through critical reading. Aims beyond, but focuses on, poetry.
- 3102. FRENCH LITERARY TEXTS: THEATRE.** (5 cr; prereq 3101 or equiv)
Approaches to literary analysis and techniques examined through critical reading.
- 3103. FRENCH LITERARY TEXTS: NOVEL.** (5 cr; prereq 3101 or equiv)
Approaches to literary analysis and techniques examined through critical reading.
- 3107. FRENCH LITERARY TEXTS: CINEMA.** (5 cr; prereq 3101 or equiv)
Approaches to film analysis and techniques examined through critical viewings and readings.
- 3209. TOPICS IN MEDIEVAL FRENCH LITERATURE.** (5 cr; prereq 3102, 3103)
Selected texts. Taught in French.
- 3219. TOPICS IN 16TH-CENTURY FRENCH LITERATURE.** (5 cr; prereq 3102, 3103)
Selected texts. Taught in French.
- 3239. TOPICS IN 17TH-CENTURY FRENCH LITERATURE.** (5 cr; prereq 3102, 3103)
Selected texts. Taught in French.
- 3259. TOPICS IN 18TH-CENTURY FRENCH LITERATURE.** (5 cr; prereq 3102, 3103)
Selected texts. Taught in French.

- 3269. TOPICS IN 19TH-CENTURY FRENCH LITERATURE.** (5 or; prereq 3102, 3103)
Selected texts. Taught in French.
- 3289. TOPICS IN 20TH-CENTURY FRENCH LITERATURE.** (5 or; prereq 3102, 3103)
Selected texts. Taught in French.
- 3299. THEMES IN FRENCH LITERATURE.** (5 or; prereq 3102 and 3103)
Literature in relation to other cultural activities, e.g., the arts, philosophy, politics.
- 3501, 3502. FRENCH CIVILIZATION AND CULTURE.** (5 or per qtr; prereq 1105)
French culture; contrasts between French and North American culture. 3501: The pre-Revolutionary period. 3502: Since the 1789 Revolution.
- 3590. TOPICS IN FRENCH AND ITALIAN CIVILIZATION AND CULTURE: RELATED ASPECTS.** (5 or, §Frit 3590, §Ital 3590; prereq reading knowledge of French and Italian)
For description, see Frit 3590.
- 3599. THE CONTEMPORARY SCENE IN FRANCE.** (5 or; knowledge of French helpful but not necessary)
Culture as it has devolved in France since 1955 among various human sciences. Readings.
- 3601, 3602. FRENCH LITERATURE IN ENGLISH TRANSLATION.** (5 or per qtr; knowledge of French helpful but not necessary)
Representative works, from medieval times to present—movements, genres, themes.
- 3603. 20TH-CENTURY FRENCH THEATRE IN TRANSLATION.** (5 cr; knowledge of French helpful but not necessary)
Plays of major 20th-century French dramatists: Apollinaire, Artaud, Cocteau, Giraudoux, Anouilh, Sartre, Camus, Beckett, Genet, Ionesco, and others.
- 3606. CLASSICAL DRAMA IN TRANSLATION: CORNEILLE-MOLIÈRE-RACINE.** (5 cr; knowledge of French helpful but not necessary)
Selected plays examined from literary and theatrical points of view. Doctrinal constraints and the material conditions of the age.
- 3607. CLASSICAL COMEDY: MOLIÈRE IN TRANSLATION.** (5 or, §5443, §5607; knowledge of French helpful but not necessary)
Recurrent themes and techniques, nature of comedy, staging problems.
- 3701. THE DEVELOPMENT OF THE FRENCH LANGUAGE.** (5 or; prereq 3015 or #)
Origins and development of the French language. Selected texts. Present stage and development.
- 3970. DIRECTED STUDIES.** (1-5 or per qtr; prereq undergrad, Δ)
Guided individual reading or study.
- 3980. DIRECTED INSTRUCTION.** (1-5 or per qtr; prereq 3015, #, Δ)
- 5012. STYLISTICS.** (5 or; prereq 3017 or #) Staff
Structural dimensions of literary works, principally as they relate to language. A variety of genres and periods. Taught in French.
- 5017. COMPOSITION ET STYLISTIQUE.** (5 or; prereq 3017 or #)
Translation, imitation, and composition of fiction and nonfiction, prose and poetry, using English and French texts.
- 5207. OLD FRENCH.** (5 or; prereq 3209 or above or #) Akehurst
Preparation for reading medieval French texts in the original.
- 5219. HUMANISM AND ITALIANISM IN THE LITERATURE OF THE 16TH CENTURY.** (5 or, §Frit 5219, §Ital 5219; prereq 3209 or above)
For description, see Frit 5219.
- 5269. FRENCH ROMANTICISM.** (5 or; prereq 3209 or above) Lock, Sivert
Reading of principal theoretical and literary works.
- 5275. HUYSMANS AND VILLIERS DE L'ISLE-ADAM: THE REACTION.** (5 or; prereq 3209 or above) Sivert
Late 19th-century literature: the reaction to realism and naturalism in the works of Huysmans, Villiers de l'Isle-Adam, and others.
- 5281. EARLY 20TH-CENTURY POETRY.** (5 or; 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, Pèret, Breton, Eluard, Aragon.
- 5289. TOPICS IN AFRICAN LITERATURE.** (5 or; prereq 3209 or above) Caplan, Renaud
African values and views of reality compared with "European" values and views through analysis of literary works. Comparison with other arts.
- 5303. MEDIEVAL FRENCH DRAMA.** (5 or; prereq 5207 or #) Akehurst
Medieval French theatre from its origins to the Renaissance.
- 5307. MEDIEVAL FRENCH ALLEGORY AND SATIRE.** (5 or; prereq 5207 or #) Akehurst
Satire and allegory in the French *Fabliaux*, the *Roman de Renart*, and the *Roman de la rose*.

Major Requirements and Course Descriptions

- 5311. RENAISSANCE POETRY BEFORE THE PLÉIÂDE.** (5 cr; prereq 3209 or above) Renaud, Conley
The *grands rhétoriciens*, Lemaire, Marot, Saint-Gelays, Louise Labé, and others; elegy, emblem, *blason*, and *art poétique*.
- 5312. PLÉIÂDE AND BAROQUE.** (5 cr; prereq 3209 or above) Renaud, Conley
Ronsard, Du Bellay, and other poets of the Pléiade; the first baroque poets, including Sponde, Du Bartas, Desportes, Chassignet.
- 5331. FRENCH POETRY FROM D'AUBIGNÉ TO LA FONTAINE.** (5 cr; prereq 3209 or above) Renaud, Conley
Movement from baroque to classicism, studied in the great verse works of the 17th century.
- 5335. THE NOVEL OF THE 17TH CENTURY.** (5 cr; prereq 3209 or above) Renaud
- 5339. SHORT STORIES OF THE 16TH AND 17TH CENTURIES.** (5 cr; prereq 3209 or above) Renaud, Conley
Narrative techniques and variants of short stories in France in 16th and 17th centuries.
- 5354. DRAMA OF THE 18TH CENTURY.** (5 cr; prereq 3209 or above) Waldauer, Caplan
Tragedy, drama, comedy (emphasis on comedy).
- 5355. NOVEL OF THE 18TH CENTURY.** (5 cr; prereq 3209 or above) Waldauer
Emphasis on novels of Marivaux, Diderot, and Laclos.
- 5359. VOYAGERS AND PHILOSOPHES IN THE 18TH CENTURY.** (5 cr; prereq 3209 or above) Caplan
Relationships between voyage literature and the construction of the concept of "man."
- 5367. 19TH-CENTURY DRAMA: MUSSET.** (5 cr; prereq 3209 or above) Sivert
- 5368. SHORT STORIES OF THE 19TH CENTURY.** (5 cr; prereq 3209 or above) Lock, Sivert
From Charles Nodier to Villiers de l'Isle-Adam. (See 5467 for Flaubert.)
- 5380. THE FRENCH NOVEL IN THE 20TH CENTURY.** (5 cr per qtr; prereq 3209 or above) Brewer
Includes prose texts. Novel, essay, short story, philosophical récit, autobiography.
- 5382. VALÉRY AND THE HERITAGE OF SYMBOLISM.** (5 cr; prereq 3209 or above) Preckshot
The poetry of Valéry; sources of his concept of poetry.
- 5383. 20TH-CENTURY FRENCH DRAMA TO EXISTENTIALISM.** (5 cr; prereq 3209 or above) Staff
Main trends, themes, and dramatic theories (surrealist, existentialist, contemporary theatre).
- 5385. ART AND LITERATURE.** (5 cr; prereq 3209 or above) Staff
The relationship among literary texts, aesthetics, semiologies, and the plastic arts.
- 5391. RECENT FRENCH POETRY.** (5 cr; prereq 3209 or above) Preckshot
Midcentury poets: Ponge, Michaux, Char, Bonnefoy, St. John-Perse, Breton, and others.
- 5397. LE NOUVEAU ROMAN.** (5 cr; prereq 3209 or above or #) Brewer
Last existentialist novels and innovations of Sarraute, Robbe-Grillet, Butor, Simon, and others.
- 5411. SCEVE.** (5 cr; prereq 3209 or above) Renaud
Poetry as knowledge and communication. The quest for self and reality through the complex concept of love.
- 5415. RABELAIS.** (5 cr; prereq 3209 or above) Renaud
Gargantua and Pantagruel in original text.
- 5418. MONTAIGNE.** (5 cr; prereq 3209 or above) Conley
Essais studied in terms of mimesis and ideology.
- 5434. BAROQUE TRAGEDY: CORNEILLE.** (5 cr; prereq 3209 or above) Renaud
- 5438. PASCAL.** (5 cr; prereq 3209 or above) Staff
The literary originality of the *Provinciales*; major attention to *Les Pensées*.
- 5443. CLASSICAL COMEDY: MOLIÈRE.** (5 cr, §3607, §5607; prereq 3209 or above) Renaud
- 5444. CLASSICAL TRAGEDY: RACINE.** (5 cr; prereq 3209 or above) Renaud
- 5457. ROUSSEAU.** (5 cr; prereq 3209 or above) Waldauer, Caplan
- 5458. VOLTAIRE.** (5 cr; prereq 3209 or above) Waldauer
- 5459. DIDEROT.** (5 cr; prereq 3209 or above) Waldauer
- 5461. BAUDELAIRE.** (5 cr; prereq 3209 or above) Robinson
- 5462. RIMBAUD.** (5 cr; prereq 3209 or above) Robinson
- 5463. HUGO.** (5 cr; prereq 3209 or above) Sivert
- 5465. STENDHAL.** (5 cr; prereq 3209 or above) Lock
- 5466. BALZAC.** (5 cr; prereq 3209 or above) Lock and staff
- 5467. FLAUBERT.** (5 cr; prereq 3209 or above) Lock

5471. **MALLARMÉ.** (5 cr; prereq 3209 or above) Robinson
5475. **ZOLA AND THE NATURALISTIC NOVEL.** (5 cr; prereq 3209 or above) Lock, Sivert
5486. **PROUST.** (5 cr; prereq 3209 or above) Paganini
5489. **SARTRE.** (5 cr; prereq 3209 or above) Staff
Creative works and critical essays.
5588. **ASPECTS OF CONTEMPORARY CRITICISM.** (5 cr, §CLit 5588; prereq 3209 or above, #) Staff
Criticism in contemporary France. Taught in English.
5607. **CLASSICAL COMEDY: MOLIÈRE IN TRANSLATION.** (5 cr, §3607, §5443; prereq grad work in theatre arts or #) Renaud
Similar to 3607 or 5443; independent reading and research assignments in consultation with the instructor.
- 5701-5702. **STRUCTURE OF MODERN FRENCH: PHONOLOGY, MORPHOLOGY, SYNTAX.** (5 cr per qtr; prereq 3015 or #) Barnes
Application of linguistics to study of present-day French.
5900. **TOPICS IN FRENCH LITERATURE.** (3-5 cr per qtr [15 cr max]; prereq 3209 or above)
5999. **FOREIGN LANGUAGE TEACHING: THEORY AND PRACTICE.** (3 cr; prereq grad student or #) Barnes
Theoretical and practical aspects of French-language learning and teaching.

ITALIAN (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.
1104. **INTERMEDIATE ITALIAN.** (5 cr; prereq 1103 or equiv)
Consolidation of basic structures and development of oral fluency through readings and discussions.
1105. **INTERMEDIATE ITALIAN.** (5 cr; prereq 1104)
Literary and cultural readings, leading to introductory knowledge of Italian literature and civilization.
1110. **COMPUTERIZED BEGINNING ITALIAN.** (5 cr per qtr [15 cr max in minimum of 2 qtrs with #]; prereq prior language study, #; not applicable toward CLA language requirement)
Structures of first-year Italian self-taught and self-drilled through use of computer. Meetings with instructor for testing. Language tapes provide oral practice.
- 1301, 1302. **INTENSIVE ITALIAN.** (10 cr per qtr)
Accelerated study of material covered in Ital 1101, 1102, 1103, 1104 for highly motivated students.
3005. **ITALIAN CONVERSATION.** (3 cr; prereq 1103 or #; not applicable toward major)
Discussion of traditional or contemporary aspects of Italian civilization, e.g., politics, religion, opera, folklore.
3015. **INTERMEDIATE ITALIAN COMPOSITION AND CONVERSATION.** (5 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.
3016. **ADVANCED ITALIAN COMPOSITION AND CONVERSATION.** (5 cr; prereq 3015 or #)
Techniques of expression and writing. Reading and discussion with attention to cultural texts.
3031. **WRITING TECHNIQUES AND GRAMMAR REVIEW.** (5 cr; prereq 3015 or #)
Techniques of translation. Discussion in Italian of problems of expression and composition; review of grammar.
3041. **INTENSIVE ITALIAN FOR ROMANCE LANGUAGE MAJORS AND MINORS.** (5 cr; prereq 2 yrs of Romance language study or #)
Material of first-year Italian covered through comparative study of French, Spanish, and Italian grammar; oral and reading practice. Completion of course with A or B satisfies Graduate School language requirement.
3104. **ITALIAN STYLISTICS.** (5 cr; prereq 3015)
Principal literary genres examined through stylistic analyses and literary explications. Critical terminology; literary problems and techniques. Taught in Italian.
3201. **ITALIAN LITERARY TRADITION.** (5 cr; prereq 3015 or #)
Tradition and innovation in Italian literature; specific masterpieces. Taught in Italian.
3209. **MEDIEVAL ITALIAN LITERATURE.** (5 cr; prereq 3015)
Selected texts. Taught in Italian.
3219. **RENAISSANCE AND POST-RENAISSANCE ITALIAN LITERATURE.** (5 cr; prereq 3015)
Selected texts. Taught in Italian.

Major Requirements and Course Descriptions

3289. **MODERN ITALIAN LITERATURE.** (5 or; prereq 3015)
Selected texts. Taught in Italian.
3301. **ITALIAN LYRIC POETRY.** (5 or; prereq 3015)
Selected texts; notions of metrics and genre. Taught in Italian.
3303. **ITALIAN DRAMA.** (5 or; prereq 3015)
Selected texts; development of notions of convention and genre. Taught in Italian.
3305. **ITALIAN NOVEL.** (5 or; prereq 3015)
Selected texts; study of genres. Taught in Italian.
3501. **ITALIAN CIVILIZATION AND CULTURE.** (5 or; prereq 1105)
Aspects of Italian culture from the beginning to the *Risorgimento*. Taught in Italian.
3502. **MODERN ITALIAN CIVILIZATION AND CULTURE.** (5 or; prereq 1105)
Emphasis on the contemporary period. Taught in Italian.
3555. **ITALIAN CULTURE IN THE MIDDLE AGES AND THE RENAISSANCE.** (5 or; knowledge of Italian helpful but not necessary)
Italian culture as it influenced Western civilization. Cultural aspects of politics, religion, philosophy, science, music, the arts. Taught in English.
3590. **TOPICS IN FRENCH AND ITALIAN CIVILIZATION AND CULTURE: RELATED ASPECTS.** (5 or, §Fren 3590, §Frit 3590; prereq reading knowledge of French and Italian)
For description, see Frit 3590.
3970. **DIRECTED STUDIES.** (1-5 or per qtr; prereq undergrad, Δ)
Guided individual reading or study.
5042. **INTENSIVE READING OF MODERN ITALIAN NARRATIVE LITERATURE.** (5 or; prereq 3015 or 3041 or #)
Pipa, Schneider
Twentieth-century authors analyzed from linguistic and literary points of view. Objectives are to achieve high level of reading competency and understanding of contemporary Italian literary scene. Taught in Italian.
5219. **HUMANISM AND ITALIANISM IN THE LITERATURE OF THE 16TH CENTURY.** (5 or, §Fren 5219, §Frit 5219; prereq 3209 or above)
For description, see Frit 5219.
5321. **CHIVALRIC POETRY: BOIARDO, ARIOSTO, TASSO.** (5 or; prereq 3015) Staff
5328. **RENAISSANCE PROSE WRITERS: MACHIAVELLI, CASTIGLIONE.** (5 or; prereq 3015) Staff
5337. **MANZONI AND THE 19TH-CENTURY NOVEL.** (5 or; prereq 3015) Pipa, Schneider
I promessi sposi and other novels.
5384. **MODERN DRAMA.** (5 or; prereq 3015) Pipa, Schneider
Dramatists such as Pirandello, Ugo Betti, Diego Fabbri, and Eduardo de Filippo. Evolution of modern drama.
5385. **MODERN NARRATIVE.** (5 or; prereq 3015) Pipa, Schneider
Twentieth-century authors such as Svevo, Moravia, Pavese, and Vittorini. Evolution of the modern novel and novella.
- 5401-5402-5403. **DANTE.** (5 or per qtr; prereq 3015) Martinez, staff
The *Divina Commedia*; Dante's minor works.
5411. **PETRARCH.** (5 or; prereq 3015) Staff
Readings in English (for nonmajors) and Italian (for majors). Taught in English.
5418. **BOCCACCIO.** (5 or; prereq 3015) Martinez, staff
Readings in English (for nonmajors) and Italian (for majors). Taught in English.
5461. **LEOPARDI AND 19TH-CENTURY POETRY.** (5 or; prereq 3015) Pipa, Schneider
Leopardi's poetry; Carducci, Pascoli, and D'Annunzio.
5481. **MONTALE.** (5 or; prereq 3015 or #) Pipa
Montale's poetic work.
5559. **THEORIES OF LITERATURE AND CULTURE: VICO, CROCE, GRAMSCI.** (5 or; prereq #) Pipa
Readings in English (for nonmajors) and Italian (for majors).
5583. **MARXISM AND EXISTENTIALISM IN ITALIAN NARRATIVE AND DRAMA.** (5 or; prereq 3015 or #) Pipa
Contemporary works based on the philosophies of Marxism and existentialism.
- 5601, 5602, 5603. **ITALIAN LITERATURE IN ENGLISH TRANSLATION.** (5 or per qtr) Pipa, Schneider
Movements, genres, or themes in representative works from medieval times to present.
5609. **DANTE (IN ENGLISH).** (5 or; prereq #) Martinez, staff
- 5701-5702. **ITALIAN LANGUAGE.** (5 or per qtr; prereq #) Mantini
5900. **TOPICS IN ITALIAN LITERATURE.** (5 or per qtr; prereq 3209 or above) Staff

FRENCH AND ITALIAN (Frit)

- 3590 (formerly 3530). TOPICS IN FRENCH AND ITALIAN CIVILIZATION AND CULTURE: RELATED ASPECTS.** (5 cr, \$Fren 3590, \$Ital 3590; prereq reading knowledge of French and Italian)
Parallel trends and mutual influences in the French and Italian civilizations and cultures. Readings in French and Italian. Taught in English
- 3604. CINEMAS OF THE REAL.** (4 cr)
Film work of major vanguards: surrealism; Vigo, Renoir, Wells; Visconti, Rossellini, DeSica. Course varies in structure. Knowledge of French and Italian helpful but not necessary.
- 3608 (formerly 3606). NEW WAVE CINEMAS.** (4 cr)
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. Knowledge of French and Italian helpful but not necessary.
- 5219. HUMANISM AND ITALIANISM IN THE LITERATURE OF THE 16TH CENTURY.** (5 cr, \$Fren 5219, \$Ital 5219; prereq 3209 or above) Renaud, Pipa
Aspects of Italian civilization from Dante to Machiavelli that led to the Renaissance. Focus on French and Italian literary texts. Knowledge of French and Italian not required. Taught in English.
- 5531. BAROQUE LITERATURE IN FRANCE AND ITALY.** (5 cr; prereq at least one 3xxx or 5xxx course in the literature of France or Italy) Renaud and staff
The spread of the baroque in literature through Europe. Movement from Italy, changing but rooted in a particular view of the world. Taught in English. (See also Span 5533, The Baroque in European Literature: Spain.)
- 5568. FRENCH SYMBOLISM AND ITALIAN HERMETICISM.** (5 cr; prereq at least one pertinent course in French or Italian literature or #) Pipa, Robinson
Poetry of Rimbaud, Mallarmé, Valéry, Campana, Ungaretti, and Montale.
- 5569. NATURALISM IN THE FRENCH AND ITALIAN NARRATIVE.** (5 cr; prereq at least one pertinent course in French or Italian literature or #) Lock, Pipa
Flaubert, Maupassant, Zola, and other naturalist writers; Verga, Deledda, Fogazzaro, and others.
- 5587. FRENCH AND ITALIAN UTOPIAN LITERATURE.** (5 cr, \$Ital 5587) Pipa
Millenarianism and utopianism in Italian and French literature from Dante to Fourier. Taught in English.

ALBANIAN (Aib)

- 5510. ALBANIAN LANGUAGE AND CULTURE.** (5 cr)
Aspects of Albanian culture: language, folklore, ethnology, literature. Knowledge of Albanian not required.

Genetics and Cell Biology (GCB)

College of Biological Sciences

Staff — Head, William S. Herman, 248a Biological Sciences Center; *Director of Undergraduate Studies,* Val W. Woodward

Regents' Professor Emeritus: Comstock

Professors: Anderson, Cunningham, Enfield, Fan, Forro, R. Herman, W. Herman, Hooper, Johnson, Kerr, McKinnell, Merrell, Rosenberg, Rubenstein, Sauerbier, Sheppard, Sinha, Snustad, Snyder, Woodward.

Associate Professors: Blumenfeld, Goldstein, Simmons

Assistant Professors: Curtsinger, Hackett, Iwanij, Lefebvre, Silflow

Cell and developmental biology encompasses the study of the organization, composition, function, and assembly of cells and cellular components, and their regulation during the processes of cellular growth and differentiation.

Genetics is the study of inheritance, explored in terms of molecular genetics, population and quantitative genetics, human genetics, eucaryotic developmental genetics, and cytogenetics.

General Education—Courses especially appropriate for nonmajors include Bio 1101, 1108; GCB 3002, 3008, 3022, 3201.

Major Requirements and Course Descriptions

- 3002f. 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) Anderson
Human genetics; study of individuals, families, populations, and races with respect to differences in intelligence, behavior, disease, and other matters of social concern.
- 3008. THE BIOLOGY OF CANCER.** (3 cr; prereq Biol 1009) McKinnell, Sheppard
Biological aspects of etiology, phylogeny, and cellular processes involved in neoplasia. Growth and differentiation of normal and cancer cells. The history of cancer research.
- 3011w. GENERAL AND COMPARATIVE EMBRYOLOGY.** (5 cr, §5011; prereq Biol 1106 or 3011) McKinnell
Embryological development of vertebrates.
- 3022f,w,s,ssu. GENETICS.** (4 cr, §Biol 5003; not intended for biology majors; prereq Biol 1009)
Mechanisms of heredity, their implications for biological populations and applications to practical problems.
- 3201s. MOLECULAR BIOLOGY FOR ENGINEERS AND PHYSICAL SCIENTISTS.** (3 cr [4 cr with term paper]; not open to biology majors; prereq 2 qtrs chemistry, Math 1231 or 1331 or 1621 or #) Rubenstein, Sauerbier
Modern molecular biology emphasizing the principles of biological structures and mechanisms of function at the macromolecular and cellular levels of organization.
- 3960. RESEARCH TOPICS.** (1 cr; S-N only; prereq Biol 5003, 5004)
Discussions of faculty research.
- 5011w. GENERAL AND COMPARATIVE EMBRYOLOGY.** (4 cr, §3011; prereq Biol 1106 or 3011; for grad students only) McKinnell
Embryological development of vertebrates.
- 5013s. COMPARATIVE MAMMALIAN REPRODUCTION.** (4 cr; prereq 3011 or 5011, Biol 5001 or #; offered 1982-83 and all yrs) Sinha
Interdisciplinary approaches in evaluating biological phenomena of reproduction incorporating basic problems, current concepts and ideas in the field. Three lectures and discussions, and an hour of independent studies/research or laboratory work.
- 5015s. HISTOLOGY: CELL AND TISSUE ORGANIZATION.** (5 cr; prereq Biol 1106 or 3011 plus 4 addtl cr in biological sciences) Cunningham
Cellular orientation used to explore organization of differentiated cells and tissues (epithelia, connective, muscle, and nerve) as they facilitate specialized functions. Laboratory combines experience with techniques (phase and fluorescent microscopy, autoradiography, and paraffin sectioning), EM demonstrations, and studies of prepared microscope slides.
- 5022f,w,s,ssu. GENETICS.** (3 cr, §3022, §Biol 5003; not open to grad students in genetics)
Mechanisms of heredity, their implications for biological populations, and applications to practical problems.
- 5024w. THE GENETICS OF DEVELOPMENT.** (4 cr; prereq Biol 5003 or #) R Herman
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*.
- 5031w. INTERMEDIATE GENETICS I.** (4 cr; prereq 3022 or Biol 5003, BioC 5002 or 5752 or #) Lefebvre, Snyder
Mechanics of inheritance. Comparative organization of genetic material in prokaryotic and eucaryotic organisms. Mutation, complementation, and recombination as operational criteria for genetic analysis.
- 5032s. INTERMEDIATE GENETICS II.** (4 cr; prereq 5031) Hackett, R Herman
Action of the gene in molecular, cellular, and organismal development. Mechanisms of storage of genetic information, modes of information transfer, and mechanism of regulating these processes in various biological systems.
- 5033s. INTERMEDIATE GENETICS III.** (4 cr; prereq 3022 or Biol 5003, course in biometry or statistics or #) Curtsinger, Enfield
Genetic variation in quantitative traits with special attention to fitness. Causes of change of equilibria in gene frequencies, heterosis and inbreeding depression, consequences of natural and artificial selection.
- 5042f. POPULATION, QUANTITATIVE GENETICS.** (3 cr; S-N only; prereq 5033...Stat 5301 recommended) Enfield
Selection with reference to population changes in gene frequencies and means of quantitative characters. Information required for predicting effects of selection and related research. Emphasis on logical analysis.
- 5043f. HUMAN GENETICS.** (3 cr; prereq 3022 or Biol 5003 or #) Anderson
Principles of human genetics at the molecular, cellular, individual, and population levels. Chromosomal and biochemical disorders; gene mapping; mutation and natural selection; variation in intelligence and behavior; genetic screening, counseling, and therapy.
- 5044w. HUMAN POPULATION GENETICS.** (4 cr; prereq 5043, biostatistics [PubH 5452 or equiv] or #) Anderson
Biometric methods for research in human genetics. Use of genetic concepts and appropriate statistical techniques in exploring new problems. Use of statistical packages and genetic programs to analyze population data and model genetic systems. Individual study of current problems, and group discussion.

- 5045s. MOLECULAR PRINCIPLES OF BEHAVIOR.** (3 cr; prereq BioC 5002 or #; offered 1982-83 and alt yrs) Sheppard
Relationships between biochemistry and behavior with emphasis on diseases of human behavior; i.e., the psychoses, alcoholism, epilepsy. Simple biological systems used to study behavior.
- 5046s. HUMAN BIOCHEMICAL GENETICS.** (3 cr; prereq 5031, 5043, BioC 5002 or equiv, Biol 5004 or equiv or #; offered 1982-83 and alt yrs) Sheppard
Basic genetic, biochemical, and pathologic principles of inherited human metabolic disorders.
- 5048f. CELL BIOLOGY I.** (4 cr; prereq Biol 5001) Johnson, Siffow
Eucaryotic systems with emphasis on structure, function, and chemistry of cell organelles; selected specialized cells also considered. Focus on membranes and secretion including membrane methodologies, structure, function, synthesis, turnover; cell surfaces, protein synthesis, glycosylation, membrane fusion, lysosomes and endocytosis.
- 5049w. CELL BIOLOGY II.** (4 cr; prereq 5048, Biol 5001, Biol 5003) Iwanij, Johnson
Eucaryotic systems with emphasis on the structure, function, and chemistry of cell organelles; selected specialized cells also considered. Focus on motility, the cell nucleus, and metabolically active membranes including roles of microtubules and microfilaments in cell locomotion, shape changes, cytokinesis, ciliary beating, and organelle redistribution; cell cycle, chromosomal structure, replication and mitosis; compartmentalization and autonomy of mitochondria and chloroplasts, role of peroxisomes, and detoxification by the endoplasmic reticulum.
- 5052s. QUANTITATIVE TECHNIQUES, CELL BIOLOGY.** (4 cr; calculus, introductory cellular or molecular biology, biochemistry recommended) Rosenberg, Rubenstein
Use and detection of radioisotopes; theory and practice of analytical and preparative ultracentrifugation, chromatography, spectroscopy, and electron microscopy; tissue culture and subcellular particle fractionation.
- 5062w. GENETICS AND SPECIATION.** (4 cr; prereq 15 or biology incl genetics) Merrell
Application of genetic principles to problems of speciation and evolution.
- 5063s. THEORETICAL POPULATION GENETICS.** (3 cr; prereq college level calculus, basic statistics and genetics; offered 1983-84 and alt yrs) Simmons
Population genetic theory as related to problems of natural populations.
- 5114w. GENERAL PHYSIOLOGY.** (3 cr; prereq Biol 3011, 5001, Phys 1109 or 1295) Goldstein
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.
- 5134. ENDOCRINOLOGY.** (4 cr; prereq Biol 3011, 5001 or #) W Herman
Survey of structure and function of invertebrate and vertebrate endocrine systems.
- 5135s. ENDOCRINOLOGY LABORATORY.** (2 cr; prereq 5134) W Herman
Assigned exercises demonstrating basic endocrine techniques. Student research projects arranged in consultation with instructor.
- 5605. CELL BIOLOGY LABORATORY** (2 cr; prereq Biol 5004 or #Biol 5004 or #) Blumenfeld
Experimental approaches to cell structure, function, and replication, including microscopy, autoradiography, cell fractionation, and molecular and chemical analyses.
- 5606f. BIOLOGICAL ELECTRON MICROSCOPY.** (2 cr; prereq 5051 or Biol 5004 or #) Cunningham
Theory and operation of transmission and scanning electron microscopes. Demonstrations of preparation techniques for biological material including freeze-etching, autoradiography, thin sectioning, negative staining, cytochemistry, and metal shadowing.
- 5610f,s. LABORATORY IN ELECTRON MICROSCOPY.** (2-5 cr; S-N only; recommended for grad students; prereq 5606 or #5606, #) Johnson
Practical application of laboratory techniques in biological electron microscopy through an independent research project. Intended primarily for graduate students who will use electron microscopy in their thesis research. Fee for approximately 20 hours of microscope time.
- 5970f,w,s,su. INDEPENDENT STUDY.** (Cr ar; prereq #, Δ)
Individual study on selected topics or problems with emphasis on selected readings and use of scientific literature.
- 5990f,w,s,su. LABORATORY RESEARCH.** (Cr ar; prereq #, Δ)
Individual projects on selected topics and problems.

Geography (Geog)

Staff—*Chair and Director of Undergraduate Studies*, John S. Adams, 414 Social Sciences Building

Professors: J. Adams, Barrett, Borchert, Hart, Hsu, Lukermann, Mather, Porter, Rice, Schwartzberg, Skaggs, Tuan

Associate Professors: R. Adams, Brown, Gersmehl, Scott, Sheppard, Squires

Assistant Professors: Andrews, Miller, Weil

Major Requirements and Course Descriptions

Geography emphasizes the importance of the relative location of place and event in the study of the character of regions, relations between human activities and environment, and processes through which social and physical changes occur. Its approach and methods are both scientific and humanistic.

Majors in geography may find professional careers in teaching, government service, planning, and industry. The department offers opportunities for applied specializations and concentrations in a variety of subfields for majors and nonmajors.

General Education—Courses 1301 and 1401 deal with world patterns of resources, population, and production. 3xxx and 5xxx survey courses concerned with particular countries, continents, or regions of the world offer knowledge of value to the nonspecialist.

B.A. MAJOR SEQUENCE

Required Preparatory Courses—Two courses selected from 1301, 1401, 3001

Major Requirements—Minimum of 32 cr with grades of C or better in courses above 3001, to include at least one 5xxx regional course, one topical course, one course in the history and philosophy of geography, and 3511 or 3531 or 3551

Field course: 5701; or 3950 (when focus is on a field project); or a geography course involving fieldwork completed for extra credit (X registration for 2 or 3 cr); or 3970 (independent study; must have approval of major adviser)

Major project: may be completed in a 3xxx or 5xxx course in geography (or, on petition, in an allied field) or in an independent study course. With adviser approval, the project may also satisfy the field course requirement. The project effort must equal at least that of 2 cr of independent study. The project must be completed in consultation with an adviser and submitted for approval at least one full quarter prior to graduation.

B.S. MAJOR SEQUENCE

Majors may demonstrate proficiency in English composition through successful completion of any upper division writing course approved by the major adviser.

Majors are strongly advised to meet regularly with their advisers to plan coherent, focused programs.

Required Preparatory Courses—Two courses selected from 1301, 1401, 3001; at least 12 cr in an area of mathematics (e.g., calculus, statistics, econometrics, or computer science)

Major Requirements—Minimum of 52 cr with grades of C or better in courses above 3001, to include at least 32 cr in geography, 3511 or 3531, one additional course in geographical techniques, and at least one course in the history and philosophy of geography

Field course: 5701; or 3950 (when focus is on a field project); or a geography course involving fieldwork completed for extra credit (X registration for 2 or 3 cr); or 3970 (independent study; must have approval of major adviser)

Major project: may be completed in a 3xxx or 5xxx course in geography (or, on petition, in an allied field) or in an independent study course. With adviser approval, the project may also satisfy the field course requirement. The project effort must equal at least that of 2 cr of independent study. The project must be completed in consultation with an adviser and submitted for approval at least one full quarter prior to graduation.

Majors may demonstrate proficiency in English composition through successful completion of any upper-level writing course approved by the major adviser.

Majors are strongly advised to meet regularly with their advisers to plan coherent, focused programs, and are required to review their programs with their advisers when they have completed 20 credits in the major.

MINOR SEQUENCE

Minor Requirements—Minimum of 20 cr including at least 15 cr at the 3xxx level or above, 7 cr at the 5xxx level, and one course from three of the following four groups: regional studies (at the 5xxx level), topical studies, history and philosophy of geography, and geographical techniques

INTRODUCTORY

- 1301f,w,s. **HUMAN GEOGRAPHY.** (5 or, §1302) Hart, Miller, Schwartzberg, Scott, Tuan, Weil
Geography of population and principal ways of life; capacity of earth for future population.
- 1401f,w,s. **INTRODUCTION TO PHYSICAL GEOGRAPHY.** (5 or, §NSci 1501) Barrett, Gersmehl, Skaggs, Squires
Distribution patterns of climate, relief, vegetation, and soils; regional differences in problems of physical development.
- 1425f,s. **INTRODUCTION TO METEOROLOGY.** (4 or, §Soil 1262) Baker, Skaggs
Nature of 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.
- 1973f,s. **GEOGRAPHY OF THE TWIN CITIES.** (4 or, §3973) Borchert
Social and physical characteristics of the Twin Cities. Their place in the urban network of the United States.
- 3001. **INTRODUCTION TO GEOGRAPHIC INQUIRY.** (4 or) 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

- 3101. **GEOGRAPHY OF UNITED STATES AND CANADA.** (4 or) 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.
- 3111. **MINNESOTA.** (4 cr) Borchert, Rice
Physical resources, population, and commercial production.
- 3121. **LATIN AMERICA.** (4 cr) Barrett, Mather, Weil
Physical and human geography of Latin America.
- 3131w. **MIDDLE AMERICA.** (4 or) Barrett
Physical and human geography of Mexico, Central America, and the Antilles. Internal and external areal relationships.
- 3141. **AFRICA.** (4 or) Porter, Scott
Regional differentiation of human groups and environments; culture contact and problems of underdeveloped countries south of the Sahara.
- 3161. **EUROPE.** (4 or) Rice
Cultural-economic realms in Europe (excluding U.S.S.R.); areal organization of each realm.
- 3181f. **SOVIET UNION.** (4 or) R Adams, Rice
Survey of physical resources, population, and economic geography; prospects and comparisons with the United States.
- 3211. **EAST ASIA.** (4 or, §5211) Hsu
Physical and human geography of China, Korea, and Japan; population pressure, economic development, and international relations.
- 3212f. **SOUTH ASIA.** (4 or, §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.
- 3213. **SOUTHEAST ASIA.** (4 or) Schwartzberg
Physical and human geography of Burma, Thailand, Indochina, Malaysia, Indonesia, and the Philippines; geographic aspects of social structure, population growth, economic development, and international relations.
- 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.

Major Requirements and Course Descriptions

- 5101w,s. HISTORICAL GEOGRAPHY OF NORTH AMERICA.** (4 cr) Lukermann
Sequential analysis of settlement and economy in changing environment and resource patterns of North America in the period of frontier interaction, 1500 to 1900.
- 5102. HISTORICAL GEOGRAPHY OF NORTH AMERICA.** (4 cr) Lukermann
Sequential analysis of settlement and economy in changing environment and resource patterns of North America in the period of sectional industrialization, rural to urban change, and national metropolitan dominance.
- 5111. SELECTED REGIONS OF THE EASTERN UNITED STATES.** (4 cr) Hart
Intensive analysis of regions east of the Great Plains. The regions selected vary from year to year.
- 5112f. WESTERN UNITED STATES.** (4 cr) Mather
Physical and human resources of western United States.
- 5113. CANADA AND ALASKA.** (4 cr) Mather
Physical and human geography. International and external areal relationships.
- 5131s. COLONIAL MEXICO AND THE CARIBBEAN.** (4 cr) Barrett
Exploration, discovery, settlement, livelihood, and circulation to about 1800.
- 5132. SOUTH AMERICA.** (4 cr) Mather
Physical resources, population, agriculture, manufacturing, and transportation in countries of South America.
- 5142. GEOGRAPHY OF EAST AFRICA.** (4 cr) Porter
Physical and human geography of Kenya, Tanzania, and Uganda. Environment as resource; historical geography of colonial and postcolonial eras; geographical organization of human activity; regional contrasts.
- 5143s. 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.
- 5171. WESTERN EUROPE.** (4 cr) Staff
Physical and human geography as a whole; selected topics on British Isles, France, Low Countries, Rhine Basin.
- 5173. NORDEN.** (4 cr) Rice
Cultural and political development of Scandinavian states and Finland. Effects of changing resource appraisal upon patterns of economic activity and human occupancy.
- 5174. WESTERN MEDITERRANEAN EUROPE.** (4 cr) Barrett, Rice
Physical and human geography of lands adjacent to the western Mediterranean Sea: Spain, Portugal, Italy, and southern France.
- 5175. HISTORICAL GEOGRAPHY OF THE BRITISH ISLES.** (4 cr) Rice
Peoples and cultures of Britain and Ireland from Neolithic times to the present. Development of rural and urban landscapes. *Introduction to approaches and methods used by historical geographers.*
- 5181. U.S.S.R. REGIONS AND PLANNING.** (4 cr) R Adams
Regionalization, production specialization, and interchange within U.S.S.R.; effects of policies of centralization and regional autonomy; present trends and prognosis.
- 5191. AGRICULTURAL MARKETING IN AFRICA.** (4 cr) Scott
Cultural, ecological, and spatial analysis of structural change in rural Africa; the impact of commercialism on traditional socioeconomic institutions; the spatial behavior pattern of small landholders.
- 5211. EAST ASIA: REGIONAL ANALYSIS.** (4 cr, §3211; prereq 5 cr in geography or #) 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.
- 5212f. SOUTH ASIA.** (4 cr, §3212) Schwartzberg
For description, see 3212.
- 5322w. POLITICAL GEOGRAPHY OF ASIA.** (4 cr; prereq 3321 or a regional course on any part of Asia or #)
Schwartzberg
Geographical analysis of political development within particular countries of Asia and of problems of regional and interregional conflict and cooperation.

TOPICAL STUDIES

- 3321s. POLITICAL GEOGRAPHY.** (4 cr) Schwartzberg
Scope and methods; selected concepts, problems, and areas.
- 3331f,w,s. INTRODUCTION TO ECONOMIC GEOGRAPHY.** (4 cr) R Adams, Scott, Sheppard
World patterns of economic activity; levels of development; appraisal of resources, production, circulation, and consumption; principles, models, and planning of economic behavior.

- 3341w. INDUSTRIALIZATION AND WORLD TRADE.** (4 cr) R Adams
Historical and cultural geography of economic regions; socioeconomic structure and trade relations; topics such as industrialization, economic growth, world trade, underdeveloped nations.
- 3343w. LAND USE ECOLOGY.** (4 cr) Gersmehl, Squires
Study of the human being as an animal; ecological principles of human existence and use of the earth.
- 3344s. THE LAND ETHIC IN THE UNITED STATES.** (4 cr) Squires
Philosophies and policies concerning land use in the 19th and 20th centuries.
- 3345f. ENERGY AND MINERALS.** (4 cr) R Adams
Sources, production, circulation, and consumption of power, metals, and nonmetallic minerals. Problems of exhaustion, substitution, pollution, costs, trade, and policy. National and local case studies.
- 3351. GEOGRAPHY OF FOOD PRODUCTION.** (4 cr) Weil
Environmental constraints on agriculture; world agricultural regions; geography of energy and materials inputs to food production; spatial patterns of producers, consumers, and middlepersons; agribusiness and communal alternatives.
- 3355. ENVIRONMENTAL PROBLEMS.** (4 cr) Gersmehl, Squires
Environmental problems associated with human activities.
- 3361. ENVIRONMENTAL EVALUATION AND ADAPTATION.** (4 cr, §3344) Squires, Tuan
Philosophies and practices concerning land use including how different peoples evaluate and adapt to their natural surroundings.
- 3371f. INTRODUCTION TO URBAN GEOGRAPHY.** (4 cr) J Adams, Miller, Sheppard
Character, distribution, and development of cities in present-day world. Internal and external locational relationships.
- 3378s. MODERNIZATION AND THE THIRD WORLD.** (4 cr) Scott, Weil
Concepts and ideas of modernization in the third world; historical trends and impact of changes on spatial organization.
- 3381s. POPULATION GEOGRAPHY.** (4 cr) 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.
- 3421f,s. CLIMATOLOGY.** (4 cr; prereq 1401 or #) Barrett, Skaggs
World distribution of climatic elements; methods of arranging climatic data; climatic classifications and world distributions of climatic types; general circulation; climatic change and climatic fluctuations.
- 3431f. INTRODUCTION TO PLANT AND ANIMAL GEOGRAPHY.** (4 cr; not open to biology majors) Squires
World distribution of plants and animals; biological and ecological background; the geographical picture; the paleoecological record.
- 3441f. LANDFORM GEOGRAPHY.** (4 cr) Brown
The role of landforms in the distribution of resources; processes of landform origin and change; map interpretation of landforms; complex environmental history of the Quaternary period and its contribution to a complicated pattern of landforms, with emphasis on North America.
- 3451s. GEOGRAPHY OF SOILS.** (4 cr, §Soil 5512) Gersmehl
Distributions of soil-forming processes and soil types; soil differences in small areas; soil constraints on human activities in different places; regional differences in soil problems and management techniques — farming, forestry, construction, agribusiness, suburbanization, homesteading.
- 3973f,s. GEOGRAPHY OF THE TWIN CITIES.** (4 cr, §1973) Borchert, Lukermann
For description, see 1973.
- 5311, 5312. TIME GEOGRAPHY I, II.** (4 cr per qtr; prereq #) Miller
5311: Conceptual frameworks for integration of time and space in geographic research; development of time geographic methodology; applications of time geography to social planning; use of time geographic perspective to analyze interrelations among daily activity patterns and social, economic, and institutional structures. 5312: Analysis of reproduction of social and institutional structures; application of time geographic perspective to research topics.
- 5372-5373. METROPOLITAN ANALYSIS I, II.** (4 cr per qtr) J Adams
5372: Urban systems and metropolitan areas, structure, and growth; daily urban systems; simulated urban systems; metropolitan population dynamics; social area analysis; transportation systems; travel behavior; land use; retail structure, change. 5373: Neighborhood transition; conflicts in housing, location of facilities, and urban renewal.
- 5375f-5376w. AMERICAN CITIES—LOCATION AND GEOGRAPHIC DESIGN.** (4 cr per qtr) Borchert
5375: The spread of urbanization across the United States; differentiation of city sizes and functions within the nation's resource regions and circulation network; evolution of today's system of cities, its regional and national management problems. 5376: The internal development of the major metropolitan areas of the United States; evolution of land use patterns, activity systems, and metropolitan problems.

Major Requirements and Course Descriptions

- 5381w. SERVICES AND LOCATION THEORY.** (4 cr; prereq 4 cr in geography or economics or #) R Adams, Sheppard
Localization of economic activity; case studies of industries and services; location factors, models, and theory.
- 5382. APPLIED LOCATIONAL MODELS.** (4 cr; prereq 3331 or #) R Adams, Sheppard
Problems of optimal location in geographic space. Solution of applied facility location problems in private and public sectors. Application of location oriented programming techniques; packaged programs.
- 5383s. TRANSPORTATION GEOGRAPHY.** (4 cr; prereq 3331 or #) R Adams
Principles and theory of spatial development of transport systems; interaction of resource use and network growth; commodity and passenger flows; case studies at national, regional, and local (urban) levels.
- 5391. RURAL GEOGRAPHY.** (4 cr) Mather
Geographic components and assemblages of rural settlement. World patterns and geographic problems of rural settlement on the American scene.
- 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.
- 5411. MEDICAL GEOGRAPHY.** (4 cr) Weil
Survey of concepts of and methods in medical geography including settlement patterns and disease; demographic transition; impact of agricultural and technological development on disease and diet; and distribution of health practitioners and facilities.
- 5423w. ADVANCED CLIMATOLOGY.** (4 cr; prereq 3421 or #) Skaggs
Selected topics including energy balances, synoptic climatology, climate models.
- 5444s. GEOGRAPHY OF WATER RESOURCES.** (4 cr; prereq two courses in physical geography or #) Brown
Distributional aspects of the magnitude, quality, and dynamics of water resources. Aesthetic, recreational, and material production uses of water; consequences of human actions in the hydrosphere, especially in fresh water.
- 5445w. QUATERNARY PALEOGEOGRAPHY.** (4 cr; prereq #) Brown, Squires
Evidence of past environments; special reference to the Quaternary period.

HISTORY AND PHILOSOPHY OF GEOGRAPHY

- 3801. DEVELOPMENT OF GEOGRAPHIC THOUGHT.** (4 cr, §5801; prereq three courses in geography) Lukermann
Concepts and methods of geography; differing schools of thought as expressed in contemporary geographic literature.
- 5001w-5002s. GEOGRAPHICAL ANALYSIS I, II.** (4 cr per qtr) Sheppard
5001: Order, science, and geography; measurement, relationship, and classification; location and spatial interaction; spatial diffusion processes; spatial decision making. 5002: Specialized investigation of geographical theories including radical theories. Critiques of, and alternatives to, classical theories.
- 5801f. DEVELOPMENT OF GEOGRAPHIC THOUGHT.** (4 cr, §3801; prereq sr, three courses in geography) Lukermann
For description, see 3801.
- 5811w. ENVIRONMENTALISM, ENVIRONMENT, AND THE QUALITY OF LIFE.** (4 cr) Tuan
Ideas about environmentalism; organization of the physical environment into human settings (rural and urban) as they affect life's ideals.
- 5849w. SPACE AND PLACE: A GEOGRAPHY OF EXPERIENCE.** (4 cr) Tuan
How experience creates structure and meaning in space and environment.

GEOGRAPHICAL TECHNIQUES

- 1501. THE LANGUAGE OF MAPS.** (5 cr, §3311) Andrews, Brown, Gersmehl
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.
- 3311. MAPS AND MAP INTERPRETATION.** (4 cr; prereq 5 or in geography or #) Brown, Hsu, Porter
Uses and abuses of maps. Interpretation of topographic and statistical maps. Map sources; the air photo as a map. Map analysis with minimum of drafting.
- 3511f,w,s. INTRODUCTION TO CARTOGRAPHY.** (5 cr; prereq 5 or in geography or #) Andrews, Brown, Hsu, Porter
Principles of map design, compilation, specification, and drafting. Map symbols. History of cartography. Projections—analysis of construction, properties, and uses.
- 3531f,s. QUANTITATIVE METHODS.** (4 cr) R Adams, Sheppard, Skaggs
Applications of quantitative techniques to problems of classification, measurement, area association and sampling, and comparative regional analysis. Statistical sources commonly used by geographers.

- 3551. INTRODUCTION TO REMOTE SENSING.** (5 cr; prereq 8 or in geography or #) Brown, Miller, Porter, Skaggs
Theory and applications of imaging remote sensors to environmental problems. Remote sensor images in geographic studies.
- 5511. CARTOGRAPHIC ANALYSIS.** (4 cr; prereq 3511, 3531 or #) Andrews, Brown, Hsu, Porter
Cartographic-quantitative analysis and mapping of geographic data; classification, areal sampling, generalization including the scale problem. Analysis of cartographic communication.
- 5512. CARTOGRAPHY: TOPICS.** (4 cr; prereq 3511, 3531 or #) Andrews, Brown, Hsu, Porter
Selected topics: the system of cartographic communication, map design, map reading, map analysis, history of cartography.
- 5522. COMPUTER CARTOGRAPHY.** (4 cr; prereq basic knowledge of FORTRAN, 3511 or #) Andrews, Hsu
Geocoding and locational data structure, library mapping programs, programming for mapping and geographical analysis, mapping via an interactive cartographic system.
- 5531w. QUANTITATIVE RESEARCH DESIGN.** (4 cr; prereq 3531 or #) R Adams, Sheppard
Intermediate statistical methods for handling geographical data; multivariate methods, regionalization, spatial autocorrelation, spatial pattern analysis.

DIRECTED AND SPECIAL STUDIES

- 3950. UNDERGRADUATE SEMINAR.** (4 or per qtr; prereq 10 or in geography or #) Staff
Supervised investigation of selected topics.
- 3970. DIRECTED STUDIES.** (1-15 or per qtr) Staff
Guided individual reading or study.
- 3990. DIRECTED RESEARCH.** (1-15 or per qtr) Staff
- 5701. FIELD RESEARCH (TWIN CITIES METROPOLITAN AREA AND ENVIRONS).** (4 cr; prereq 12 or in geography, #) Staff
Field investigation in physical, cultural, and economic geography; techniques of analysis and presentation; reconstruction of environments.
- 5900. TOPICS IN GEOGRAPHY.** (4 or per qtr; prereq sr or grad student, Δ)
Special topics and regions. Course offered by visiting professors in their research fields.

Geology and Geophysics (Geo)

*School of Earth Sciences
Institute of Technology*

Staff—Head, V. Rama Murthy, 106 Pillsbury Hall; *Director of Graduate Studies,* H. M. Mooney; *Director of Undergraduate Studies,* P. J. Hudleston

Regents' Professor: Wright

Professors: Banerjee, Hooke, Mooney, Murthy, Sawkins, Shapiro, Sloan, Walton, Weiblen, Zoltai

Associate Professors: Alexander, Chase, Hudleston, Pfannkuch, Shaw, Stout

Assistant Professors: Crews, Ito, Seyfried

Adjunct Faculty—Birks (University of Cambridge, England), Goldich (U.S. Geological Survey, Denver, Colorado), 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 the historical development of the earth through these shaping processes.

B.A. MAJOR SEQUENCE

Required Preparatory Courses—Chem 1004-1005, Math 1211-1221-1231 (sequences to be started fr yr); Phys 1271-1281-1291 taken in conjunction with Phys 1275-1285-1295; Comp 3085 (to be taken jr yr or no later than 1st qtr of sr yr)

Major Requirements and Course Descriptions

Major Requirements—Core courses: fr yr, 1111s; soph yr, 3112f, 3401w, 3102s; jr yr, 3110f, 5501w, 3103s, 5110su.

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 course work if you are considering a scientific career.

- 1001f,w,s. PHYSICAL GEOLOGY.** (5 cr; 4 lect hrs, one 2-hr lab per wk) Staff
Scientific method and nature of the earth; main features of the world and the processes that have formed them.
- 1002w,s. HISTORICAL GEOLOGY.** (4 cr; prereq 1001; 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.
- 1005w. GEOGRAPHIC PERSPECTIVES ON ENERGY.** (4 cr; 4 lect hrs per wk) Alexander, Shaw
Introduction to 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.
- 1007s. ENVIRONMENTAL GEOLOGY.** (4 cr; prereq 1001)
Geological application in resource management, land use planning, etc. Geological evolution of the biosphere and the impact of human activities on its resources. Geological hazards. The Twin Cities area as a geological environment. Lectures, laboratories, field trips.
- 1012f. EARTH AS A PLANET.** (4 cr; 3 lect, 1 lab hrs per wk) Alexander
Survey course on origin and evolution of the earth; its structure and composition in relation to other planets; the cosmic abundances and mode of formation of elements in the solar system.
- 1013f. ORIGIN AND EVOLUTION OF LIFE.** (4 cr; 3 lect, 1 lab hrs per wk) Sloan
Geological evidence of the origin and increasing complexity of living systems, including biogenesis, single-celled organisms, plants, animals, and ecosystems. Problems of extraterrestrial life.
- 1111s. INTRODUCTORY PHYSICAL GEOLOGY.** (5 cr; for prospective majors and others desiring more intensive course; prereq high school or college chemistry or #; 3 lect hrs, 1 rec hr, and two 2-hr labs per wk) Shaw
For prospective majors and others desiring a more intensive lecture and laboratory sequence than 1001.
- 1601w. OCEANOGRAPHY.** (4 cr; 3 lect, 1 lab hrs per wk) Shapiro, Barnwell
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.
- 3099f,w,s. PROBLEMS IN GEOLOGY AND GEOPHYSICS.** (1-6 cr; prereq #, Δ)
Research or problems selected on the basis of individual interests and background.
- 3101. SURFICIAL GEOLOGIC PROCESSES.** (5 cr; prereq 3102, 3401 or #) Hooke, Johnson, Pfannkuch
Geologic processes at the surface of the earth. Geomorphology, limnology, groundwater geology, sedimentology. Field trips.
- 3102s. PETROLOGY.** (5 cr; prereq 3401 or #) Stout
The lithologic character and genesis of igneous and metamorphic rocks.
- 3103s. STRUCTURAL GEOLOGY.** (5 cr; prereq 3102 or #) Hudleston
Primary and secondary structures of rocks; mechanics and modes of deformation; field methods in geology. Field trips.
- 3110f. SEDIMENTARY PETROLOGY.** (5 cr; prereq 3102; 3 lect, 4 lab hrs per wk) Crews
Sedimentary rocks; their origin and diagenetic history, using knowledge of present-day depositional environments and petrographic microscopy.
- 3112f. EARTH HISTORY.** (5 cr; for prospective majors and others desiring more intensive course than 1002; prereq 1111 or #; 3 lect hrs, 1 rec hr, two 2-hr labs per wk) Swain
- 3401w. INTRODUCTORY MINERALOGY.** (5 cr, \$5004, \$5404; prereq 1001 or 1111 or #, 1 term college chemistry, Math 1221; 3 lect, 6 lab hrs per wk) Zoltai
Crystallography, crystal chemistry, and crystal physics. Physical and chemical properties, crystal structures, and chemical equilibria of the major mineral groups. Laboratory includes crystallographic, polarizing microscope, X-ray powder diffraction exercises, hand specimen mineral identification.
- 5002s. STRUCTURAL GEOLOGY.** (4 cr, \$3103 or equiv; not open to geology, geophysics, geo-engineering, mineral resources engineering, and metallurgy-materials science majors; prereq 3401 or 5004 or #; 3 lect, 2 lab hrs per wk) Hudleston
Primary and secondary structures of rocks, mechanics and modes of deformation, structural techniques. Laboratory exercises in three-dimensional representation and solution of selected structural problems.

- 5004w. MINERALOGY.** (4 cr, §3401, §5404; not open to geology, geophysics, and geological, mineral and metallurgical engineering majors...open to majors and grad students of other disciplines; prereq 1001 or #, 1 term college chemistry, Math 1221; 3 lect, 6 lab hrs per wk) Zoltai
For description, see 3401.
- 5099f,w,s. SENIOR THESIS.** (2 cr per qtr [max 6 cr]; prereq geology or geophysics major with 4th yr standing and #) Stout, staff
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.
- 5100. ADVANCED GENERAL GEOLOGY.** (2 cr per qtr; S-N only; prereq 1001) Staff
Seminar course on geology of an area, followed by field trip to the location. Regions studied will vary from year to year.
- 5102s. STRATIGRAPHIC ANALYSIS.** (4 cr; prereq 3112) Crews
Principles of correlation, facies models, and tectonics applied to the history of sedimentary basins.
- 5103. MARINE BIOSTRATIGRAPHY.** (3 cr; prereq 5102, 5151)
Fundamentals of biostratigraphic analysis of fossil assemblages with emphasis on Mesozoic and Cenozoic zonation.
- 5108w. ADVANCED ENVIRONMENTAL GEOLOGY.** (4 cr; prereq geology core curriculum 1111 through 3103 for majors or equiv or #) Pfannkuch
Human impact on the geological environment and no effect of geology/geologic processes on human life from the point of view of ecosystems and biogeochemical cycles. Geologic limits to resources and carrying capacity of the earth. Land use planning, environmental impact assessment, ecogeologic world models. Field project.
- 5110su. FIELD GEOLOGY.** (9 cr; restricted to geology, geophysics, and geo-engineering majors; prereq 3103 and #) Staff
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. Major report on fieldwork required.
- 5151f. INTRODUCTION TO PALEONTOLOGY.** (5 cr; prereq 1002 or 3112 or #) Sloan
Morphology, classification, and ecology of selected groups of invertebrate fossils.
- 5152. INVERTEBRATE PALEONTOLOGY.** (5 cr; prereq 5151; 3 lect, 4 lab hrs per wk; offered when demand warrants) Sloan
In-depth study of the morphology, classification, and ecology of selected groups of invertebrate fossils.
- 5154w. VERTEBRATE PALEONTOLOGY I.** (5 cr; prereq 5151 or EBB 5114) Sloan
Morphology, evolution, and stratigraphic distribution of fossil fish, amphibians, reptiles, and birds.
- 5155s. VERTEBRATE PALEONTOLOGY II.** (5 cr; prereq 5154 or EBB 5114) Sloan
Morphology, evolution, and stratigraphic distribution of fossil mammals.
- 5156. ZOOARCHAEOLOGY.** (5 cr; primarily for paleontology, anthropology or classics students; prereq 5155 or #; 3 lect, 2 lab hrs per wk; offered 1983 and alt yrs)
Identification and interpretation of animal remains in an archaeological context.
- 5202s. TECTONIC STYLES.** (3 cr; prereq 3101 or #; 3 lect hrs per wk; offered 1982 and alt yrs) Hudleston
Origin and nature of major types of disturbance affecting continental crust including analysis of form and development of individual structural components.
- 5251s. GEOMORPHOLOGY.** (4 cr [5 cr with term project]; prereq 1001, 3101, Math 1111 or #; 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.
- 5253w. SEDIMENT TRANSPORT MECHANICS.** (3 cr; prereq 5251 or 5652 or CE 5410) Hooke
Properties of sediment, waterbed interaction, types of transport (bed load, suspended load), suspension of sediment, sediment transport theories, consequences of sediment movement in alluvial channels.
- 5255w. GLACIOLOGY.** (4 cr [5 cr with term project]; prereq Math 3221 or equiv or #) Hooke
Theories of glacier flow. Internal structures and heat flow in glaciers and ice sheets. Reading assignments and problems.
- 5261f. GLACIAL GEOLOGY.** (4 cr [5 cr with term paper or map lab]; prereq 1002 or 3112) Wright
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.
- 5301f. GENERAL GEOCHEMISTRY.** (3 cr; prereq 1 qtr chemistry, #) Seyfried, Alexander
Basic principles of geochemistry; stresses distribution and mobilization of elements in the earth's crust, stable isotope geochemistry, and geochemical reactions pertinent to the formation of igneous, metamorphic, and sedimentary rocks.

Major Requirements and Course Descriptions

- 5302s. NUCLEAR GEOLOGY.** (4 or; prereq #) Alexander
Theory and practice of radioactive dating. K/Ar, Rb/Sr and U, Th/Pb method as applied to geologic problems. Use of isotopic tracer techniques in crust-mantle evolution, igneous processes, and the early history of the earth.
- 5303w. AQUEOUS GEOCHEMISTRY.** (4 or; prereq Chem 5501, 5520, #) Seyfried
Chemical processes in the oceans, mineral equilibria, exchange with the atmosphere. Redox processes and controls on the chemistry of natural waters.
- 5351f. ECONOMIC GEOLOGY: METAL SULFIDE DEPOSITS.** (5 or with lab, 4 or without lab; prereq 3401 or 5404, 3103 or #) Sawkins
Nature and distribution of sulfide deposits and analysis of the processes by which metals are concentrated in magmatic, hydrothermal, and sedimentary environments.
- 5352s. ECONOMIC GEOLOGY: FERROUS METALS AND URANIUM DEPOSITS.** (4 or; prereq 3401, 3103 or #) Sawkins
Environmental setting, mineralogy, and genesis of ferrous metal ore deposits, uranium deposits, and nonmetallic deposits.
- 5404f. MINERAL SYSTEMS I.** (4 or, §3401, §5004; prereq 1 qtr chemistry) Zoltai
Crystallography: basic and compound symmetry operations, point and space groups, crystal forms and coordinate systems. Systematics of basic and derivative close-packed and coordination polyhedral structures of rock forming and ore minerals. Demonstrations of crystallographic and crystal structural concepts.
- 5405w. MINERAL SYSTEMS II.** (4 or; prereq 3401 or 5405, 1 qtr physics) Shaw
Review of optical mineralogy. Bonding and relative sizes of atoms and ions. Chemical substitutions. Crystal growth and imperfections. X-ray powder diffraction. Thermal, electric, elastic, and magnetic properties of minerals. Absorption phenomena. Laboratory: optical mineralogy and crystal physics exercises.
- 5452s. IGNEOUS AND METAMORPHIC PETROLOGY.** (5 or; prereq 3102, Chem 5520 or 5521, Math 3211 or #) Stout
Basic thermodynamic tools and chemographic analysis for interpretation of chemical processes in igneous and metamorphic rocks. Theoretical course. Laboratory, field trip, problem sets, and term paper.
- 5501w. GEOPHYSICAL METHODS IN GEOLOGY.** (4 or; prereq 3102, Phys 1291) Chase
Geophysical properties of the earth and earth materials, internal structure and constitution, geophysical exploration methods and geologic interpretation, radioactivity and thermal structure of the earth, physical basis for plate tectonics.
- 5505f. PHYSICS AND CHEMISTRY OF THE EARTH I.** (4 or; prereq 1111, Phys 1295) Mooney
Earthquake seismology; physical structure of the earth's crust and deep interior; gravity field of the earth.
- 5506w. PHYSICS AND CHEMISTRY OF THE EARTH II.** (4 or; prereq 5505 or #) Alexander, Shaw
Origins and chemical evolution of the earth through geologic time.
- 5507s. PHYSICS AND CHEMISTRY OF THE EARTH III.** (4 or; prereq 5506 or #) Banerjee, Chase
Gravity and magnetic fields of the earth; paleomagnetism, thermal history of the earth.
- 5511f. PRINCIPLES OF GRAVITY AND MAGNETIC EXPLORATION.** (3 or; prereq Phys 1291) Chase
Instrumentation, surveying techniques, reduction of data, interpretation, case histories.
- 5512w. PRINCIPLES OF SEISMIC EXPLORATION.** (3 or, §5522; prereq Phys 1291) Mooney
Reflection and refraction seismology; theory, interpretation, instruments.
- 5513s. PRINCIPLES OF ELECTRICAL EXPLORATION.** (3 or; prereq Phys 1291) Mooney
Resistivity, electromagnetic induced polarization, and other methods.
- 5522w. PRINCIPLES OF REFRACTION SEISMIC EXPLORATION.** (2 cr, §5512; principally for civil engineering and geo-engineering students; prereq Phys 1291) Mooney
Seismic wave theory, refraction seismology.
- 5531. HIGH PRESSURE MINERALOGY WITH GEOPHYSICAL APPLICATIONS.** (3 or; prereq 3401 or #) Shaw
Phase transformations in solids at high pressures and temperatures; silicates and silicate analogs, likely mineralogical constitution of the mantle, and detailed structure of the mantle.
- 5541f. GEOMAGNETISM.** (3 or; prereq 1 qtr each geology, physics, mathematics; offered 1962 and alt yrs) Banerjee
Historical introduction; magnetic properties of rocks and minerals; polar wandering and continental drift.
- 5601f. LIMNOLOGY.** (4 or, §EBB 5601; prereq Chem 1005 or equiv)
Events occurring in lakes, reservoirs, and ponds; their physics, chemistry, and biology. Interrelationships of these parameters; effects of civilization on lakes.
- 5602. CASE STUDIES IN LIMNOLOGY.** (3 or; prereq 5601 or EBB 5601)
Detailed analyses of specific studies on lakes and problems of lakes throughout the world.
- 5611s. GROUNDWATER GEOLOGY.** (4 or; prereq 1001 or 1111, Math 1231, 1 qtr physics and chemistry or #) Pfannkuch
Origin, occurrence, and movement of groundwater viewed in the context of the hydrologic cycle. Characteristics of aquifer systems. Exploratory investigations. Hydrogeologic units and boundaries of regional systems. Analysis of surface water and groundwater interaction, recharge. Quality and chemistry of groundwater supplies.

- 5642. MARINE GEOLOGY.** (4 cr; prereq geology core course sequence or #)
Physiography and structure of ocean basins and continental margins; their development as suggested by concepts of global tectonics. Emphasis on geologic processes within the marine environment. Review of marine geological and geophysical techniques.
- 5651f. GEOLOGICAL LIMNOLOGY.** (5 cr; prereq 5601 or EBB 5601)
Tectonic and climatic setting of lakes; physical, chemical, and biological processes of sedimentation in lakes.
- 5652. SEDIMENTOLOGY.** (5 cr; prereq 3102; 3 lect, 6 lab hrs per wk) Crews
Sedimentary rocks: their origin and diagenetic history, using knowledge of present-day depositional environments and petrographic microscopy. Term paper required.
- 5653. DEPOSITIONAL SYSTEMS.** (5 cr; prereq 3102) Crews
Facies relations in modern and ancient sedimentary environments.
- 5654. CARBONATE PETROLOGY.** (5 cr; prereq 3102; 3 lect, 4 lab hrs per wk) Crews
Factors controlling modern carbonate deposition, interpretation of carbonate facies through geologic time, and effects of diagenesis. Project required.

German

Staff—Chair, Frank D. Hirschbach, 219 Folwell Hall; *Director of Undergraduate Studies,* Wolfgang Taraba, 218 Folwell Hall; *Director of Language Instruction,* Ray M. Wakefield, 214 Folwell Hall

Professors: Firchow, Hirschbach, Liberman, Schulte-Sasse, Taraba, Weiss

Associate Professors: Duroche, Joeres, Plummer

Assistant Professors: Achberger, Fullerton, Wakefield

German includes the study of the spoken language and of German literature, philology, culture, and civilization.

General Education—German literature courses in translation—3601, 3602, 3603, 3604, 3610, and 3641—have no prerequisites and offer a sound introduction to major trends in German literature and aspects of German culture.

Placement—Students who have taken German in high school should count each year of high school study as one college quarter. Students whose previous study was completed more than one year ago, who think they should be ahead of or behind the point determined by this formula, who want University credit for proficiency acquired beyond previous course work, or who learned German outside the classroom should take the placement test offered by the department at the beginning of each quarter.

B. A. MAJOR SEQUENCE

Required Preparatory Courses—1105 or 1205 or placement

Major Requirements—3104, 3105, 3342 or 3342H, one of the following sequences:

*Literature Emphasis—*4 cr 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, storm and stress, and classicism: 3041, 3301, 3311, 3421, 3422, 3423, 3424
3. 19th-century literature: 3042, 3302, 3312, 3431, 3432
4. 20th-century literature: 3043, 3303, 3313, 3441, 3442, 3443, 3604, 5371, 5471, 5472
5. Civilization and culture: 3501, 3511, 3512, 3513, 3590, 5331, 5371, 5510
6. Conversation and composition: 3011, 3012, 3013, 3014, 3015, 3016, 3021, 5011
7. Philology: 3701, 3702

Major Requirements and Course Descriptions

Plus 3xxx-5xxx German elective courses to complete a total of 44 cr

German Studies Emphasis—At least six courses from 3011, 3012, 3013, 3014, 3015, 3016, 3021, 5011

At least two courses from 3501, 3511, 3512, 3513, 3590, 5331, 5510

One 3xxx or 5xxx elective German course

Two courses in art history, economics, geography, history, humanities, music, or political science that concentrate on German-speaking or central European areas

One of the following: Ling 1001, 1005, 3001, 3005, 3811

Courses taught in translation, except 3604, do not count toward the major.

For teacher's licensure requirements, see the *College of Education Bulletin*.

MINOR SEQUENCE

Required Preparatory Courses—1105 or 1205 or placement

Minor Requirements—3104, 3105; one course from 3011, 3012, 3013, 3014, 3015, 3016; 12 3xxx-5xxx cr in elective German courses

All courses must be taken on A-N grading. No more than one course may be in directed or independent study.

The minor program must be approved by the director of undergraduate studies.

GERMAN (Ger)

1010 (formerly 1310). BEGINNING GERMAN: INDIVIDUALIZED READING. (1-15 cr per qtr [1st 3 cr must be completed as a unit; 15 cr max], §1101-1102-1103, §1110, §1201-1210)

Structure and reading comprehension. Students work at own pace with readings, computer, and audiotapes, earning credit as they progress through material. Teachers available for consultation and testing 7 hours per week.

1101-1102-1103-1104-1105. BEGINNING AND INTERMEDIATE GERMAN: CLASSROOM INSTRUCTION. (5/5/5/4 cr, §1010, §1110, §1201-1210, §1204-1205; prereq 15 cr of 1110 or # for 1104)

Structure, listening and reading comprehension, writing, speaking.

1110. BEGINNING GERMAN: INDIVIDUALIZED READING, LISTENING, WRITING. (1-15 cr per qtr [1st 3 cr must be completed as a unit; 15 cr max], §1010, §1101-1102-1103, §1201-1210)

Structure, writing, and comprehension. Students work at own pace with book, computer, audio and video tapes, earning credit as they progress through material. Teachers available for consultation and testing 7 hours per week.

1201-1210, 1204-1205. BEGINNING AND INTERMEDIATE GERMAN: COMPREHENSION. (5/1-10 [10 cr max], 5/4 cr, §1010, §1101-1102-1103-1104-1105, §1110; prereq 1201 or # for 1204)

1201: Elementary listening and reading comprehension. 1210: Reading, independent study. 1204: Listening comprehension. 1205: Structure and written self-expression.

3011-3012-3013. CONVERSATION AND COMPOSITION. (4 cr per qtr; prereq 1105 or placement)

Spoken German; compositions; development of vocabulary; grammar review.

3014. CONVERSATION AND COMPOSITION. (4 cr; prereq 3013 or #)

Focus on the media. Reading and analysis of German newspapers and journals; exercises using German-language radio and video broadcasts.

3015. CONVERSATION AND COMPOSITION. (4 cr; prereq 3013 or #)

Technical, scientific, and scholarly use of German in both written and oral form.

3016. TECHNIQUES OF TRANSLATION. (4 cr; prereq 3013 or #)

Translation of various texts into and from German.

3021. BUSINESS GERMAN. (4 cr; prereq 1105 or equiv)

Oral and written command of the language used by German business and industry. Reading and discussion of German business journals; the basic format of business and other formal letters and preparation of reports.

3040. GERMAN PLAY. (1-3 cr per qtr; prereq 1103 or 1110, #)

Use of standard German through participation in an annual dramatic production.

3041, 3042, 3043. ORAL INTERPRETATION OF GERMAN DRAMA. (2 cr per qtr; prereq 3013 or equiv, #)

Dramatic reading of German plays for pronunciation and preparation for German play production.

- 3104. READING AND ANALYSIS OF PROSE.** (4 cr; prereq 1105 or #)
Reading fluency; appreciation of literary values through literary interpretation and familiarization with critical terminology.
- 3105. READING AND ANALYSIS OF DRAMA AND POETRY.** (4 cr; prereq 1105 or #)
Reading fluency; appreciation of literary values through literary interpretation and familiarization with critical terminology.
- 3106. INTRODUCTION TO GERMAN LITERARY CRITICISM AND THEORY.** (4 cr; prereq 3104 or 3105 or #)
Major movements in German criticism from positivism to present. Theory and practice. Taught in English, readings in German.
- 3301. LYRIC POETRY: KLOPSTOCK THROUGH HÖLDERLIN.** (4 cr; prereq 3104, 3105)
- 3302. LYRIC POETRY: NOVALIS THROUGH LILIENCRON.** (4 cr; prereq 3104, 3105)
- 3303. LYRIC POETRY: RILKE TO THE PRESENT.** (4 cr; prereq 3104, 3105)
- 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.
- 3311. GERMAN DRAMA: CLASSICAL PERIOD.** (4 cr; prereq 3104, 3105)
- 3312. GERMAN DRAMA: 19TH CENTURY.** (4 cr; prereq 3104, 3105)
- 3313. GERMAN DRAMA: NATURALISM TO PRESENT.** (4 cr; prereq 3104, 3105)
- 3331. GERMAN COMEDY.** (4 cr; prereq 3104, 3105)
- 3341H. PROSEMINAR IN GERMAN.** (4 cr; prereq #; non-honors students may enroll with #)
Significant themes in German literature.
- 3342. SENIOR PROJECT IN GERMAN.** (2 cr; prereq #)
Students complete project under supervision of professors of their choice. Obtain detailed description of project requirements from Department of German.
- 3342H. SENIOR PROJECT IN GERMAN.** (2 cr; prereq #)
For description, see 3342.
- 3401. MEDIEVAL LITERATURE.** (4 cr; prereq 3104, 3105)
Political, social, and intellectual spheres of life in medieval Germany; major literary works.
- 3411. RENAISSANCE AND BAROQUE.** (4 cr; prereq 3104, 3105)
Major literary developments in the period of the Renaissance and the baroque; movements that shaped more recent German literature.
- 3421. ENLIGHTENMENT.** (4 cr; prereq 3104, 3105)
The 18th-century *Aufklärung* in historical and cultural context. Philosophy, criticism, poetry, drama, and the novel.
- 3422. STORM AND STRESS.** (4 cr; prereq 3104, 3105)
The *Sturm und Drang* period of the late 18th century. Literary criticism, literary works in historical and cultural context.
- 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.
- 3424. FAUST.** (4 cr; prereq 3104, 3105)
Goethe's *Faust*, Parts I and II.
- 3431. ROMANTICISM.** (4 cr; prereq 3104, 3105)
German literature of the romantic period; its intellectual and historical background.
- 3432. 19TH-CENTURY LITERATURE: 1832-1890.** (4 cr; prereq 3104, 3105)
German literature from late romanticism to naturalism.
- 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.
- 3450. SENIOR SEMINAR IN GERMAN LITERATURE.** (4 cr per qtr; prereq 3104, 3105, two additional German literature courses, #)
Study of one author or a specific aspect of German literature.
- 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. Topics vary.
- 3501. CONTEMPORARY GERMANY.** (4 cr; prereq 1 yr college German or 3 yrs high school German)
Culture and civilization of present-day East and West Germany.

Major Requirements and Course Descriptions

- 3511. GERMAN CIVILIZATION AND CULTURE: MIDDLE AGES TO THE RENAISSANCE.** (4 cr; prereq 4 or in literature courses beyond 3104, 3105)
Movements and personalities in art, music, science, religion, and education. Lectures in German.
- 3512. GERMAN CIVILIZATION AND CULTURE: REFORMATION TO 1800.** (4 cr; prereq 4 or in literature courses beyond 3104, 3105)
For description, see 3511.
- 3513. GERMAN CIVILIZATION AND CULTURE: 1800 TO PRESENT.** (4 cr; prereq 4 or in literature courses beyond 3104, 3105)
For description, see 3511.
- 3590. DIRECTED STUDIES IN GERMAN-SPEAKING COUNTRIES.** (5 or per qtr; prereq 3501, #)
Preparation for research abroad during quarter prior to departure; research completed while abroad. Written reports and oral examinations upon return.
- 3601. GERMAN LITERATURE IN TRANSLATION: MEDIEVAL LITERATURE.** (4 cr; requires no knowledge of German)
- 3602. GERMAN LITERATURE IN TRANSLATION: THE AGE OF GOETHE.** (4 cr; requires no knowledge of German)
- 3603. GERMAN LITERATURE IN TRANSLATION: MODERN LITERATURE.** (4 cr; requires no knowledge of German)
- 3604. GERMAN LITERATURE IN TRANSLATION AND THE FILM.** (4 cr; requires no knowledge of German...may be taken for or toward major or minor by doing a portion of the reading in German)
Modern German culture seen through literature and film. Representative works related to historical and intellectual developments in modern Germany. Novelistic and cinematic treatment of similar material.
- 3610. GERMAN AUTHORS AND/OR TOPICS IN TRANSLATION.** (4 or per qtr [12 or max]; requires no knowledge of German)
Study in depth of authors or topics from various periods in German literature.
- 3641. INTRODUCTION TO GERMAN FOLKLORE.** (4 cr; requires no knowledge of German)
The traditional folklore genres; charms (magic), legends, fairy tales, ballads.
- 3701. HISTORY OF GERMAN LANGUAGE.** (4 cr; prereq 3104, 3105)
- 3702. BEGINNING MIDDLE HIGH GERMAN.** (4 or; for jrs and srs; prereq 3104, 3105)
Middle High German grammar. Selected literary texts.
- 3970. DIRECTED STUDIES.** (1-5 or; prereq 3104 or 3105, #)
Guided reading in or study of German literature or culture and civilization of German-speaking countries.
- Courses at the 5xxx level are open to seniors upon recommendation of advisers. Prerequisites: 3104, 3105, three additional German literature courses or equivalent, plus course prerequisites.*
- 5011. ADVANCED COMPOSITION AND CONVERSATION.** (4 or; prereq 3013 or equiv)
- 5101, 5102, 5103. THE ANALYSIS AND TEACHING OF GERMAN.** (3/3/1 or; S-N only; prereq # for 5103)
5101: Phonetics and phonology of modern German. 5102: Morphology and syntax of modern German. 5103: Teaching theory and practice.
- 5331. CULTURAL ANALYSIS.** (4 or; prereq 3511 or 3512 or 3513 or equiv)
Techniques of cultural analysis (contrastive, anthropological, traditional) through examination of literary texts, newspapers, language usage, other sources; "cultural myths" and forms of humor.
- 5371. THE RADIO PLAY AS LITERARY FORM.** (4 or)
Radio plays by such authors as Dürrenmatt, Frisch, Eich, Jens, Böll or Grass; unique features dictated by the medium.
- 5471, 5472. HUGO VON HOFMANNSTHAL.** (4 or per qtr)
5471: 1890-1900. Poetry, early drama, early prose. 5472: 1900-1929. Comedy, tragedy, opera, prose.
- 5510. TOPICS IN CONTEMPORARY GERMAN CULTURE.** (4 or per qtr [8 or max]; prereq 3513 or equiv)
A single topic of contemporary German culture explored in depth to develop a methodology of *Landeskunde*. Topics vary. Taught in German.
- 5601, 5602, 5603. DRAMA IN TRANSLATION.** (4 or per qtr; prereq 8 or in theatre arts or in literature above 3001; requires no knowledge of German)
- 5970. DIRECTED STUDIES.** (1-5 or per qtr)
Guided individual reading or study.

DUTCH (Dtch)

- 1110f,w,s. BEGINNING AND INTERMEDIATE DUTCH: INDIVIDUALLY PACED.** (1-20 or [20 or max...1st 3 cr must be completed as unit]; meetings scheduled as required)
Basic and intermediate language skills: writing, reading, oral comprehension, speaking. Students proceed at their own rates. Includes computer drill and audiotapes. Credits awarded as completed at end of each quarter.
- 3310. STUDIES IN DUTCH AUTHORS.** (4 or per qtr; prereq 20 or of 1110 or #)
One author studied in depth (e.g., Vondel, Couperus, van het Reve).
- 3610. DUTCH AUTHORS IN TRANSLATION.** (4 or per qtr; no knowledge of Dutch required)
One author studied in depth (e.g., Vondel, Multituli, Bomans).
- 3970. DIRECTED STUDIES.** (1-5 or; prereq 20 or of 1110 or #)
Guided reading in or study of Dutch literature, culture, or advanced language skills.

GREEK-LATIN

See Classics.

Health Sciences

CLA students may take up to 16 credits of course work offered by other colleges. The credits may be applied toward CLA degrees, but may not be used to fulfill group distribution requirements. Descriptions of courses in the health sciences can be found in the bulletins of the several health science programs. Courses in biometry (School of Public Health), microbiology (Medical School), and physiology (Medical School) are listed in this bulletin and are approved for CLA credit.

Information about requirements for entering health sciences programs can be found in section III.

HEBREW

See Near and Middle Eastern Studies.

HINDI

See South Asian Studies.

History (Hist)

Staff—Chair, Stanford E. Lehmborg, 614a Social Sciences Building; *Assistant Chair,* Russell R. Menard, 614b Social Sciences Building; *Director of Graduate Studies,* Edward L. Farmer, 633 Social Sciences Building; *Director of Undergraduate Studies and Honors,* Michael F. Metcalf, 668 Social Sciences Building

Professors: Altholz, Bachrach, Bamford, Berman, Brauer, Chambers, Farah, Farmer, Howe, Isaacman, Kaba, Kopf, Lehmborg, Marshall, Menard, Modell, Munholland, Murphy, Noble, Noonan, Rudolph, Samaha, Schwartz, Stavrou, Taylor, Thayer, Tracy, Vecoli, Wright

Associate Professors: S. Evans, Green, Kelly, Kieft, Lelyveld, Metcalf, Phillips, Reyerson, Spear

Assistant Professors: J. Evans, Maynes, McCaa, Peterson, Plummer, Valdes

Course offerings in the Department of History cover the history of humankind to the present day.

Major Requirements and Course Descriptions

General Education—History courses numbered 1xxx, 3xxx, and 5000 to 5500 are designed to serve the needs of nonmajors as well as majors. Courses numbered between 5000 and 5500 are open to 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 offers internships for majors and nonmajors through the Ramsey County Historical Society, the Minnesota Historical Society, and other agencies in the metropolitan area. Students gain practical experience in research, exhibits, site interpretation, cataloging, and other public history activities. See the director of undergraduate studies for further information.

B.A. MAJOR SEQUENCE

If you are considering a major in history, you should consult with advisers in the Undergraduate Studies office.

Transfer students majoring in history must complete 3961 and at least four additional 3xxx-5xxx courses at the University of Minnesota.

No courses may be taken S-N. Courses in which D grades were earned may not be applied to the major.

Preparatory Courses—Three introductory courses, usually 1xxx courses completed during the first two years of college. Juniors and seniors fulfill this requirement by completing 3xxx equivalents of the survey courses, or they may petition to take other advanced courses instead.

Advanced Courses—Minimum of 10 3xxx and 5xxx courses, to include:
Four courses (excluding survey courses) in a field of concentration
3955 (Introduction to Writing History)
3961 (Major Paper), completed during senior year

Distribution Requirements—Through the 13 1xxx, 3xxx, and 5xxx courses, you must fulfill both of the following distribution requirements:

1. Chronological: At least two courses from the premodern period and two courses from the modern period.
2. Geographical: At least one course in each of three different geographical areas.

Language Requirement—The CLA requirement may be satisfied by Route I or Route II. If you are planning graduate work in history, you should acquire a reading knowledge of one or more languages early in your undergraduate career.

The *Description of the Undergraduate Major in History* brochure, with additional information, may be obtained from the Undergraduate Studies office, 668 Social Sciences Building (373-5844).

MINOR SEQUENCE

Minor Requirements—Five courses in at least two different cultural areas; four of these courses must be at the 3xxx level (excluding introductory courses) or 5xxx level. No courses may be taken S-N. Courses in which D grades were earned may not be applied to the minor.

The minor program must be approved by the director of undergraduate studies. You must submit a one-page statement explaining your choice of courses and how the courses relate to your career plans, major, or special interests.

Transfer students minoring in history must complete at least two courses at the University of Minnesota.

INTRODUCTORY

- 1001f, 1002w, 1003s. INTRODUCTION TO MODERN EUROPEAN HISTORY SINCE THE MIDDLE AGES.** (4 cr per qtr, §1001H, §1002H, §1003H, §3001, §3002, §3003; not open to jrs, srs) Staff
1001: Western European civilization to 1715. 1002: Revolution, liberalism, and nationalism to 1870. 1003: 1870 to recent times.
- 1011, 1012, 1013. INTRODUCTION TO MODERN EUROPEAN HISTORY WITH SOURCE READINGS.** (5 cr per qtr, §1011H, §1012H, §1013H, §3011, §3012, §3013; not open to jrs, srs) Staff
Same as 1001, 1002, 1003, but with more attention to history of thought.
- 1051f, 1052w, 1053s. ANCIENT CIVILIZATION.** (4 cr per qtr, §3051, §3052, §3053; lects and 1 discussion hr per wk) J Evans, Kelly
1051: Near East to 500 B.C. 1052: Greek civilization to 323 B.C. 1053: Roman civilization to 305 A.D.
- 1101. INTRODUCTION TO MEDIEVAL HISTORY.** (4 cr) Bachrach, Reyerson
Europe from the decline of Rome to the early Renaissance: politics, institutions, society, economy, and culture of the Middle Ages.
- 1151. ENGLISH HISTORY TO THE 17TH CENTURY.** (4 cr, §3151) Altholz, Lehmborg
The Anglo-Saxons and Normans; development of English law and Parliament; Reformation and constitutional crisis.
- 1152. ENGLISH HISTORY FROM THE 17TH CENTURY TO THE PRESENT.** (4 cr, §3152) Altholz, Lehmborg
Civil war, revolution, and constitutional settlement; industrial revolution, democracy, and welfare state.
- 1301, 1302. AMERICAN HISTORY.** (4 cr per qtr, §1301H, §1302H) Staff
1301: Colonial era and early national period from the Revolution through Civil War and Reconstruction. 1302: Modern America from 1880 to the present.
- 1310. TOPICS IN AMERICAN HISTORY.** (4 cr per qtr [may be repeated with change of topic]; prereq soph) Staff
Recent topics have included recent religious history, law in American society, film and popular culture.
- 1401. SURVEY OF LATIN AMERICAN HISTORY: COLONIAL PERIOD TO 1800.** (4 cr, §3401) McCaa, Schwartz
The pre-Hispanic and colonial period to 1800 with emphasis on social, cultural, and economic aspects.
- 1402. SURVEY OF LATIN AMERICAN HISTORY: 1800-1929.** (4 cr, §3402) McCaa, Schwartz
Development of new nations from independence to the emergence of dependent economies.
- 1403. SURVEY OF LATIN AMERICAN HISTORY: 1929 TO PRESENT.** (4 cr, §3403) McCaa, Schwartz
Contradictions of modern societies: economic expansion, dependency, population growth and the social crisis, democratic and authoritarian policies.
- 1421, 1422. THE WORLD AND THE WEST.** (4 cr per qtr, §3421, §3422) Kopf
Survey of the political, economic, and cultural interaction between the peoples of Europe, Africa, America, and Asia. 1421: Era of Western dominance, 1500-1850—sea power, colonialism, imperialism. 1422: Modern world of renaissance, nationalism, modernization and countermodernization, 1850 to present.
- 1431. INTRODUCTION TO HISTORY OF AFRICA: TO 1500.** (4 cr, §3431) Isaacman, Kaba
Socioeconomic, political, and cultural development in early African history.
- 1432. INTRODUCTION TO HISTORY OF AFRICA: 1500-1880.** (4 cr, §3432) Isaacman, Kaba
Slave trade, Islamic revolutions, and European expansion.
- 1433. INTRODUCTION TO HISTORY OF AFRICA: 1880 TO PRESENT.** (4 cr, §3433) Isaacman, Kaba
Colonial rule, African nationalism and independence movements.
- 1451. SURVEY OF CIVILIZATIONS IN ANCIENT ASIA.** (4 cr, §1451H, §3451) Farmer, Kopf, Lelyveld, Marshall, Taylor
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.
- 1452. SURVEY OF ASIAN CIVILIZATIONS IN THE MIDDLE PERIOD.** (4 cr, §1452H, §3452) Farmer, Kopf, Lelyveld, Marshall, Taylor
A comparative approach to the rise of Buddhism, Hinduism, and Islam; the Mongol conquests; the creation of the early modern empires of the Ming, Ch'ing, Mughuls, Safavids, and Ottomans.
- 1453. SURVEY OF ASIAN CIVILIZATIONS IN THE MODERN ERA.** (4 cr, §1453H, §3453) Farmer, Kopf, Lelyveld, Marshall, Taylor
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, and creation of independent nation-states.
- 1461. INTRODUCTION TO EAST ASIA: EARLY CIVILIZATION.** (4 cr, §3461, §EAS 1461) Farmer, Taylor
The rise and fall of the first great Chinese empire (Han) and the early history of Vietnam, Korea, and Japan. The origins and development of Chinese society, government, and thought, and the introduction of Buddhism from India.

Major Requirements and Course Descriptions

- 1462. INTRODUCTION TO EAST ASIA: THE IMPERIAL AGE.** (4 cr, §3462, §EAS 1462) Marshall, Taylor
Historical survey of early Japan, medieval Vietnam, Korea, and China from the T'ang empire until the end of the 18th century. Diffusion of Chinese and Buddhist cultural forms and maturation of distinctive societies in China, Japan, Vietnam, and Korea.
- 1463. INTRODUCTION TO EAST ASIA IN MODERN TIMES.** (4 cr, §3463, §EAS 1463) Farmer, Marshall
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.
- 1951f, 1952w, 1953s. WORLD MILITARY HISTORY: A SURVEY.** (2 cr per qtr, §Mil 1011, §Mil 1012, §Mil 1013; may not be used to satisfy requirements for major in history) Staff
1951: From ancient times to the Thirty Years War. 1952: From 1648 to the Crimean War. 1953: From the American Civil War to World War II.
- 1957. EARLY HISTORY OF AIR POWER.** (2 cr, §Air 1104; may not be used to satisfy requirements for major in history; prereq #)
Beginnings of human flight. Early military attitudes toward aviation and development of employment concepts, tactics, and strategies. Early development of air doctrines.
- 1958. ALLIED AIRPOWER IN WORLD WAR II AND THE BERLIN AIRLIFT.** (2 cr, §Air 1105; may not be used to satisfy requirements for major in history; prereq #)
Uses of airpower in World War II. Development of an independent Air Force. Cold war strategy. Berlin airlift.
- 1959. MODERN EMPLOYMENT OF AIR POWER.** (2 cr, §Air 1106; may not be used to satisfy requirements for major in history; prereq #)
Effects of air power on tactics and strategy in the modern world. Role of air power in Korea, Cuba, Southeast Asia. Air power advances over past quarter century.
- 3001f, 3002w, 3003s. INTRODUCTION TO MODERN EUROPEAN HISTORY SINCE THE MIDDLE AGES.** (4 cr per qtr, §1001, §1002, §1003, §1001H, §1002H, §1003H) Staff
For description, see 1001, 1002, 1003.
- 3011, 3012, 3013. INTRODUCTION TO MODERN EUROPEAN HISTORY WITH SOURCE READINGS.** (5 cr per qtr, §1011, §1012, §1013, §1011H, §1012H, §1013H) Staff
Same as 1001, 1002, 1003, but with more attention to history of thought.
- 3051f, 3052w, 3053s. ANCIENT CIVILIZATION.** (4 cr per qtr, §1051, §1052, §1053) J Evans, Kelly
3051: Near East to 500 B.C. 3052: Greek civilization to 323 B.C. 3053: Roman civilization to 305 A.D.
- 3151. ENGLISH HISTORY TO THE 17TH CENTURY.** (4 cr, §1151) Altholz, Lehmburg
For description, see 1151.
- 3152. ENGLISH HISTORY FROM THE 17TH CENTURY TO THE PRESENT.** (4 cr, §1152) Altholz, Lehmburg
For description, see 1152.
- 3401. SURVEY OF LATIN AMERICAN HISTORY: COLONIAL PERIOD TO 1800.** (4 cr, §1401) McCaa, Schwartz
For description, see 1401.
- 3402. SURVEY OF LATIN AMERICAN HISTORY: 1800-1929.** (4 cr, §1402) McCaa, Schwartz
For description, see 1402.
- 3403. SURVEY OF LATIN AMERICAN HISTORY: 1929 TO PRESENT.** (4 cr, §1403) McCaa, Schwartz
For description, see 1403.
- 3421, 3422. THE WORLD AND THE WEST.** (4 cr per qtr, §1421, §1422) Kopf
For description, see 1421, 1422.
- 3431. INTRODUCTION TO HISTORY OF AFRICA: TO 1500.** (4 cr, §1431) Isaacman, Kaba
For description, see 1431.
- 3432. INTRODUCTION TO HISTORY OF AFRICA: 1500-1800.** (4 cr, §1432)
For description, see 1432.
- 3433. INTRODUCTION TO HISTORY OF AFRICA: 1880 TO PRESENT.** (4 cr, §1433) Isaacman, Kaba
For description, see 1433.
- 3451. SURVEY OF CIVILIZATIONS IN ANCIENT ASIA.** (4 cr, §1451, §1451H) Farmer, Kopf, Lelyveld, Marshall, Taylor
For description, see 1451.
- 3452. SURVEY OF ASIAN CIVILIZATIONS IN THE MIDDLE PERIOD.** (4 cr, §1452, §1452H) Farmer, Kopf, Lelyveld, Marshall, Taylor
For description, see 1452.
- 3453. SURVEY OF ASIAN CIVILIZATIONS IN THE MODERN ERA.** (4 cr, §1453, §1453H) Farmer, Kopf, Lelyveld, Marshall, Taylor
For description, see 1453.
- 3461. INTRODUCTION TO EAST ASIA: EARLY CIVILIZATION.** (4 cr, §1461, §EAS 1461) Farmer, Taylor
For description, see 1461.

- 3462. INTRODUCTION TO EAST ASIA: THE IMPERIAL AGE.** (4 or, §1462, §EAS 1462) Marshall, Taylor
For description, see 1462.
- 3463. INTRODUCTION TO EAST ASIA IN MODERN TIMES.** (4 or, §1463, §EAS 1463) Farmer, Marshall
For description, see 1463.

HONORS

- 1001Hf, 1002Hw, 1003Ha. HONORS COURSE: INTRODUCTION TO MODERN EUROPEAN HISTORY SINCE THE MIDDLE AGES.** (4 cr per qtr, §1001, §1002, §1003, §3001, §3002, §3003; not open to jrs, srs; prereq #) Staff
For description, see 1001, 1002, 1008.
- 1011H, 1012H, 1013H. HONORS COURSE: INTRODUCTION TO MODERN EUROPEAN HISTORY WITH SOURCE READINGS.** (5 cr per qtr, §1011, §1012, §1013, §3011, §3012, §3013; not open to jrs and srs)
Same as 1001, 1002, 1003, but with more attention to history of thought.
- 1301H, 1302H. HONORS COURSE: AMERICAN HISTORY.** (4 or per qtr, §1301, §1302; prereq #) Staff
For description, see 1301, 1302.
- 1451H. HONORS COURSE: SURVEY OF CIVILIZATIONS IN ANCIENT ASIA.** (4 or, §1451, §3451; prereq #) Farmer, Kopf, Lelyveld, Marshall, Taylor
For description, see 1451.
- 1452H. HONORS COURSE: SURVEY OF ASIAN CIVILIZATIONS IN THE MIDDLE PERIOD.** (4 or, §1452, §3452; prereq #) Farmer, Kopf, Lelyveld, Marshall, Taylor
For description, see 1452.
- 1453H. HONORS COURSE: SURVEY OF ASIAN CIVILIZATIONS IN THE MODERN ERA.** (4 or, §1453, §3453; prereq #) Farmer, Kopf, Lelyveld, Marshall, Taylor
For description, see 1453.
- 3951-3952f. HONORS COURSE: HISTORY.** (4 or 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

- 3020. TOPICS IN FAMILY HISTORY.** (4 or) S Evans, Lelyveld, Maynes, Modell
Covers a wide range of topics: women, work, and family; United States and European comparative family history.
- 3031, 3032, 3033. MEDICINE AND DISEASE IN HISTORY.** (4 or per qtr, §HMed 3001, 3002, 3003) Eyer
Intellectual and social history of medicine in Europe and America. 3031: Classical antiquity through mid-17th century. 3032: Mid-17th through mid-19th centuries. 3033: Modern medicine in America.
- 3043. ISLAM AND NATIONALISM.** (4 or) Kaba, Lelyveld
A comparative analysis of modern political movements in the Middle East, India, and Africa, and the ideological role of Islam.
- 3200. CONTEMPORARY PROBLEMS IN HISTORICAL PERSPECTIVE.** (4 or per qtr) Staff
Comparative treatment of a contemporary problem (e.g., urbanization, social change, nationalism, intercultural conflict, revolution) in historical perspective.
- 3212. ORAL HISTORY.** (4 or) S Evans, Isaacman
Oral data collection as a historical research tool in literate and nonliterate societies. Examination of current historical literature. Practical training in interviewing techniques through projects in local history.
- 3797. LIFE AGAINST DEATH: POPULATION CRISES IN THE PAST.** (4 or) Maynes, McCaa, Modell, Phillips
Interaction between social customs and population processes (family, sex, fertility, migration, aging, death) from prehistoric times to the present in Europe and the Americas emphasizing demographic responses to changing environmental, technological, and political circumstances.
- 3955. INTRODUCTION TO WRITING HISTORY.** (4 or; priority given to history majors; prereq Δ) Staff
Practical course. Use of documents and different kinds of historical writing. Students read and discuss material representative of contrasting historical perspectives. Faculty guidance in sections limited to 15 students.
- 3961f,w,s. MAJOR PAPER.** (5 or; 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 department office.
- 3970. DIRECTED STUDIES.** (1-15 or per qtr; prereq #)
Guided individual reading or study. Open to qualified students for one or more quarters.
- 3980. INTERNSHIP.** (4 or 5 or per qtr [max 10 cr]; prereq #) Staff
Internship with historical society, government, or community organization, arranged through and supervised by department.

Major Requirements and Course Descriptions

- 3990. DIRECTED RESEARCH.** (1-15 cr per qtr; prereq #)
Qualified students, with consent of instructor, work on a tutorial basis.
- 5011. QUANTITATIVE METHODS IN HISTORICAL RESEARCH.** (4 cr; prereq one postsurvey course in any social science) Staff
Quantitative approaches to analysis of 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 in historical analysis emphasized.
- 5013. DOCUMENTARY RESEARCH FOR HISTORICAL ARCHAEOLOGY.** (1 cr; prereq #)
Practical introduction to documents and research strategies useful in study of archaeological sites.
- 5015. LIBRARIES AND ARCHIVES AS RESOURCES FOR RESEARCH.** (2 cr) Hinding
Library reference tools, monographs and serials, special collections, data bases, and local archives. Skills in using libraries and archives. Research opportunities available.
- 5021, 5022. OCEANIC HISTORY: EAST AND WEST.** (4 cr per qtr) Bamford
5021: Medieval and early modern maritime science and technology, resources and motivation, and the process of expansion, to 1715. 5022: European empires overseas, industrialization and the transportation revolution on the oceans, to 1945.
- 5035. THE GERM THEORY AND THE MEDICAL PROFESSION.** (4 cr, §HMed 5035) Eyer
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.
- 5255. POLITICAL PARTIES TO 1789: EUROPE AND AMERICA.** (4 cr; prereq #) Metcalf
Comparative study of the origins, development, and functions of political parties in England, Sweden, and the Anglo-American colonies, 1688-1789, incorporating literature from both history and political science.
- 5429. SLAVERY IN THE AMERICAS.** (4 cr) Isaacman, Menard, Schwartz, Spear
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

- 3434. HISTORY OF ISLAM, ISLAMIC CIVILIZATION AND POLITICS IN AFRICA.** Kaba
The spread of Islam; its socioeconomic and political consequences. Islam as a contemporary political ideology.
- 5432. PROBLEMS IN CONTEMPORARY AFRICA.** (4 cr) Kaba
The problems of political, social, and economic development in Africa since World War II. Postindependence politics and problems of southern Africa.
- 5444, 5445. PROBLEMS IN CENTRAL AND SOUTHERN AFRICAN HISTORY.** (4 cr per qtr; also open to sophs who have passed 1431, 1432, 1433) Isaacman
The nature and process of change in precolonial, colonial, and independent Central and South Africa.
- 5447. PROBLEMS IN EAST AFRICA.** (4 cr) Isaacman
Advanced course. Focus on specific themes and methodological problems.

AMERICAN HISTORY

- 3347. WOMEN IN COLONIAL AND VICTORIAN AMERICA: 1800-1890.** (4 cr) S Evans
The female experience in U.S. history to 1890: work, family, images, sexuality, feminism; impact of race and class.
- 3348. WOMEN IN MODERN AMERICA: 1890-1980.** (4 cr) S Evans
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.
- 3801. COLONIAL PERIOD OF AMERICAN HISTORY TO 1689.** (4 cr) Menard
The interaction of Europeans, Africans, and Native Americans who came together to create a new world around the rim of the Atlantic ocean during the 16th and 17th centuries.
- 3802. COLONIAL PERIOD OF AMERICAN HISTORY, 1689-1765.** (4 cr) Menard
Social, political, and economic developments in the colonies of British America during the 18th century that culminated in the American Revolution and the creation of the United States.
- 3804. ERA OF THE AMERICAN REVOLUTION.** (4 cr) Howe
Situation of the colonies in England's empire, causes of the imperial crisis; explanations of American independence, and impact of independence, the war, and process of nation building upon American politics, government, society, and patterns of thought.
- 3805. JACKSONIAN AMERICA.** (4 cr) Howe
The transformation of American life, ca. 1800 to 1850, resulting from national independence, westward expansion, economic development, and immigration; patterns of social, cultural, and political change; religion and reform; and the place of women, blacks, and Native Americans in the American nation.

- 3811. POLITICS AND SOCIETY IN THE AGE OF JEFFERSON AND JACKSON, 1800-1848.** (4 cr)
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.
- 3812. CIVIL WAR AND RECONSTRUCTION.** (4 cr)
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, Douglas, 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.
- 3813. POLITICS AND SOCIETY IN GILDED-AGE AMERICA, 1877-1900.** (4 cr)
From Grant to Theodore Roosevelt; robber barons and the industrial revolution; bossism and liberal reform; the West and the plight of the American Indian; origins of the new South; ethnocultural politics; populism and the agrarian revolt; the crisis decade of the 1890s; organized labor and radical politics; emergence of progressivism; imperialism and the Spanish-American War.
- 3821. UNITED STATES IN THE 20TH CENTURY: 1890-1917.** (4 cr) Berman, Noble, Spear
The closing of the agricultural frontier and the growth of industrialism, the corporation, and the city; populism and progressivism; the end of isolation and the growth of overseas empire; prohibition and women's suffrage.
- 3822. UNITED STATES IN THE 20TH CENTURY: 1917-1945.** (4 cr) Berman, Noble, Spear
Political, social, cultural, economic, and diplomatic trends in the United States during the Jazz Age, Great Depression, New Deal, and war against fascism.
- 3823. UNITED STATES IN THE 20TH CENTURY: 1945 TO PRESENT.** (4 cr) Berman, Noble, Spear
American society since World War II: origins of the cold war; the great red scare; politics and culture of the Eisenhower era; conflict and confrontation in the 1960s; Watergate and the uncertainties of the 1970s.
- 3827. CRISIS AND CHANGE IN AMERICAN RELIGIONS SINCE 1945.** (4 cr) Noble
Theological and philosophical tensions expressed by American religions including the civil religion in response to patterns of modernization in the United States and the world since 1945.
- 3828. AMERICAN ATTITUDES TOWARD ENERGY AND ECOLOGY, 1945-PRESENT.** (4 cr) Noble
Major debates about energy and ecology since 1945 and relation of those debates to the history of American attitudes toward nature.
- 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 preindustrial society. 3835: The role of civil liberties and civil rights in modern America.
- 3837. MINNESOTA HISTORY.** (4 cr) Berman, Spear, staff
Topics in political and social history of Minnesota and its region in 19th and 20th centuries.
- 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.
- 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.
- 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.
- 3851. AMERICAN LABOR HISTORY IN THE 19TH CENTURY.** (4 cr) Berman
The development of an American working class from the preindustrial 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.
- 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.
- 3861, 3862. EUROPEAN AMERICANS: FROM IMMIGRANTS TO ETHNICS.** (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.

Major Requirements and Course Descriptions

- 3864. AFRO-AMERICAN HISTORY.** (4 or, §Afro 3864) Plummer
From African background to Reconstruction period.
- 3865. AFRO-AMERICAN HISTORY.** (4 or, §Afro 3865) Plummer
From Reconstruction period to present.
- 3867. AMERICAN JEWISH HISTORY.** (4 or) Berman
The history of Jews in the United States from the colonial period to the present; migration patterns, economic adjustment, social arrangements, political participation, cultural and religious diversity. Inter-group contacts, anti-Semitism, and formation of voluntary communal associations viewed in the context of the American historical experience.
- 3868. ASIANS IN AMERICA: AN ETHNIC PERSPECTIVE.** (4 or, §EAS 3868) Tsuchida
Experience of Asians in the United States from 1850 to the present examined from the perspective of a minority.
- 3871. AMERICAN INDIAN HISTORY FROM MID-15TH CENTURY TO 1850.** (4 or, §AMIn 3111) Peterson
Colonization and survival of North American Indians from rise of ancient American Indian civilizations to beginnings of reservation era.
- 3872. AMERICAN INDIAN HISTORY: 1850 TO PRESENT.** (4 or, §AMIn 3112) Peterson
American Indian communities from reservation era to present, emphasizing impact of federal Indian policy.
- 3881, 3882, 3883. HISTORY OF AMERICAN FOREIGN RELATIONS.** (4 or 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.
- 3887. THE UNITED STATES AND WORLD WAR II.** (4 or) Staff
The United States and the approach of war in Europe and Asia; diplomatic, military, and domestic policies and problems during the war years.
- 3891. HISTORY OF THE AMERICAN SOUTH: THE OLD SOUTH.** (4 or)
Origins and development of antebellum Southern culture; slavery, plantation life, and rise of the cotton economy; Jefferson and the Old Dominion; yeomen and mountaineers; the cavalier myth; Calhoun, sectionalism, and the coming of the Civil War; the Confederacy.
- 3892. HISTORY OF THE AMERICAN SOUTH: CIVIL WAR TO CIVIL RIGHTS.** (4 or)
Post-Civil War Southern society and the place of Southern society in the larger American culture. Reconstruction and reunion; colonialism and the new South; populism and the revolt of the rednecks; Jim Crow and the black South; the Bible Belt and the Ku Klux Klan; regionalism and agrarianism; Huey Long, Scottsboro, and the Great Depression; the civil rights movement, the rise of massive resistance, and the Americanization of Dixie.
- 3901. URBAN HISTORY OF PREINDUSTRIAL AMERICA.** (4 or) Modell
Role of cities and urbanization in a largely agricultural society. Population, social and geographical relationships, government and institutions, cultural change. Emphasis on national perspective, with illustrative case studies.
- 3902. URBAN HISTORY OF INDUSTRIAL AMERICA.** (4 or) Modell
Role of cities and urbanization in industrial and postindustrial United States. Population, social and geographical relationships, government and institutions, cultural change, progressive reform with some view toward post-World War II suburbia. Emphasis on national perspective, with illustrative case studies.
- 3910. TOPICS IN AMERICAN HISTORY.** (4 or) Staff
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.
- 5045. MEDICAL PROFESSION IN AMERICA.** (4 or, §HMed 5045) Eyler
The American medical profession in the 19th and 20th centuries emphasizing the role of institutions, influence of social and moral values, the consequences of specialization and scientific innovation.
- 5331, 5332. AMERICAN CONSTITUTIONAL HISTORY.** (4 or 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.
- 5334. AMERICAN LEGAL HISTORY.** (4 or) Samaha
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.
- 5336, 5337. CRIMINAL JUSTICE IN AMERICAN HISTORY.** (4 or per qtr; prereq jr, sr or grad student) Samaha
Social, political, and intellectual context of crime, justice, and punishment. 5336: Colonial morality prosecutions, witchcraft, early forms of punishment, urban violence, rise of the penitentiary, professional police. 5337: Changing patterns of crime, the criminal class, southern justice, political justice, the politics of law and order, criminal justice "reform," Watergate and beyond.
- 5339. GREAT FIGURES IN AMERICAN JURISPRUDENCE.** (4 or) Murphy
The role of leading jurists and legal thinkers in shaping American public law.

- 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).
- 5379. PROBLEMS IN COLONIAL AMERICAN HISTORY.** (4 cr; prereq 3801 or 3802 or #) Menard
Specific problems in colonial intellectual and cultural history.
- 5389. RUSSIAN-AMERICAN RELATIONS, 1917 TO PRESENT.** (5 cr) Brauer
Russian-American relations since the Russian Revolution; political, diplomatic, economic, and military problems; American foreign policy.

ANCIENT HISTORY

- 3509. MILITARY HISTORY OF THE ANCIENT WORLD.** (4 cr) Kelly
The 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.
- 3515. THE HISTORIANS OF GREECE AND ROME.** (4 cr) J Evans, Kelly
The origins and development of historical thought in the ancient world.
- 5061. HISTORY OF GREECE TO 600 B.C.** (4 cr) Kelly
Political, economic, and social developments from the first appearance of the Greeks to ca. 600 B.C.
- 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.
- 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.
- 5071, 5072, 5073. HISTORY OF ROME.** (4 cr per qtr) J Evans

HISTORY OF ASIA AND THE MIDDLE EAST

- 3464. EARLY MODERN CHINA, 1350-1750.** (4 cr, §5464, §EAS 3464) Farmer
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.
- 3465. CHINA'S RESPONSE TO THE WEST, 1750-1911.** (4 cr, §5465, §EAS 3465) Farmer
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.
- 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 Republic of China.
- 3468. PEOPLE'S REPUBLIC OF CHINA: THE COMMUNIST REVOLUTION, 1900 TO 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.
- 3471. 20TH-CENTURY JAPAN.** (4 cr, §5471, §EAS 3471) Marshall
The development of an industrial society, parliamentary government, mass culture, and imperialism from the Meiji reforms of the late 19th century through World War II to the contemporary period.
- 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.
- 3480. TOPICS IN THE HISTORY OF INDIA.** (4 cr per qtr) Kopf, Lelyveld
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.
- 3481. CLASSICAL AND HINDU INDIA.** (4 cr) Kopf, Lelyveld
History of Brahmanism, Buddhism, and Hinduism before the advent of Islam in 1200.
- 3482. INDIA: MUSLIM DOMINANCE.** (4 cr) Kopf, Lelyveld
Muslim-Hindu interaction; the Mughal empire, 12th through 18th centuries.
- 3484. HISTORY OF SOUTHEAST ASIA.** (4 cr; offered when feasible) Staff
Societies and states in Asian region bordered by cultural and political spheres of China and India.

Major Requirements and Course Descriptions

- 3485, 3486, 3487. GREAT IDEAS IN SOUTH ASIA.** (4 cr per qtr) Kopf
The changing ideas that have shaped Hindu civilization examined in social, cultural, and political contexts. 3485: Classical origins. 3486: Flowering of a Hindu tradition. 3487: South Asia's encounter with the West.
- 3488, 3489. MODERN INDIA.** (4 cr per qtr) Kopf, Lelyveld
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.
- 5274, 5275. MODERN NEAR EAST: OTTOMAN EMPIRE AND SUCCESSOR STATES.** (4 cr per qtr) Stavrou
5274: The 19th century; 18th-century background and Ottoman institutions. 5275: From the Congress of Berlin to the present; the rise of Near Eastern nationalism.
- 5455. MUSLIMS IN MODERN INDIAN HISTORY.** (4 cr) Lelyveld
Decline of the Mughals; establishment of British rule; cultural and social change; political mobilization of Indian Muslims; Muslims in independent India, Pakistan, and Bangladesh.
- 5456. SEXUALITY AND ORIENTAL RELIGIONS.** (4 cr) Kopf
Exploration of pronounced sexual component in Eastern religions, such as Hinduism, Buddhism, Islam, Shintoism, and Taoism, from perspective of both Western Orientalists and Asians.
- 5461. ANCIENT CHINA.** (4 cr) Taylor
Origins of Chinese civilization, classical philosophies, and the Han empire (to 220 A.D.).
- 5462. BUDDHIST CHINA.** (4 cr) Taylor
Disintegration of Han empire; aristocratic society; barbarian invasions; spread of Buddhism and reintegration of the empire in T'ang period (220-906 A.D.)
- 5463. RENAISSANCE CHINA.** (4 cr) Taylor
Disappearance of medieval aristocracy; commercial and maritime expansion; neo-Confucian renaissance; growth of Chinese science and technology; Mongol conquest and Yuan dynasty.
- 5464. EARLY MODERN CHINA, 1350-1750.** (4 cr, §3464, §EAS 3464) Farmer
For description, see 3464.
- 5465. CHINA'S RESPONSE TO THE WEST, 1750-1911.** (4 cr, §3465, §EAS 3465) Farmer
For description, see 3465.
- 5467. THE NATIONALIST REVOLUTION IN CHINA, 1900 TO PRESENT.** (4 cr, §3467, §EAS 3467) Farmer
For description, see 3467.
- 5468. PEOPLE'S REPUBLIC OF CHINA: THE COMMUNIST REVOLUTION, 1900 TO PRESENT.** (4 cr, §3468, §EAS 3468) Farmer
For description, see 3468.
- 5471. 20TH-CENTURY JAPAN.** (5 cr, §3471, §EAS 3471) Marshall
For description, see 3471.
- 5472. EARLY MODERN JAPAN.** (5 cr, §3472, §EAS 3472) Marshall
For description, see 3472.
- 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.
- 5474. JAPAN AND THE SECOND WORLD WAR.** (4 cr) Marshall
The origins of war in China through the Pearl Harbor decision, conquest of Southeast Asia, defeat in the Pacific, impact of the atomic bomb, American occupation, and creation of a U.S.-Japanese alliance.
- 5491. HISTORY OF BANGLADESH.** (4 cr, §SoAS 5491; prereq some course work in history of South Asia) Kopf
Classical accounts of the linguistic and cultural unit Bengal from the 4th century B.C. to the creation of the modern state of Bangladesh in 1972.
- ### ENGLISH HISTORY
- 3150. TOPICS IN ENGLISH HISTORY.** (4 cr per qtr) Altholz, Lehmborg
Undergraduate seminar in the history of England. Topics vary; example: the age of the English country house, London: biography of a city.
- 3161. BRITISH IMPERIALISM.** (4 cr) Lelyveld
History of the British Empire since the end of the American Revolution; the rise of nationalist movements among Britain's colonial subjects; new nations and new imperialism; Marxist and other theories of colonialism; colonial literature by Kipling and others.
- 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.

- 3652. ENGLAND IN THE AGE OF ELIZABETH I.** (4 cr) Lehmberg
The later Tudor period and the reign of James I, 1547-1625; the problems and achievements of Queen Elizabeth.
- 3653. THE ENGLISH CIVIL WAR AND RESTORATION.** (4 cr) Lehmberg
The English Civil War; Oliver Cromwell and the Interregnum; the Restoration era and the Glorious Revolution (1625-1689).
- 5141. RULE OF LAW IN TUDOR-STUART ENGLAND.** (4 cr; prereq jr, sr or grad student) Samaha
Discretion, law, and prerogative in 16th-century English government; formation and implementation of public policy, using criminal law as a case study. Stresses law in practice as opposed to law in books.
- 5142. LAW AND THE 18TH-CENTURY ENGLISH CONSTITUTION.** (4 cr; prereq jr, sr or grad student) Samaha
Nature of English law and the Constitution, emphasizing their relation to the formation of the American constitutional and legal systems, especially criminal law. Use of actual cases and criminal law materials.
- 5143. LAW AND PUBLIC POLICY IN MODERN ENGLAND.** (4 cr; prereq jr, sr or grad student) Samaha
Forces in British society that shaped Victorian and 20th-century law and the Constitution, emphasizing criminal law reform, the growth of bureaucracy, birth of the modern welfare state, and the decline in individualism.
- 5171f, 5172w, 5173a. MODERN ENGLAND: 1783 TO PRESENT.** (4 cr per qtr) Altholz
5171: 1783 to 1846, the triumph of the middle class. 5172: 1846 to 1901, Victorian era. 5173: 1901 to 1951, war and social change.

HISTORY OF CONTINENTAL EUROPE

- 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: From the industrial revolution to the present.
- 3224. EUROPE DURING WORLD WAR II.** (4 cr, §3722) Staff
Origins and diplomatic background of the war; strategic objectives and campaigns; political and social impact.
- 3244. HISTORY OF EASTERN EUROPE TO THE EARLY 19TH CENTURY.** (4 cr) Rudolph
Peoples of Poland, Czechoslovakia, Hungary, Rumania, Yugoslavia, and the Ukraine from their origins to modern times. Culture and society in Middle Ages; golden age of Eastern Europe; age of nationalism; Jews in Eastern Europe; loss and regaining of independence in modern times.
- 3245. HISTORY OF EASTERN EUROPE: 19TH AND 20TH CENTURIES.** (4 cr) Rudolph
Poland, Czechoslovakia, Hungary, Rumania, and Yugoslavia. Nationalism and formation of national states; fascism and World War II; Jews in Eastern Europe; communist takeovers; society in communist Eastern Europe today.
- 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.
- 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.
- 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.
- 3607. THE HISTORY OF THE JEWS IN MEDIEVAL EUROPE.** (4 cr) Bachrach
The institutions, thought, and major personalities of the Jewish people from the later Roman Empire until the expulsions from Western Europe.
- 3608. THE HISTORY OF THE CATHOLIC CHURCH IN THE MIDDLE AGES.** (4 cr) Bachrach, Reyerson
The institutions, thought, and major personalities that dominated the church from the later Roman Empire to the Reformation.
- 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.
- 3613. HISTORY OF THE CRUSADES.** (4 cr) Reyerson
The crusading spirit in Europe; results of the medieval crusades from ca. 1095 to 1285.
- 3614. WOMEN IN MEDIEVAL EUROPE, CA. 500-1500.** (4 cr) Reyerson
The history of women in medieval European society from the royal court and secluded nunnery to the urban workshop and peasant hovel.
- 3615. TECHNOLOGY AND SOCIETY IN MEDIEVAL EUROPE.** (4 cr) Bachrach
Major developments in military technology, agricultural technology, manufacturing, and the harnessing of power, and their impact on society in Europe ca. 300 to 1500.

Major Requirements and Course Descriptions

- 3621. RENAISSANCE ITALY, 1200-1530.** (4 cr) Tracy
Politics and culture in the city-states from Dante to Machiavelli.
- 3622. REVOLT OF THE NETHERLANDS, 1566-1618.** (4 cr) Tracy
From the waning of the Middle Ages to the revolt against Spain.
- 3623. THE REFORMATION IN GERMANY.** (4 cr) Tracy
The Lutheran movement and the beginnings of the Catholic Reformation.
- 3624. FRANCE FROM THE RENAISSANCE TO RICHELIEU.** (4 cr) Tracy
The religious wars and the growth of an absolute monarchy.
- 3625. FRANCE IN THE AGE OF ENLIGHTENMENT.** (4 cr) Tracy
The writings of several leading thinkers of the Enlightenment, including Montesquieu, Voltaire, and Rousseau, examined in the context of 18th-century French history.
- 3631. HISTORY OF GERMANY: AGE OF REFORM, 1348-1648.** (4 cr) Maynes
The population crisis and peasant life, German towns, Luther and the Reformation, peasant wars, rise of princely states, the Thirty Years War.
- 3632. HISTORY OF GERMANY: ABSOLUTISM AND REVOLUTION, 1648-1848.** (4 cr) Maynes
Postwar devastation, the politics of absolutism, baroque Germany, everyday life in town and country, the revolution of 1848.
- 3633. HISTORY OF GERMANY: EMPIRE TO HITLER, 1848-1945.** (4 cr) Maynes
Unification, political and economic development, growth of socialism, World War I and revolution, the Weimar years, the Nazi seizure of power.
- 3681. MODERN IRISH HISTORY.** (4 cr) Altholz
History of Ireland since 1535 with emphasis on the period of the union with Britain, 1800-1922.
- 3703. EUROPEAN CITIES, 1500-1800.** (4 cr) Phillips
Urban social classes and their daily lives, architecture, the relationship between town and countryside. Cities featured include Venice, Florence, Rome, Augsburg, Madrid, Seville, Lisbon, Paris, Antwerp, Amsterdam, and London.
- 3704. DAILY LIFE IN EUROPE, 1348-1750.** (4 cr) Phillips
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.
- 3707, 3708. SOCIAL AND ECONOMIC HISTORY OF MODERN EUROPE.** (4 or per qtr) Rudolph
Transition from traditional rural to modernized urban society; economic and social change, social and revolutionary movements, changes in class, family, and sex roles. 3707: 18th and 19th centuries. 3708: Late 19th century to present.
- 3715. SPAIN UNDER THE HABSBURGS, 1516-1701.** (4 cr) 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.
- 3716. SPAIN FROM 1700 TO THE PRESENT.** (4 cr) 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.
- 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.
- 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.
- 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.
- 3724. HISTORY OF EUROCOMMUNISM.** (4 cr) Thayer
Communism in Western Europe from World War I to the present.
- 3747. HABSBURG AUSTRIA FROM 1526 TO WORLD WAR I.** (4 cr) Wright
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*.

- 3748. THE AUSTRIAN REPUBLIC FROM WORLD WAR I TO PRESENT.** (4 cr) Wright
The First Republic; "the state no one wanted"; *Anschluss* and Hitler; World War II; decade of occupation; the new Austria.
- 3754. HISTORY OF ITALY: FROM THE MIDDLE AGES TO THE 16TH CENTURY.** (4 cr) Thayer
From the formation of the medieval communes to the Renaissance.
- 3755. HISTORY OF ITALY: THE PERIOD OF SPANISH DOMINION, 1559-1713.** (4 cr) Thayer
From the time of Machiavelli to the era of Louis XIV.
- 3756. HISTORY OF ITALY: 1713-1943.** (4 cr) Thayer
From the Enlightenment to the collapse of fascist dictatorship.
- 3766. THE SOVIET UNION UNDER WESTERN EYES.** (4 cr) Stavrou
The Soviet Union as observed and reported on by Western European and American intellectuals, journalists, businesspersons, and political figures; Soviet treatment of foreigners; visitors' fascination with the Soviet experiment, their perceptions of Soviet realities and disillusionment.
- 3767. EASTERN ORTHODOXY: HISTORY AND CULTURE.** (4 cr) Stavrou
Eastern Orthodoxy from Byzantium to the present; definition of the Christian East; political and cultural impact on the Near East and the Slavic world. "The great church in captivity"; nationalism and the Orthodox church; orthodoxy in a revolutionary age.
- 3775. HISTORY OF THE EUROPEAN JEWS FROM THE MIDDLE AGES TO THE PRESENT.** (4 cr; offered alt yrs)
Rudolph
Social, economic, and cultural history of the Jewish people in Europe and their interaction with other peoples; history and causes of anti-Semitism; Zionism and assimilation; Hasidism and socialism.
- 3779. RELIGIOUS HISTORY OF MODERN EUROPE.** (4 cr) Altholz
Churches and religious movements in Europe from 1648 to the early 20th century; issues of church and society and the impact of secular thought upon religion.
- 5100. SELECTED TOPICS IN MEDIEVAL EUROPE.** (4 cr per qtr; prereq #) Bachrach, Reyerson
From the fall of the Roman Empire through the end of the Middle Ages.
- 5113. MEDIEVAL CITIES, CA. 500-1500.** (4 cr) Reyerson
The evolution of Western European cities from the late Roman town to the early Renaissance city-state.
- 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.
- 5131. BYZANTINE HISTORY.** (4 cr) Bachrach, Noonan, Stavrou
The history of Byzantium from the reign of the Emperor Justinian in the mid-6th century to the fall of Constantinople in 1453.
- 5134. RUSSIA BEFORE THE MONGOL CONQUEST.** (4 cr) Noonan
The origins and development of the Kievan state, 850-1240.
- 5135. FROM KHAN TO TSAR: RUSSIA, 1240-1530.** (4 cr) Noonan
Mongol rule of Russia, rise of Lithuania, emergence of Muscovy.
- 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, enserment of the peasantry.
- 5137. THE NOMADS OF SOUTHERN RUSSIA FROM THE SCYTHIANS TO THE MONGOLS, 600 B.C.-1300 A.D.** (4 cr) Noonan
The nomads who occupied the Russian steppe (Scythians, Sarmatians, Huns, Avars, Bulgars, Khazars, Pechengs, Cumans, Mongols) and their society.
- 5200. TOPICS IN EUROPEAN HISTORY.** (4 cr) Staff
In-depth treatment of selected historical themes. Topics vary from quarter to quarter.
- 5201, 5202. EARLY MODERN EUROPE.** (4 cr per qtr; offered when feasible) Bamford
5201: Reformation and religious wars to 1648. 5202: The age of Louis XIV and the 18th century.
- 5211. FRANCE IN THE OLD REGIME.** (4 cr) Bamford
France to the Revolution of 1789.
- 5212. FRENCH REVOLUTION AND NAPOLEON.** (4 cr) Bamford
The reform movement and upheavals in France to 1799; the emergence and rise to power of Bonaparte; the Napoleonic regime.
- 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 times.

Major Requirements and Course Descriptions

- 5252. DEVELOPMENT OF THE SCANDINAVIAN WELFARE STATE.** (4 cr) Metcalf
Political, social, and economic development in Scandinavia between 1870 and 1980. Why Scandinavian states have led in developing "welfare-state" policies and programs.
- 5264. MODERN RUSSIA: 18TH-CENTURY BACKGROUND.** (4 cr) Stavrou
Foundation of the Russian empire, modernization and expansion under Peter the Great and Catherine the Great. Russia's Europeanization.
- 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.
- 5266. MODERN RUSSIA: THE 20TH CENTURY.** (4 cr) Stavrou
Fall of the Russian monarchy, revolutions, and Soviet regime.
- 5276. INTELLECTUAL AND CULTURAL HISTORY OF MODERN GREECE.** (5 cr) Stavrou
Literary and cultural contributions of modern Greece in national and European contexts.
- 5281, 5282, 5283. INTELLECTUAL AND CULTURAL HISTORY OF MODERN EUROPE.** (4 cr per qtr) Thayer
5281: Aesthetic, historical, and political thought from Vico to Arnold. 5282: Marxism and alternative contemporary critics of industrial and national Europe. 5283: The development of modern historicism and its critics — history and social sciences in the late 19th and 20th centuries.
- 5284. DIPLOMATIC HISTORY OF EUROPE, 1789-1871.** (4 cr) Kieft
The French Revolution; Napoleonic wars; Congress of Vienna; 1848 revolutions; unification of Germany and Italy.
- 5285. DIPLOMATIC HISTORY OF EUROPE, 1871-1918.** (4 cr) Kieft
The Bismarck alliance system; the Eastern question; overseas imperialism; World War I.
- 5286. DIPLOMATIC HISTORY OF EUROPE, 1918-PRESENT.** (4 cr) Kieft
The interwar period; causes of World War II; the cold war; the Middle East.
- 5289. HISTORY OF EUROPEAN PENAL SYSTEMS.** (4 cr) Bamford
Comparative analysis of medieval, early modern, and 19th-century European systems.

LATIN AMERICAN HISTORY

- 3410. TOPICS IN LATIN AMERICAN HISTORY.** (4 cr per qtr) McCaa, Schwartz
Topics vary and may include culture conflict, slavery, urbanization, revolution.
- 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.
- 3412. HISTORY OF BRAZIL, 1808 TO PRESENT.** (4 cr) Schwartz
Major themes of modern Brazilian history with emphasis on political and economic aspects.
- 3424. HISTORY OF MEXICO: PRE-COLUMBIAN PERIOD THROUGH INDEPENDENCE.** (4 cr) McCaa, Schwartz
Indian cultures of Mexico prior to the conquest and subsequent contact between Europeans and Indians during the formation of Mexican society.
- 3425. HISTORY OF MEXICO: THE 19TH AND 20TH CENTURIES.** (4 cr) McCaa, Schwartz
The struggle for land and liberty from the Hidalgo revolt to the age of oil.
- 3426. HISTORY OF CHILE AND PERU IN MODERN TIMES.** (4 cr) McCaa
Comparative analysis of political and economic experiments from the age of the liberators to the Marxist interludes of the seventies.
- 3427. HISTORY OF CUBA AND PUERTO RICO.** (4 cr, §Chic 3427) Valdes
Historical development from Spanish conquest to present; conquest and colonization, slavery, Hispanic Caribbean society and culture, Operation Bootstrap, Cuban Revolution.
- 3428. HISTORY OF RELATIONS BETWEEN UNITED STATES AND MEXICO, 1821 TO PRESENT.** (4 cr, §Chic 3428)
Valdes
U.S.-Mexico relations in 19th and 20th centuries.
- 3441. SURVEY OF CHICANO HISTORY TO 1900.** (4 cr, §Chic 3441) Valdes
The history of Chicanos to 1900.
- 3442. SURVEY OF CHICANO HISTORY, 1900 TO PRESENT.** (4 cr) Valdes
Twentieth-century Chicano experience including migration and repatriation, contemporary politics, society and culture.
- 5419. HISTORY OF ARGENTINA.** (4 cr) McCaa
Political, social, and economic history of Argentina since the late 18th century.
- 5420. TOPICS IN LATIN AMERICAN HISTORY.** (4 cr per qtr; prereq #) McCaa, Schwartz
Historical themes common to the entire Latin American area. Topics change from quarter to quarter.

PROSEMINARS

- 5501, 5502, 5503. HISTORY OF INDIA.** (4 cr per qtr; prereq #) Kopf, Lelyveld
- 5510. TOPICS IN EAST ASIAN HISTORY.** (4 cr per qtr; prereq #) Farmer, Marshall, Taylor
Readings in Western languages on history of China, Japan, and associated areas such as Vietnam and Korea for graduate students, especially those from other departments or areas within history preparing secondary fields in East Asian history.
- 5514. TOPICS IN MING AND CH'ING HISTORY, 1350-1800.** (4 cr per qtr; prereq #) Farmer
Major issues in early modern Chinese history, especially imperial institutions, neo-Confucian thought, and the Ming-Ch'ing transition.
- 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.
- 5517. CHINESE INTELLECTUAL HISTORY: 20TH CENTURY.** (4 cr; prereq #) Farmer
Cultural change and intellectual currents leading up to the May 4th Movement of 1919. Major disputes and problems growing out of that period.
- 5518. CHINESE INTELLECTUAL HISTORY: MAO TSE-TUNG AND MARXISM.** (4 cr; prereq #) Farmer
The introduction of Marxism to China; the thought and writings of Mao Tse-tung, and questions of cultural identity and values in the People's Republic of China.
- 5519. TOPICS IN CHINESE HISTORY.** (5 cr; prereq #) Farmer
Topics in recent Chinese history.
- 5521. INTRODUCTORY PROSEMINAR ON THE MEIJI REVOLUTION IN JAPAN.** (4 cr; prereq #) Marshall
Readings in English on the reforms from 1868 to 1912 and their economic, social, political, and cultural consequences.
- 5522. CURRENT ISSUES IN JAPANESE HISTORY.** (4 cr; prereq #) Marshall
Readings in English on current interpretations and topics in Japanese history.
- 5534. SOUTHEAST ASIAN HISTORY.** (4 cr; prereq #) Staff
Principally the history of Cambodia and Vietnam, contrasting Indian-influenced and Chinese-influenced South-east Asian peoples; emphasizes precolonial cultures and colonial and postcolonial history.
- 5547. HISTORIOGRAPHY OF MODERN SOUTH ASIA.** (5 cr; prereq #) Kopf, Lelyveld
Historical literature of modern South Asia; the major problems facing students in the field.
- 5561f-5562w-5563s†. ANCIENT GREEK HISTORY.** (3 cr per qtr; prereq #) Kelly
- 5571f-5572-5573†. PROSEMINAR: ROMAN HISTORY.** (3 cr per qtr; prereq #) J Evans
- 5611f, 5612w, 5613s. MEDIEVAL HISTORY.** (3 cr per qtr; prereq 1 yr of medieval history or equiv, reading knowledge of French or German, #) Bachrach, Reyerson
- 5617. SPAIN, THE EARLY MODERN PERIOD, 1450-1750.** (4 cr; prereq #) Phillips
Topics may include government and bureaucracy; Habsburg and Bourbon dynasties, social and economic elites, peasants and rural life, overseas expansion and trade; structures of belief, social customs, the arts, foreign policy, intellectual life.
- 5621. THE ITALIAN RENAISSANCE.** (3 cr; prereq #) Tracy
Humanism; political development of city-states.
- 5625. THE GERMAN REFORMATION.** (3 cr; prereq #) Tracy
Luther; urban religious movements; the Catholic Reformation.
- 5626. RENAISSANCE FRANCE TO RICHELIEU.** (3 cr; prereq #) Tracy
Focus on the emergence of an absolute monarchy.
- 5630. INTRODUCTORY PROSEMINAR IN EARLY MODERN EUROPE.** (4 cr per qtr; prereq #) Staff
Critical examination of historical literature dealing with selected topics in early modern European history, ca. 1450-1750.
- 5634, 5635. MEDIEVAL RUSSIAN HISTORY.** (3 cr per qtr; prereq 5134, 5135, 5136, reading knowledge of Russian, French or German, #) Noonan
- 5641f-5642w-5643s. MEDIEVAL ENGLISH HISTORY.** (3 cr per qtr; prereq 1 yr of medieval history or equiv, reading knowledge of French or German, #; offered when feasible) Bachrach, Reyerson
- 5651f-5652w-5653s†. ENGLISH HISTORY: TUDOR AND STUART PERIODS.** (3 cr per qtr; prereq #) Lehmburg
Critical study of principal writings about English history. 5651: 1485-1558. 5652: 1558-1625. 5653: 1625-1689.
- 5671f-5672w-5673s†. MODERN ENGLAND: 1783 TO THE PRESENT.** (3 cr per qtr; prereq #) Altholz

Major Requirements and Course Descriptions

- 5702. MEDICINE AND SOCIETY IN THE ENLIGHTENMENT.** (3 or, §HMed 5102; prereq #) Eyer
Interrelations of medicine and society from the late 17th to early 19th centuries; methods and materials used by medical historians.
- 5710. INTRODUCTORY PROSEMINAR IN 18TH- AND 19TH-CENTURY EUROPE.** (4 or per qtr; prereq #) Staff
Topics in the historical literature of modern Europe, 18th and 19th centuries. Topics vary within one of the following areas: politics and diplomacy, intellectual and cultural history, economy, society.
- 5711f-5712w-5713s†. FRENCH REVOLUTION AND NAPOLEON.** (4 or per qtr; prereq #) Bamford
- 5720. INTRODUCTORY PROSEMINAR IN CONTEMPORARY EUROPE.** (4 or per qtr; prereq #) Staff
Selected topics dealing with problems of interpretation and analysis in contemporary European history from the late 19th century to the cold war.
- 5721-5722†. EUROPE IN THE 20TH CENTURY.** (4 or per qtr; prereq #) Munholland
5721: Background and impact of World War I. 5722: Interwar years and World War II.
- 5741f-5742w†. GERMANY AND CENTRAL EUROPE IN 18TH CENTURY.** (4 or per qtr; prereq #) Maynes, Wright
Enlightenment, reason, reform, war.
- 5744-5745. TOPICS IN MODERN GERMAN HISTORY.** (3 or per qtr; prereq #) Maynes
Selected readings and discussions on topics such as the reform era, social crisis of Vormärz, 1848 revolution, unification, imperial economic development, World War I, the growth of German socialism, intellectual history of Weimar, and Nazi state.
- 5761f-5762w-5763s†. RUSSIAN HISTORY.** (4 or per qtr; prereq reading knowledge of Russian, German or French, #) Stavrou
- 5764. RUSSIAN PEASANT REVOLTS OF THE 17TH CENTURY.** (4 or; prereq #) Noonan, Stavrou
The enserment of the Russian peasantry.
- 5765. RUSSIAN PEASANT REVOLTS OF THE 18TH CENTURY.** (4 or; prereq #) Noonan, Stavrou
The zenith of serfdom in Russia.
- 5766. RUSSIAN PEASANT REVOLTS OF THE 19TH CENTURY.** (4 or; prereq #) Noonan, Stavrou
The decline of serfdom and emancipation.
- 5772, 5773. SCANDINAVIAN HISTORY.** (4 or per qtr; prereq reading knowledge of one Scandinavian language or Finnish, #) Metcalf
Topics and chronological emphasis vary from year to year.
- 5774-5775†. READINGS IN THE MODERN NEAR EAST.** (4 or per qtr; prereq 5274, 5275 or equiv, #) Stavrou
Significant disruptive forces in the Ottoman Empire during the last two centuries of its existence. The role of and relations between Islamic and non-Islamic groups of the empire.
- 5777-5778†. HISTORY OF THE HABSBURG MONARCHY.** (4 or per qtr; prereq #) Wright
- 5784-5785†. DIPLOMATIC HISTORY OF 19TH- AND 20TH-CENTURY EUROPE.** (3 or 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.
- 5791f-5792w-5793s†. SOCIAL AND ECONOMIC HISTORY OF MODERN EUROPE SINCE 1750.** (3 or per qtr; prereq #) Rudolph
- 5794, 5795, 5796. HISTORY OF EUROPEAN COMMERCE.** (4 or per qtr; prereq #) Bamford
5794: The Mediterranean region. 5795: The Atlantic and the Americas. 5796: Europe and the East.
- 5797. METHODS OF HISTORICAL DEMOGRAPHY.** (4 or; prereq #) Phillips, McCaa
Study and analysis of past population and its relation to other historical developments. Birth, marriage and the family, household structure, diseases, death, the impact of industrialization and urbanization in various areas and times.
- 5801-5802†. 17TH- AND 18TH-CENTURY AMERICAN HISTORY.** (4 or per qtr; prereq #) Menard
- 5805. THE AMERICAN REVOLUTION.** (4 or; prereq #) Howe
The American Revolution: its colonial and imperial background and its internal development through the federal Constitution.
- 5806. JACKSONIAN AMERICA.** (4 or; prereq #) Howe
The developing republic from the perspective of the Jacksonian era.
- 5807. RESEARCH IN REVOLUTIONARY AND JACKSONIAN AMERICA.** (4 or; prereq 5805 or 5806 or #) Howe
- 5817-5818†. 19TH-CENTURY U.S. POLITICAL HISTORY.** (4 or per qtr; prereq #)
Readings about the history and historiography of 19th-century American politics; social analysis of politics. 5817: From the election of Andrew Jackson to the outbreak of the Civil War. 5818: From the election of Abraham Lincoln to the progressive era.

- 5821-5822†. AMERICAN HISTORY IN 20TH CENTURY.** (4 or per qtr; prereq #) Chambers
- 5831-5832†. AMERICAN POLITICAL AND CONSTITUTIONAL HISTORY.** (4 or per qtr; prereq #) Murphy
Dimensions of constitutional politics in the American experience. 5831: Late 18th and 19th century. 5832: The 20th century.
- 5841, 5842. AMERICAN ECONOMIC HISTORY.** (4 or per qtr; prereq #) Green
- 5844f, 5845w. AMERICAN LABOR HISTORY.** (4 or per qtr; prereq #) Berman
Readings in the classics of American labor history literature. Research methods and materials in labor history.
- 5854-5855†. AMERICAN URBAN HISTORY.** (4 or per qtr; prereq #) Modell
Historical literature on U.S. urbanization, cities, and urban social relations; social history, demography, geography, urban politics, and institutions. Historiographical or research paper required.
- 5857-5858†. PROSEMINAR: SOCIAL HISTORY OF AMERICAN WOMEN.** (4 or per qtr; prereq #) S Evans
Historical literature, conceptual frameworks, and methodological problems in the history of American women from 1600 to the present.
- 5861-5862†. HISTORY OF AMERICAN IMMIGRATION.** (4 or per qtr; prereq #) Vecoli
Readings in historiography of immigration and ethnic groups.
- 5864, 5865. AFRO-AMERICAN HISTORY.** (4 or per qtr) Staff
- 5871f-5872w†. INTELLECTUAL HISTORY OF UNITED STATES IN 19TH, 20TH CENTURIES.** (4 or per qtr; prereq #) Noble
Writings of current scholars of American culture that express paradigmatic conflicts in the study of ideas and values.
- 5881, 5882. AMERICAN FOREIGN RELATIONS.** (4 or 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.
- 5901f, 5902w, 5903s. LATIN AMERICAN HISTORY.** (4 or per qtr; prereq reading knowledge of Spanish, #) McCaa, Schwartz
Designed to introduce beginning graduate students to major historical writings on various Latin American themes.
- 5930. TOPICS IN COMPARATIVE THIRD WORLD HISTORY.** (5 or per qtr; prereq #) Isaacman, Kaba, Kopf, Lelyveld, McCaa, Schwartz
Recurring themes in third world history.
- 5931. HISTORY OF AFRICA: SOCIAL GROUPING, CONFLICTS.** (4 or; prereq #) Kaba
The rise of social differentiations in precolonial and contemporary African societies; how this process affects formation and development.
- 5932. AFRICAN HISTORIOGRAPHY.** (4 or; prereq #) Isaacman, Kaba
Critique of written sources of African history and the history of the peoples of African descent in the Americas from antiquity to the present.
- 5939. METHODOLOGY FOR THE STUDY OF AFRICAN HISTORY.** (4 or; prereq #) Isaacman, Kaba
The process of historical reconstruction in nonliterate societies; collection and interpretation of oral traditions.
- 5940-5950†. HISTORICAL TOPICS: MEDICINE AND THE MODERN STATE.** (4 or per qtr [16 or max], §HMed 5120-5130; prereq #) Eyer
Topics vary from year to year. Emphasis on mid-18th century to present.
- 5957. SOCIAL HISTORY OF ANGLO-AMERICAN LAW.** (4 or; prereq #) Samaha
Law as a cultural and social institution, rather than as a means to social control. Law in action as opposed to law in books; law and institutions in the legal order related to social, cultural, and economic developments.
- 5960. RESEARCH IN QUANTITATIVE HISTORY.** (4 or per qtr; prereq 5011 or 5012 or 5797, #) Modell, McCaa
Workshop to expand on projects completed in 5011, 5797, or other history courses.
- 5961-5962. EXPANSION OF EUROPE.** (4 or per qtr; prereq #) Bamford
- 5970. DIRECTED STUDIES.** (1-15 or per qtr; prereq #)
Qualified senior and graduate students may register for work on tutorial basis. Guided individual reading or study.
- 5990. DIRECTED RESEARCH.** (1-15 or per qtr; prereq #)
Qualified senior and graduate students may register for work on tutorial basis.

Major Requirements and Course Descriptions

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

Instructor: Hult

Courses offered by the department explore the development of medical knowledge, institutions, and practices, and the place of medicine in Western intellectual and social history.

MINOR SEQUENCE

Minor Requirements—12 cr in introductory survey courses selected from 3001, 3002, 3003, 5400, 5401, 5402, or Hist 3031, 3032, 3033

8 cr selected from 3xxx or 5xxx classes or seminars

The minor program must be approved by the director of undergraduate studies.

- 3001, 3002, 3003. MEDICINE AND DISEASE IN HISTORY.** (4 cr per qtr, §Hist 3031, 3032, 3033) Eyler
Intellectual and social history of medicine in Europe and America. 3001: Classical antiquity through mid-17th century. 3002: Mid-17th through mid-19th centuries. 3003: Modern medicine in America.
- 5002. PUBLIC HEALTH ISSUES IN HISTORICAL PERSPECTIVE.** (3 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.
- 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.
- 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.
- 5102. MEDICINE AND SOCIETY IN THE ENLIGHTENMENT.** (4 cr) Eyler
Readings and research seminar dealing with interrelations of medicine and society from late 17th to early 19th centuries. Emphasis on methods and materials used by medical historians.
- 5120-5130†. HISTORICAL TOPICS: MEDICINE AND THE MODERN STATE.** (4 cr per qtr [16 cr max], §Hist 5940-5950) Eyler
Topics vary from year to year. Emphasis on mid-18th century to present.
- 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.
- 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.

History of Science and Technology (HSci)

Institute of Technology

Staff—*Coordinator*, Roger H. Stuewer, 428 Physics; *Director of Graduate Studies*, Edwin T. Layton, 138 Mechanical Engineering; *Director of Undergraduate Studies*, Alan E. Shapiro, 419 Physics

Professors: Layton, Stuewer

Associate Professors: Kottler, Norberg, Shapiro

The history of science and technology studies 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.

MINOR SEQUENCE

Minor Requirements—16 cr of 3xxx-5xxx courses, at least 4 of them at the 5xxx level
The minor program must be approved by the director of undergraduate studies.

- 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; emergence of industrialism. 1713: Diffusion of the industrial revolution; technological development and its impact on industry, government, and society of the 19th and 20th centuries.
- 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.
- 3201, 3202, 3203. HISTORY OF BIOLOGY.** (4 cr per qtr, §5201, §5202, §5203) Kottler
3201: Antiquity to 1700. Biology, medicine, and natural history in antiquity; Hippocrates, Aristotle, Galen. Revival of biology in Renaissance and 17th century: Vesalius and anatomy, Harvey and circulation. 3202: Physiology and cell theory since 1700. Conceptual development of the various branches of modern biology: physiology, chemistry, and the experimental method; embryology, descriptive and experimental; cytology and microscopy. 3203: Evolution and genetics since 1700. Darwin and evolution; Mendel and genetics.
- 3711, 3712, 3713. TECHNOLOGY AND WESTERN CIVILIZATION.** (4 cr per qtr, §1711, §1712, §1713)
For description, see 1711, 1712, 1713.
- 3811, 3812, 3813. INTRODUCTION TO HISTORY OF SCIENCE.** (4 cr per qtr, §1811, §1812, §1813)
For description, see 1811, 1812, 1813.
- 3825. PHYSICS AND SOCIETY IN 20TH-CENTURY AMERICA.** (4 cr, §3835, §5825) Stuewer
Nineteenth-century heritage; 20th-century discoveries and physical theories; growth of physics in America after World War I: the intellectual migration of the 1930s; nuclear physics, the Manhattan project, and the atomic bomb; McCarthyism and Oppenheimer; current and past contributions of Minnesota physicists.
- 3835. THE ATOMIC AGE.** (4 cr, §3825, §5825) Stuewer
Development of nuclear energy in the 20th century; construction and use of the bomb; postwar military and political impact.
- 5011. THEORIES OF COLOR: NEWTON TO HELMHOLTZ.** (4 cr) Shapiro
Physical and physiological investigations of color from the 17th to the mid-19th centuries, focusing on the fundamental contributions of Newton, Young, Maxwell, and Helmholtz.
- 5065. HISTORY OF GENETICS.** (4 cr; prereq one genetics course) Kottler
Origin and early development of genetics from plant hybridization experiments of Gregor Mendel through work of T. H. Morgan and the "*Drosophila* group."
- 5111. PHYSICAL SCIENCES IN ANTIQUITY.** (4 cr) Shapiro
Mathematics and astronomy in Babylonia; Greek mathematics, Euclid and Archimedes; Aristotle's physics and cosmology; the emergence of mathematical and experimental natural science in Greece; Ptolemaic astronomy.
- 5201, 5202, 5203. HISTORY OF BIOLOGY.** (4 cr per qtr, §3201, §3202, §3203)
For description, see 3201, 3202, 3203.
- 5242. EVOLUTION BEFORE AND AFTER DARWIN.** (4 cr; prereq Biol 1009 or 1101 or #) Kottler
Philosophical conceptions of species; natural theology, design, and providential creation of species; Lamarck and evolution before Darwin; catastrophist and uniformitarian geology; Darwin and the background of the *Origin*; Darwin's early critics; evolutionary theory, 1882 to modern synthesis.
- 5311. TECHNOLOGY IN AMERICAN LIFE AND THOUGHT.** (4 cr) Layton
Technology in America with emphasis on its impact on society and culture. Traces the growth of American technology in its cultural and intellectual context from colonial period to present.
- 5321. HISTORY OF COMPUTING.** (4 cr) 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 use techniques.
- 5760. SELECTED TOPICS.** (1-5 cr per qtr; prereq #)
- 5812. SCIENCE POLICY IN THE UNITED STATES SINCE WORLD WAR II.** (4 cr) Norberg
History and effects of the science policy in postwar United States, 1945-1980: institutions, scientific groups, and technical processes and their interconnections for promotion and control of science and technology. Emphasis on federal government; consideration of state and local government.

Major Requirements and Course Descriptions

- 5825. PHYSICS AND SOCIETY IN 20TH-CENTURY AMERICA.** (4 cr, §3825, §3835) Stuewer
For description, see 3825.
- 5924. HISTORY OF 19TH-CENTURY PHYSICS.** (4 cr, §Phys 5924; prereq general physics or #) Stuewer
Conceptual developments in physics in 19th century (Young, Fresnel, Oersted, Ampère, Faraday, MacCullagh, Maxwell, Hertz, Lorentz, Lavoisier, Rumford, Dalton, Mayer, Joule, Helmholtz, Carnot, Clausius, Kelvin, Boltzmann, Mach, others). Relationships to social, philosophical, and theological influences.
- 5925. HISTORY OF 20TH-CENTURY PHYSICS.** (4 cr, §Phys 5925; prereq general physics or #) Stuewer
Conceptual developments in relativity (Michelson, Lorentz, Poincaré, Einstein, others), quantum mechanics (Planck, Einstein, Rutherford, Bohr, Sommerfeld, Ehrenfest, Pauli, Millikan, Compton, Heisenberg, de Broglie, Schrödinger, Born, others), and nuclear physics (Chadwick, Gamow, Fermi, others). Relationships to social, philosophical, and theological influences.
- 5970. DIRECTED STUDIES.** (1-15 or per qtr; prereq #)
Guided individual reading or study.
- 5990. DIRECTED RESEARCH.** (1-15 or per qtr; prereq #)

College of Home Economics

CLA students may take up to 16 credits of course work offered by other colleges. The credits may be applied toward CLA degrees, but may not be used to fulfill group distribution requirements. Descriptions of courses offered by the College of Home Economics can be found in the bulletin of that college.

Honors Program

The CLA honors program is described fully in section I of this bulletin. Honors sections of many courses and other special honors courses offer advanced study opportunities at all undergraduate levels to students of high motivation and ability. The seminars for honors program juniors and seniors and the colloquia, open to all freshmen and sophomores, explore topics—a large number of them of an interdisciplinary nature—not covered in regular CLA courses. Many departments have special programs for honors majors. Only students enrolled in the program are eligible to graduate with honors.

The Honors office, 115 Johnston Hall, provides advising and information about current seminar and colloquium topics and other opportunities for honors students.

- 1010. HONORS COLLOQUIUM.** (2 or per qtr; prereq fr or soph)

Humanities (Hum)

Staff—Chair, Richard Leppert, 310 Ford Hall; **Director of Undergraduate Studies,** Pauline Yu, 326 Ford Hall

Professors: D'Andrea (on leave 1982-83), Hershbell, Leppert, Roshwald, Tapp

Associate Professors: Lincoln (on leave 1982-83), Yu

Assistant Professors: Archer, Kliger (on leave 1982-83), Thomas

Humanities offers integrated cross-cultural study of eras of civilization and major humanistic problems, drawing on literature, philosophy, history, the arts, and relevant aspects of the social 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.

B.A. MAJOR SEQUENCE

Major Requirements—A. Humanities courses (minimum 46 cr), to include: 1301; five courses from the European heritage-modern world sequences (at least two courses in each sequence); one course in non-Western culture (see list of approved courses available in Humanities advisers' offices); one senior workshop and one proseminar; any two additional Hum courses

B. Additional courses (minimum 16 cr): four 3xxx-5xxx courses from liberal education departments and programs from approved list (see list of approved units in Humanities advisers' offices).

C. Concentration (minimum 16 cr): four upper division CLA courses relevant to your declared area of concentration and approved by your adviser

With adviser approval, a maximum of three humanities program courses may be applied to requirements B and C together. In addition to 1301, a maximum of three 1xxx courses may be from the European heritage-modern world sequences. Up to four courses applied to requirements A, B, and C together, excluding 3xxx and 5xxx humanities courses, may be taken on S-N grading.

MINOR SEQUENCE

Minor Requirements—European Focus: 1301; three courses from the European heritage-modern world sequences (at least one course in each sequence); at least one additional 3xxx-5xxx Hum course (may be a proseminar)

Non-Western Focus: 1301; two courses from 3201, 3202, 3211, 3212, 3241, 3243, 5231; two additional 3xxx-5xxx Hum courses (may include a proseminar)

You must complete at least 15 credits of 3xxx-5xxx Hum courses for the minor. No more than 20 percent of the total program credits may be taken on S-N grading. No more than 20 percent of the total 3xxx-5xxx credits may consist of directed study, directed instruction, or independent study courses.

WESTERN SURVEY: THE MODERN WORLD**1001. HUMANITIES IN THE MODERN WORLD I.** (5 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.

1002. HUMANITIES IN THE MODERN WORLD II. (5 cr, §3002, §Rhet 1302)

Romanticism, liberalism, socialism; industrial revolution, materialism, cult of the individual and some counter statements; 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.

1003. HUMANITIES IN THE MODERN WORLD III. (5 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.

1004. HUMANITIES IN THE MODERN WORLD IV. (5 cr, §3004, §Rhet 3381)

Europe ca. 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, Dalí, Picasso, Stravinsky, Schönberg, Bartók, Wright, Gropius.

1001H, 1002H, 1003H, 1004H. HONORS COURSE: HUMANITIES IN THE MODERN WORLD. (5 cr per qtr, §corresponding qtr of 1001, 1002, 1003, 1004; open to students of high ability as demonstrated in other humanities classes or by GPA or by high school achievement)**3001, 3002, 3003, 3004. HUMANITIES IN THE MODERN WORLD.** (5 cr per qtr, §corresponding qtr of 1001, 1002, 1003, 1004...§Rhet 1301 for 3001, §Rhet 1302 for 3002, §Rhet 1303 for 3003, §Rhet 3381 for 3004)

Similar to 1001, 1002, 1003, 1004; more reading, papers.

Major Requirements and Course Descriptions

- 3004H. HONORS COURSE: HUMANITIES IN THE MODERN WORLD.** (5 cr, §1004, §Rhet 3381; open to students of high ability as demonstrated in other humanities classes or by GPA)
- 3005. HUMANITIES IN THE MODERN WORLD V.** (5 cr; prereq jr or sr)
The Western world since 1945. Existentialism, "the absurd"; searches for identity, commitment; religious trends; influence of oriental spiritual traditions. Integrative study of works by such creative figures as Camus, Sartre, Genet, Ionesco, Buber, Bultmann, Hesse, Watts, Pollock, Warhol, Stockhausen, Cage, Le Corbusier.

WESTERN SURVEY: THE EUROPEAN HERITAGE

- 1111 (formerly 1011). EUROPEAN HERITAGE: GREECE.** (5 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.
- 1113 (formerly 1012). EUROPEAN HERITAGE: ROME.** (5 cr, §3111, §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.
- 1115 (formerly 1112). EUROPEAN HERITAGE: MIDDLE AGES.** (5 cr, §3115, §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.
- 1117 (formerly 1013). EUROPEAN HERITAGE: RENAISSANCE, REFORMATION.** (5 cr)
Civilization in 15th-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.
- 3111, 3113, 3115, 3117 (formerly 3011, 3012, 3112, 3013). EUROPEAN HERITAGE.** (5 cr per qtr, §corresponding qtr of 1111, 1113, 1115, 1117...§Rhet 3321 for 3111...§Rhet 3322 for 3113 and 3115...§Rhet 3323 for 3117; prereq jr or sr)
Similar to 1111, 1113, 1115, 1117; more reading, papers.

- 3119 (formerly 3014). EUROPEAN HERITAGE: AGE OF THE BAROQUE.** (5 cr) Thomas
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.

NON-WESTERN SURVEY COURSES

- 3201. THE HERITAGE OF CHINA: THE EARLY PERIOD.** (5 cr, §Chn 3201) Yu
Chinese culture from beginnings through 10th century: literature (poetry, short stories), philosophy, history, visual arts, and music. Confucianism, Taoism, Buddhism. Primary texts read in translation.
- 3202. THE HERITAGE OF CHINA: MEDIEVAL TO MODERN.** (5 cr, §Chn 3202) Yu
Chinese culture from 11th century to present: literature (poetry, drama, fiction), philosophy, history, visual arts, and music. Western contacts and cultural upheaval. Primary texts read in translation.
- 3211, 3212. THE HERITAGE OF INDIA.** (5 cr per qtr, §SoAS 3501, 3502) Lincoln
Contemporary civilization in light of its development. Social, cultural, economic, and political life. Hindu, Muslim, and Buddhist contributions.
- 3241 (formerly 3401). THE HERITAGE OF ANCIENT ISRAEL.** (4 cr) Roshwald
The heritage of ancient Israel as conveyed by the Bible (Old Testament) and early postbiblical literature. Philosophies underlying ancient Israel presented through analysis of selected texts.
- 3243 (formerly 3403). MODERN ISRAEL.** (4 cr) Roshwald
Modern Israel as a cultural, historical, political, and social phenomenon. Historical-spiritual roots of Israel and its cultural renaissance.
- 5231. INDO-EUROPEAN CIVILIZATIONS.** (5 cr; prereq jr or sr or #) Lincoln
Common origins of Celtic, Germanic, Greek, Roman, and Indo-Iranian cultures. Myth, religion, poetry, philosophy within context of social, political, economic life. Emphasis on epic literature, priestly ideology, and comparative method in linguistics, archaeology, and study of myth.

METHODS

- 1301 (formerly 1101). THE LIFE OF THE MIND: INTRODUCTION TO METHODS IN THE HUMANITIES.** (5 cr)
Nature of the humanities explored through interpretation of major works from literature, rhetoric, history, philosophy, the visual arts, music, and film. Humanities knowledge and its place in a liberal education.

- 3321 (formerly 3099). THEORIES OF CULTURE.** (5 cr; prereq jr or sr or #)
Systematic "theories of culture" from Plato to Eliot and Marcuse examined from standpoint of conflicting ideological perspectives concerning people and society. Aristotle, Augustine, Vico, Hegel, Arnold, Dilthey, Croce, Cassirer, others.

IDEAS, ISSUES, AND THEMES

- 3611, 3612, 3613 (formerly 3101, 3102, 3103). MEANING OF HUMANITY, SOCIETY AND TECHNOLOGY, COMMUNITY.** (4 cr per qtr) Roshwald

3611: The essence of humanity and factors determining its course; theories of Marx, Freud, Plato. 3612: Impact of technology on human conditions; attitudes toward technology, examined philosophically and sociologically. 3613: People as social beings and the nature of groups in which they participate.

- 3614, 3615, 3616 (formerly 3104, 3105, 3106). LIBERTY: A CONCEPTUAL AND INSTITUTIONAL ANALYSIS.** (3 cr per qtr; prereq 3614 for 3615...3615 for 3616...or #) Roshwald

3614: Meaning of liberty, in theory and practice. Individual and collective liberty. Liberty and civilization. Conflict among different values of liberty. 3615: Comparative study of civilizations and how they deal with liberties. 3616: Colloquium on topics discussed in 3614 and 3615.

- 3625 (formerly 3049). SCIENCE AND THE HUMANITIES.** (5 cr; prereq jr or sr or #)

Implications for ethics and social design of competing claims made by the sciences and the humanities. Kinds of creativity and methodology of the two fields. Snow, Bronowski, Frye, Bohr, Beckett, Heisenberg, Skinner, E. O. Wilson.

- 3631, 3632, 3633 (formerly 3501, 3502, 3503). COMPARATIVE SOTERIOLOGICAL.** (4 cr per qtr) Tapp

"Saviors" of the past: the insights they afford into the creation, maintenance, and changing of humankind's values. Traditions surrounding them as literary and philosophical imagination, as art history, and as mirrors of psychosocial structures. 3631: Krishna through the ages. 3632: Buddha through the ages. 3633: Jesus through the ages.

- 3643. THE WEST AND THE WORLD: LITERARY PERSPECTIVES.** (5 cr; prereq jr or sr or #) Hutters

Novels concerned with collision between the West and non-Western cultures. Authors such as Melville, Conrad, Forster, Orwell, Achebe, Mao Dun, Tanizaki, V. S. Naipaul.

- 3655 (formerly 3055). THE CONCEPT OF CLASSICISM.** (5 cr; prereq jr or sr or #)

Changing views of classicism in Europe from 17th century to present, studied through literary texts, aesthetic criticism, music, art, and architecture.

- 3663. IDEAS OF NATURE: ENGLAND AND AMERICA TO 1875.** (5 cr; prereq jr or sr or #)

Nature in Anglo-American culture. Seventeenth-century ordered universal hierarchy and Puritan "garden in the wilderness," aesthetics of the sublime and picturesque, 19th-century romanticism and transcendentalism. Shaftesbury, Wordsworth, Emerson, Thoreau, Hawthorne, Muir; clerics, philosophers, aestheticians, painters, poets, novelists, explorers.

- 3673 (formerly 3006). CREATIVE IMAGINATION IN THE 20TH CENTURY.** (5 cr)

Creativity as demonstrated by such painters, sculptors, musicians, and writers as Marcel Duchamp, Pablo Picasso, John Cage, and André Gide.

- 3675 (formerly 3061). COUNTERFAITHS IN CONTEMPORARY NOVELS.** (5 cr) Tapp

Camus, Clarke, Heinlein, Hesse, Huxley, Kazantzakis, Sartre, Skinner, Vonnegut as embodiments of alternative faith perspectives and sensibilities that have emerged in alienation from the Western past.

- 3677 (formerly 3071). SELF-REALIZATION IN 20TH-CENTURY LITERATURE.** (5 cr; prereq jr or sr or #) Klinger

Quest for meaning and process of individuation.

GENRES

- 3701 (formerly 3301). A TIME TO LAUGH: A STUDY OF THE COMIC SPIRIT.** (5 cr)

Interdisciplinary survey of comedy through time and across world cultures in literature, drama, folk ritual and tale, social convention, language, sport, film.

- 3737. THE FAMILY IN THE NOVEL, EAST AND WEST.** (5 cr) Yu

Cross-cultural study of novels in which family relationships over generations serve as subject matter, theme, and structure. Such authors as Böll, Butler, Faulkner, Lawrence, Mann, Marquez, Murasaki, V. S. Naipaul, Pa Chin, Stegner, Tanizaki, Ts'ao Hsueh-ch'in, Turgenev, Woiwode.

- 3738 (formerly 3038). THE POLITICAL NOVEL.** (5 cr; prereq jr or sr)

Selected novels from Stendhal to present with emphasis on critical study of works by major authors. Theories of human nature, relation of individual and society, philosophy of history and political action, experience and ideology, the political novel as a genre.

- 3755. CINEMA AND IDEOLOGY.** (4 cr)

Art and ideology in the film. Russia after 1918; Germany, France, and America in 1920s and 1930s; wartime Germany and Japan, postwar recovery; search for a modern ideology.

Major Requirements and Course Descriptions

PEOPLE, TIMES, PLACES, AND MAJOR WORKS

- 3813. MEDIEVAL RUSSIAN CULTURE: THE LIFE-STYLES OF OLD RUSSIA.** (5 cr; prereq jr or sr or #) Noonan
Literary, artistic, and material culture of the peoples of European Russia from early medieval era to late 17th century.
- 3871. REVOLUTIONS IN SCIENCE AND THE ARTS: 1900-1931.** (5 cr; prereq jr or sr or #)
Tradition and revolutionary change in science, literature, art, music, and philosophy in Europe. The heritage of symbolism; philosophies of process; implications of relativity, quantum mechanics, Goedel's theorem; cubism, futurism, constructivism, expressionism, dadaism, surrealism; atonality, twelve-tone and neoclassical music.
- 3878 (formerly 3204). THE MODERN GREEK EXPERIENCE.** (5 cr)
Modern Greek literary and cultural contributions as symbols of national frustrations, aspirations, and accomplishments.
- 5823 (formerly 5023). ART AND POLITICS IN THE NORTHERN RENAISSANCE.** (4 cr)
Relationship between politics and culture in 16th-century England, France, and the Low Countries. Political and religious crises, and their effects on art, music, philosophy, and literature.
- 5835 (formerly 5035). RICHARD WAGNER'S DER RING DES NIBELUNGEN: MUSIC, MYTH, AND POLITICS.** (5 cr; prereq jr or sr)
Literary and musical analysis and historical context of the four works of Wagner's "Ring": *Das Rheingold*, *Die Walküre*, *Siegfried*, *Götterdämmerung*. Critical assessment of Wagner's achievement and influence.

DIRECTED AND SPECIAL STUDIES

- 3910. TOPICS IN THE HUMANITIES.** (4 cr per qtr; prereq jr or sr or #)
Topics specified in the *Class Schedule*.
- 3910H. HONORS COURSE: TOPICS IN THE HUMANITIES.** (4 cr per qtr; prereq jr or sr or #)
Topics specified in the *Class Schedule*.
- 3944 (formerly 3044). HONORS THESIS.** (3 cr; prereq sr, candidate for magna or summa honors in humanities, Δ)
- 3970. DIRECTED STUDIES.** (Cr ar; prereq #)
Guided individual reading or study.
- 3980. DIRECTED INSTRUCTION.** (1-3 cr per qtr; prereq completion for cr of course to be taught)
- 5910. TOPICS IN THE HUMANITIES.** (4 cr; prereq jr or sr or grad student)
Topics specified in the *Class Schedule*.
- 5930 (formerly 5030). HUMANITIES PROSEMINAR.** (3 cr per qtr; prereq sr)
Review of humanities materials: arts, sciences, and civilization.
- 5930H (formerly 5030H). HONORS COURSE: HUMANITIES PROSEMINAR.** (3 cr per qtr; for honors candidates in humanities and others with overall grade avg of B or better; prereq sr, #)
For description, see 5930.
- 5970. DIRECTED STUDIES.** (Cr ar; prereq jr or sr or grad student, #)
For description, see 3970.
- 5990. SENIOR WORKSHOP.** (5 cr; prereq sr major...or jr major with Δ)
Faculty and student analysis of cultural artifacts.

Individualized Studies Degree Program (B.I.S.)

The bachelor of individualized studies is an alternative degree program that provides certain types of flexibility not available in B.A. and B.S. programs. Programs are designed to meet individual educational goals and objectives. Course work may be interdepartmental in composition and may include up to 40 credits from outside of CLA.

You must submit an application by the end of the fifth week of the quarter in which you wish to be admitted to the B.I.S. program. In the application you must explain why your academic needs would best be met by an individualized program and must list the courses you propose to include in your program. If you are accepted, you will be referred to two or more faculty advisers for assistance in planning your degree program. Formal admission is contingent upon receiving faculty approval of your program by the end of the quarter following acceptance into the B.I.S.

Individually Designed Interdepartmental Major

For further information and help in writing a program proposal, consult an adviser in the B.I.S. office, 220 Johnston Hall (376-3030).

Note: The B.I.S. degree program will be under review in 1982-83, when the college will decide whether students will be admitted after 1982-83.

PROGRAM REQUIREMENTS

85 cr, including 75 at the 3xxx and 5xxx levels, approved for the degree program. These credits must be divided into three to five areas of study, which may be departmental or interdepartmental in composition, with a minimum of 16 credits in each area. Up to 40 of the credits may be from outside of CLA.

A minimum of 90 credits must be completed at the University while enrolled in the B.I.S. program.

A maximum of 20 credits of directed studies (3970 or 5970) and a maximum of 16 credits completed on S-N grading may be included in a B.I.S. program.

The CLA requirement of 30 3xxx and 5xxx credits outside the major does not apply. Distribution requirements for the B.I.S. degree are detailed in section I.

Individually Designed Interdepartmental Major (IDIM)

Staff—Advisers, 220 Johnston Hall (376-3030)

The IDIM program is designed to meet the needs of those students whose academic interests are best served by an interdepartmental major in the College of Liberal Arts. To earn the B.A. degree, you must complete the usual English composition, second language, and distribution requirements as well as 80 credits, including a senior project, in your individualized major program.

Admission to the IDIM program is based on acceptance by faculty and staff advisers of your program proposal; the proposal must explain your academic goals and outline a set of courses (which may include directed studies and internships) appropriate to these goals. IDIM programs involve course work from three or four areas, which may be departmental or interdepartmental in composition.

Typical IDIM program themes have been criminal justice studies, environmental studies, comparative studies in contemporary civilization, arts criticism, commercial communication, and human relations.

B.A. MAJOR SEQUENCE

Major Requirements—80 cr approved for the major program, distributed in three or four areas, including at least 60 cr at the 3xxx-5xxx level. You must complete at least 45 of the 60 3xxx-5xxx cr and at least 50 of the total 80 cr on A-N grading.

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 credits must be completed in residence while enrolled in the IDIM program.

No more than 20 credits of directed study (3970 or 5970) may be applied to the major. No course in which a grade of D has been earned may be applied to the major.

The CLA requirement of 30 3xxx-5xxx credits outside the major does not apply.

Interdepartmental Study (ID)

Interdepartmental directed study registration provides opportunity for you to plan and carry out study and research in topics that are interdisciplinary and fall within the scope of more than one department or program. These opportunities, especially appropriate for interdepartmental majors, are available to all CLA students.

When planning an interdepartmental project, you work with two or more instructors and must receive college approval from the Office for Special Learning Opportunities (OSLO), 220 Johnston Hall. A project proposal is required; it should identify objectives, the subject matter to be studied, proposed study methods, and means of evaluation as well as indicate the consent of instructors involved. Further information is available at OSLO.

Additional courses are offered occasionally through interdepartmental study. They are cross-disciplinary and sometimes experimental. For current offerings, see the *Class Schedule* or inquire in 203 Johnston Hall. Other cross-disciplinary courses, including directed studies, are listed under the headings Literature and Fine Arts, Natural Science and Technology, and Social Science.

3970. DIRECTED STUDIES. (3-15 cr per qtr; prereq OSLO approval, Δ)
Individual readings and research on topics that cross departmental lines.

International Relations (IntR)

Staff—*Director, Director of Undergraduate Studies, and Director of Honors, P. Terrence Hopmann, 1246b Social Sciences Building; Undergraduate Adviser, John B. Harris, 1227 Social Sciences Building*

Adjunct Faculty—*Professors: Benjamin (Political Science), Brauer (History), Browne (Speech-Communication), Carter (Journalism), Coen (Economics), Fulton (Sociology), Ellenbogen (Sociology), Hopmann (Political Science), Howell (Speech-Communication), Kopf (History), Lindsay (Journalism), Mestenhauser (International Student Advising Office), Porter (Geography), Rogers (World Affairs Center), Schwartzberg (Geography), E. Scott (Geography), Smith (Economics), Wynia (Political Science)*

Associate Professors: Duvall (Political Science), Job (Political Science), Kudrie (Public Affairs), Kvakiv (Political Science), Nimitz (Political Science)

Assistant Professors: Berkowitz (Political Science), Pitt (Economics), Sampson (Political Science)

International relations is concerned with human activities that connect and cross boundaries between nations and cultural areas.

This program is based on the belief that the field of international relations constitutes a distinct area of study and analysis within which methods developed by many academic disciplines can be usefully applied. While emphasis on some aspects of the field is possible within various academic disciplines, this multidisciplinary program is intended to serve students who desire a more comprehensive view of the subject.

You may choose to complete one of three tracks: general international relations, international development, intercultural/international communication. Each includes a core of required courses from different disciplines; an integrating course, IntR 3101; electives to satisfy individual interests and objectives; and integrating policy analysis courses.

In some cases you may elect to complete related work in the School of Management. If you are contemplating such work, you should contact Michael Raam in 225 Management and Economics Building *after* consulting with the international relations undergraduate adviser.

If you do not have equivalent proficiency, you must complete specified 3xxx-5xxx courses in one modern foreign language.

Because requirements are so diverse, an early start in planning the major program is essential. You are urged to complete preparatory work, including the second language requirement, during your freshman and sophomore years.

The booklet *Programs in International Relations*, detailing requirements, may be obtained from the Harold Scott Quigley Center of International Studies, 1246 Social Sciences Building, 267 19th Avenue South, University of Minnesota, Minneapolis, Minnesota 55455.

B.A. MAJOR SEQUENCE

Required Preparatory Courses—Requirements vary according to the track chosen. See *Programs in International Relations*.

Major Requirements—At least 48 credits in one area of concentration, approved by major advisers. Satisfaction of the second language requirement. See *Programs in International Relations*.

MINOR SEQUENCE

Minor Requirements—*International Relations*: 24 cr including 3101 and five courses from at least three of the following four fields—international economics, international politics, diplomatic history, international communication; 5903 may be substituted as one of the five courses.

There is no foreign language requirement beyond that required by CLA.

The selection of courses must be approved by the undergraduate adviser or by the director of the program to ensure a coherent minor program and sufficient interdisciplinary breadth.

Foreign Studies: For requirements, see the description of the minor program under the heading Foreign Studies.

The courses described below are only a partial listing of those available in the program. A complete listing of courses offered by participating departments is published in the *Programs in International Relations* booklet.

3091f, w, s. HONORS COURSE: SUPERVISED RESEARCH PAPER. (3 cr; prereq sr honors candidate in international relations, Δ)

3101f. INTRODUCTION TO INTERNATIONAL RELATIONS. (4 cr; prereq major or #) Hopmann, Kudrle
Interdisciplinary study of international relations; contributions of various disciplines to the analysis of significant contemporary world problems.

3970f, w, s. DIRECTED STUDIES. (1-4 cr per qtr; prereq #, Δ) Staff
Guided individual reading or study.

5902. DECISION MAKING IN INTERNATIONAL RELATIONS. (4 cr; prereq major in international relations)
Proseminar. Synthesis of approaches to international relations through student participation in decision-making roles in experimental, simulated situations.

5903. ANALYSIS OF INTERNATIONAL POLICY PROBLEMS. (4 cr; prereq major in international relations)
Proseminar. Synthesis of analytic approaches to international policy problems. Topics vary quarterly.

ISLAMIC

See Near and Middle Eastern Studies.

ITALIAN

See French and Italian.

JAPANESE

See East Asian Studies.

JEWISH STUDIES

See Near and Middle Eastern Studies.

Journalism and Mass Communication (Jour)

Staff—*Director*, F. Gerald Kline, 112 Murphy Hall; *Director of Undergraduate Studies*, Walter H. Brovald, 36 Murphy Hall

Professors: Brovald, Carter, Emery, Fang, Gillmor, Hage, Jones, Kline, Lindsay, Thompson, Tichenor, Wackman, Wilson

Associate Professors: Dicken-Garcia, Ismach, Lee, Ward

Assistant Professors: Busterna, Ettema

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 written, oral, and visual communication.

The school offers a B.A. program with two emphases. One, the professional emphasis, prepares students for a variety of careers in journalism, including media management, news-editorial, advertising, photocommunication, broadcast, and public relations work. This program is based on broad liberal education studies, knowledge of the social and professional responsibilities of the communicator, and beginning competence in journalistic skills. About three-fourths of the course work is completed in the social sciences, the humanities, and other areas of liberal education, and the remainder is completed in journalism courses, many of which also have a liberal education emphasis.

The second B.A. emphasis is in mass communication. A minor in mass communication is available also. Beyond a core of course work in common with the professional emphasis, mass communication emphasis students are encouraged to take a wide variety of course work dealing with the economic, political, legal, and social aspects of mass communication.

The school also offers, through the Graduate School, M.A. programs in mass communication with emphasis on professional or research areas, and a Ph.D. program in mass communication. The school encourages qualified students to consider coordinating B.A. studies with prospective M.A. work through careful planning with advisers in the junior year. Such a program allows expanded specialized preparation for professional or research activities.

General Education—Journalism preparatory courses, core courses, and 3201 are open to nonmajors with or without minimal prerequisites. The enrichment courses (Group II) also are open to nonmajors.

B.A. MAJOR SEQUENCE—PROFESSIONAL EMPHASIS

Admission—The school admits a limited number of undergraduate professional emphasis students annually. You should apply after you have completed preparatory courses 1001, 1002, 1003, and 1004 with a 2.50 grade point average, have taken the College Entrance Examination Board English composition test, and have passed a 25-wpm typing test administered by the school. You should not present more than 12 credits in journalism at the time of application. Obtain complete information about application from the Student Services office of the school.

Specialized Professional Program—A specialized program may be planned in consultation with an adviser. Examples are international mass communication, science reporting, communications research, community newspaper management, public affairs journalism, magazine editing, broadcast advertising, and graphic arts. In collaboration with the Department of Agricultural Journalism of the College of Agriculture, the school offers a variety of agriculture-related programs.

Supporting Course Work—Econ 1001-1002 or 1014-1015 or 3001-3002; Pol 1001; Hist 1301-1302 or 3821-3822 or 3822-3823; for students whose primary interest area is advertising, Psy 1001; for students whose primary interest area is broadcasting, Spch 1101
Completion of freshman composition requirement (or, if exempted, one 1xxx or 3xxx composition course)

These courses need not be taken prior to application for major status, but students are encouraged to complete them early in their college programs.

Required Preparatory Courses—1001, 1002, 1003, 1004

Major Requirements—3007, 3008; one course from Group IA; two courses from Group II; 16 additional cr from Groups I, II, and III; a 3xxx or 5xxx composition course, selected from a list of courses approved by the school. The B.A. program may include a maximum of 48 journalism credits.

Major project: for details about project options, contact the Student Services office of the school

B.A. MAJOR SEQUENCE—MASS COMMUNICATION EMPHASIS

Admission—Application for admission to the mass communication emphasis is not required, but a plan of study must be completed in consultation with the director of undergraduate studies once the preparatory courses are completed with a 2.50 grade point average and before major requirements are undertaken.

Supporting Course Work—Completion of freshman composition requirement (or, if exempted, one 1xxx or 3xxx composition course)

No other specific courses are required, but students should consult with the director of undergraduate studies about appropriate recommended courses.

Required Preparatory Courses—1001, 1002, 1003, 1004

Major Requirements—3007, 3008; a minimum of 20 cr from Groups II and III or 3201; a 3xxx or 5xxx composition course, selected from a list of courses approved by the school.

Major project: for details about project options, contact the Student Services office of the school

MINOR SEQUENCE—MASS COMMUNICATION

Admission—Application for admission to the minor is not required, but a plan of study must be completed in consultation with the director of undergraduate studies once 1001 is completed with a grade of C or better and before upper-level requirements are undertaken.

Supporting Course Work—Completion of freshman composition requirement (or, if exempted, one 1xxx or 3xxx composition course)

Required Preparatory Course—1001

Minor Requirements—3007, 3008; a minimum of 18 cr from Groups II and III or 3201; a 3xxx or 5xxx composition course, selected from a list of courses approved by the school

Major Requirements and Course Descriptions

PREPARATORY

- 1001. INTRODUCTION TO MASS COMMUNICATION.** (2 cr; completion of fr composition recommended)
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.
- 1002 (formerly 1005). VISUAL COMMUNICATION.** (2 cr)
Functions of visual communication in news and advertising in print and electronic media. Evaluation and criticism of visuals in creative typography, photography, and other forms. Lectures (CCTV), projects, critiques.
- 1003. PRODUCING MASS MEDIA MESSAGES.** (4 cr; prereq fr composition or exemption, Δ)
Analysis of mass media messages; practice, under instruction, in writing factual and persuasive messages. Emphasis on message attributes, style, structure, formula, constraints, techniques and conventions. Applications to news, advertising, documentary, and interpretive writing for print, film, and video media.
- 1004. INFORMATION FOR MASS COMMUNICATION.** (4 cr; prereq 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, data bases, and interviews.

CORE

- 3007. THE MEDIA IN AMERICAN HISTORY AND LAW: CASE STUDIES.** (4 cr; prereq completion of preparatory journalism courses, filed application for major status, Δ for intended professional journalism majors ...completion of preparatory journalism courses, filed study plan, Δ for intended mass communication majors...1001, filed study plan, Δ for intended mass communication minors...1001, Δ for others)
Using a case study approach focusing on legal and ethical issues, examines the media in the socio-economic-political-technological context of a specific historical period.
- 3008. MASS COMMUNICATION PROCESSES AND STRUCTURE.** (4 cr; prereq completion of preparatory journalism courses, filed application for major status, Δ for intended professional journalism majors...completion of preparatory journalism courses, filed study plan, Δ for intended mass communication majors...1001, filed study plan, Δ for intended mass communication minors...1001, Δ for others)
Analysis of a variety of communication theories as they relate to mass communication processes; major structural aspects of mass communication systems as they influence mass communication processes.

I. PROFESSIONAL

These courses, with the exception of 3201, are not open to students in mass communication. Professional journalism students must have official major status before enrolling.

Group A

- 3101 (formerly 1101). REPORTING.** (4 cr; prereq professional journalism major status, type 25 wpm, Δ)
Fact gathering and journalistic writing. Problems in judgment and handling of news and news features.
- 3201 (formerly 1201). PRINCIPLES OF ADVERTISING.** (4 cr; prereq major status for professional journalism and mass communication students...1001 and filed study plan for intended mass communication majors...no prereq for others)
Theory, principles, and functions of advertising; its role in economic, social, and marketing structure. Newspapers, magazines, radio, television as advertising media.
- 3301. PHOTOJOURNALISM.** (4 cr; prereq professional journalism major status, Δ)
Photography as creative communication. Fundamentals of photography; use of news cameras; darkroom processes. Laboratory.

Group B

- 3121. PUBLIC AFFAIRS REPORTING.** (4 cr; prereq 3101, type 40 wpm, Δ)
Reporting and editing news of courts and municipal, county, state, and federal administrative and legislative agencies.
- 3155. PUBLICATIONS EDITING.** (4 cr; prereq 3101, Δ)
Selection and editing of news-editorial content of newspapers, brochures, magazines. Newspaper makeup, magazine format. Press association teletype service. Lecture and laboratory.
- 3173. MAGAZINE WRITING AND EDITING.** (4 cr; prereq 3101, Δ)
Writing feature articles for general, class, and trade publications; study of market free-lance methods.

Journalism and Mass Communication

- 3176. BUSINESS AND INDUSTRIAL JOURNALISM.** (4 cr; prereq 3155, 3121 or 3173, #)
Analysis of content, staffing, design, and production of business and company publications. On-the-job projects of gathering material and writing feature articles for the business and company press.
- 3193. COMMUNITY NEWSPAPER.** (4 cr; prereq professional journalism major status, #, Δ)
The community newspaper (weekly and small daily) as an editorial product and a business. Aspects of news, opinion, advertising, production. Role of the editor in the community.
- 3231. ADVERTISING GRAPHICS.** (4 cr; prereq professional journalism major status, 3101 or 3201 or 3301 or #, Δ)
Design and layout; preparation of copy for print and film; uses of type; type legibility; illustration, printing processes.
- 3241. ADVERTISING COPYWRITING.** (4 cr; prereq professional journalism major status, 3201 or #, Δ)
Advertising appeals and strategy; advertising for print and broadcast. Individual and group projects.
- 3401. BASIC CINEMATOGRAPHY.** (4 cr; prereq professional journalism or speech major status, Δ)
Practice and theory in film communication. Creative and technical applications in television news, documentaries, advertising films.
- 3421. TELECOMMUNICATION ADMINISTRATION.** (4 cr; prereq professional journalism or speech major status, Δ)
Role of the broadcasting station in American life. Basic issues in station operation, frequency and channel allocations, cross-channel affiliations.
- 3451. TELEVISION AND RADIO NEWS.** (4 cr; prereq 3101 or speech major status with #, Δ; 2 lect, 3 lab, 3 news production hrs per wk)
Writing, interviewing, delivery, audiotape editing, graphics preparation. Production of radio newscasts and a radio documentary.
- 3486. RADIO AND TELEVISION SCRIPTWRITING.** (4 cr; prereq professional journalism or speech major status, Δ)
Planning and writing scripts for broadcast in variety of program areas.
- 5182 (formerly 3182). SUPERVISION OF SCHOOL PUBLICATIONS.** (4 cr; prereq professional journalism major status or #, Δ)
Emphasis on editorial content, staff organization, editing, typography, makeup, business management for those who plan to advise high school or college newspapers, yearbooks, magazines.

Group C

- 5131. INTERPRETIVE REPORTING.** (4 cr; prereq sr, 3121, Δ)
Advanced problems in reporting about government, politics, social problems, and the arts.
- 5133. SCIENCE COMMUNICATION.** (4 cr; prereq 3121 or #, Δ)
Role of journalistic communication in science; scientist-journalist relationships; communicating results of scientific investigations to public, specialized audiences, industry.
- 5141. OPINION WRITING IN AMERICA.** (4 cr; prereq one 3xxx writing course, major or grad status for professional journalism students with #, Δ)
Oral and written analysis of major political, economic, social developments. Persuasive communication in newspapers and magazines; columnists; commentators.
- 5143. INTERPRETIVE REPORTING ABOUT SCIENCE.** (4 cr; prereq professional journalism major status, 5133 or #, Δ)
Analysis of scientific research and technological development for mass and specialized media; critical study of science content in media; audience impact.
- 5144. URBAN JOURNALISM.** (4 cr; prereq professional journalism major status, 3121 or grad student or professional experience with #, Δ)
Urban problems and mass media role and performance; specialized reporting and commentary on urban media policy, and news gathering techniques; analysis of media content; reporting projects and appropriate readings.
- 5155. PRECISION JOURNALISM.** (4 cr; prereq professional journalism major status, 3101 or grad student or professional experience with #, Δ)
Quantitative methods of investigation and interpretation for the mass media.
- 5171. ARTS REVIEWING.** (4 cr; prereq one 3xxx writing course, major or grad status for professional journalism students, #, Δ; offered alt yrs)
Book, theatre, and motion picture reviews. Analysis of leading critics and critical periodicals. Weekly reviews.
- 5174. MAGAZINE EDITING AND PRODUCTION.** (4 cr; prereq 3173 or 5376 or 5221, #)
Writing, editing, illustration, design, layout, photocomposition of a single-issue magazine.
- 5233. GRAPHIC DESIGN ANALYSIS.** (4 cr; prereq professional journalism major status, 3231 or #, Δ)
Publication formats for design and efficiency; historical and current trends; field projects; creative problems.
- 5261. ADVERTISING: MEDIA ANALYSIS.** (4 cr; prereq professional journalism major status, 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.

Major Requirements and Course Descriptions

- 5263. ADVERTISING CAMPAIGN PLANNING AND MEDIA STRATEGY.** (4 cr; prereq professional journalism major status, 3241, 5261, Mktg 3000, #, Δ)
Relation of campaign strategy to media measurement, evaluation, and planning. Coordination of advertising campaigns; media scheduling and purchasing.
- 5272. ADVERTISING COPY-GRAPHICS.** (4 cr; prereq 3231, 3241, #, Δ)
Copy and graphics design for print and television advertising. Preparation and presentation of ads and commercials for consumer, business, industrial, corporate, and public service advertisers.
- 5353. PHOTOGRAPHIC COMMUNICATION.** (4 cr; prereq 3301, Δ)
Photographic communication in the mass media. Multichannel communication theories, communicative overtones. Visual sources, layout, objectivity in editing. Experimental creative projects.
- 5376. ADVANCED PHOTOJOURNALISM.** (4 cr; prereq 3301, Δ)
Materials and processes for visual reporting in newspapers and magazines. Thematic visual series. Dynamics of visual content; pattern, texture, movement. Use of miniature camera, light, and lighting. Color photography.
- 5377. DOCUMENTARY PHOTOGRAPHY.** (4 cr; prereq 5376, Δ)
Definition, scope, research, and approaches of the documentary picture story for magazines, picture books, and multimedia presentations. Series, sequences, essays. Photographic markets.
- 5402. FILM PRODUCTION.** (4 cr; prereq professional journalism major status, 3401 or Spch 3201, #)
Directed projects in planning, shooting, and editing silent and sound film. Creative production. Lectures, laboratory work, field experience.
- 5442. ADVANCED TELEVISION NEWS.** (4 cr; prereq 3451, Δ; 2 lect, 3 lab, 3 news production hrs per wk)
Newsfilm editing; preparation and delivery of television newscasts. Current problems; legal and ethical considerations.
- 5444. TELEVISION AND RADIO DOCUMENTARY.** (4 cr; prereq 5442, Δ; 2 lect hrs, field and lab hrs as needed)
Scope and techniques. Production of television or radio news documentaries of broadcast quality.
- 5559. CASE STUDIES IN PUBLIC RELATIONS.** (4 cr; prereq professional journalism major status or #, 5549, Δ)
Case study approach to application of public relations principles to solution of problems in business, government, education, and community. Designed to enable students to sharpen their perceptions, insights, and judgments in examining practical and ethical questions.

II. ENRICHMENT

Mass communication students may enroll in these courses after they complete preparatory journalism courses and file study plans. Professional journalism students must have official major status before enrolling.

- 3776. MASS COMMUNICATION LAW.** (4 cr; prereq 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.
- 3796. MASS MEDIA AND POLITICS.** (4 cr, \$Pol 3796; prereq major status in journalism, 1001 or Pol 1001 or #)
Analysis of role of mass media in politics; emphasis on television and electoral campaigns; news coverage versus newsmaking. Free press in democracy.
- 5221. PUBLICATION GRAPHICS.** (4 cr; prereq 8 or in 3xxx or 5xxx courses in art and design or #, Δ)
Role of printing processes in graphic communication. Technique and production of illustrations. Significant developments in graphic arts technology.
- 5251. PSYCHOLOGY OF ADVERTISING.** (4 cr, \$Psy 5751; prereq Psy 1001)
Psychological principles, research techniques, and applications in advertising and selling. Consumer attitudes and behavior. Psychological mechanisms upon which effectiveness of advertisements and commercials depends.
- 5274. CURRENT ADVERTISING DEVELOPMENTS AND PROBLEMS.** (4 cr; prereq 5263 or 5272 or #, Δ)
Creative, management, research, media, and technical developments in advertising. Specific problems. Case studies in advertising-marketing process.
- 5501. COMMUNICATION AND PUBLIC OPINION I.** (4 cr; prereq 16 or in social science depts)
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.
- 5531. COMMUNICATION AND PUBLIC OPINION II.** (4 cr; prereq 5501 or Soc 5355)
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.

Journalism and Mass Communication

- 5549. PUBLIC RELATIONS.** (4 cr; prereq 16 cr in social science depts)
History and development of public relations practice and principles. Process and applications in a variety of institutional settings. Analysis and critique of public relations in contemporary society.
- 5601. HISTORY OF JOURNALISM.** (4 cr)
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.
- 5603. TOPICS IN HISTORY OF JOURNALISM.** (4 cr; prereq 5601)
Intensive study of significant individuals, newspapers, and periodicals in the United States, 1865-1920. Individual research projects.
- 5606. LITERARY ASPECTS OF JOURNALISM.** (4 cr; prereq #; offered alt yrs)
Literary aspects of journalism as exemplified in, and influenced by, works of English and American writers, past and present. Lectures, discussions, and weekly papers.
- 5611. DEVELOPMENT OF AMERICAN BROADCASTING.** (4 cr)
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.
- 5615. DEVELOPMENT OF PHOTOJOURNALISM AND DOCUMENTARY FILM.** (4 cr)
History of these forms of visual communication and their use by the mass media. Principal contributors, visual styles, and changing evaluative criteria, 1839 to present. Analysis of important films and photographs from the period. Individual research projects involving primary data.
- 5721. MASS MEDIA IN A DYNAMIC SOCIETY.** (4 cr; prereq 16 cr in social science depts)
Economic, political, and social determinants of character and content of mass communications in America. Impact, structure, functioning of mass media. Problems, prospects, and criticism. Professionalism, technology, reform.
- 5731. CURRENT COMMUNICATIONS PROBLEMS.** (4 cr; prereq professional journalism or mass communication sr, 16 cr in social science depts, #)
Individual projects and seminar method of analysis of major contemporary problems of communication, both descriptive and normative.
- 5731H. HONORS COURSE: CURRENT COMMUNICATIONS PROBLEMS.** (4 cr; prereq professional journalism or mass communication sr, 16 cr in social science depts, #)
For description, see 5731.
- 5777. CONTEMPORARY PROBLEMS IN FREEDOM OF SPEECH AND PRESS.** (4 cr; prereq 16 cr in social science depts)
Legal and constitutional derivation of freedom of speech and press with emphasis on case law, judicial theories, doctrines, tests, and values. Symbolic, commercial, and compelled speech, speech plus, petition and assembly, major press cases, legal research techniques.
- 5801. INTERNATIONAL COMMUNICATION.** (4 cr; prereq 16 cr in social science depts)
Global telecommunications, channels, artifacts of international mass communication. Problems in free flow of information. Roles of international organizations, journalism. Mass communication in social, political, educational, economic development; implications for conflict resolution.
- 5825. WORLD COMMUNICATION SYSTEMS.** (4 cr; prereq 16 cr in social science depts)
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.
- 5826. MASS COMMUNICATION SYSTEMS OF WESTERN EUROPE.** (4 cr; prereq 16 cr in social science depts)
Implications of mass media and telecommunications with analysis of historical origins, contemporary sociocultural issues, and roles of mass communication in Western European and international affairs.

III. INDEPENDENT STUDY

- 3970. DIRECTED STUDIES.** (1-4 cr per qtr; prereq major status for professional journalism and mass communications students, #, Δ)
Guided individual reading or study.
- 5970. ADVANCED PROJECTS IN JOURNALISM.** (1-4 cr per qtr [8 cr max]; prereq major status for professional journalism and mass communication students, B avg, #, Δ)
- 5970H. HONORS COURSE: ADVANCED PROJECTS IN JOURNALISM.** (1-4 cr per qtr [8 cr max]; prereq major status for professional journalism and mass communication students, B avg, #, Δ)
- 5990. SPECIAL TOPICS IN MASS COMMUNICATION.** (4 cr per qtr [8 cr max]; prereq major status for professional journalism and mass communication students, #, Δ)
Topics specified in *Class Schedule*.

Major Requirements and Course Descriptions

LATIN

See Classics.

Latin American Studies (LAS)

Staff—*Chair*, Hernan Vidal, 4 Folwell Hall; *Administrative Assistant*, Helen McNulty, 220 Johnston Hall

Adjunct Faculty—*Professors*: Barrett (Geography), Brownlee (Economics), Carter (Journalism), Ellenbogen (Sociology), Gudeman (Anthropology), Hamilton (Portuguese), Mather (Geography), Miller (Anthropology), Narvaez (Spanish), Purvis (Agricultural and Applied Economics), Raup (Agricultural and Applied Economics), Riedel (Music), Schuh (Agriculture and Applied Economics), Schwartz (History), Southall (Afro-American Studies), Vidal (Spanish), Wynia (Political Science)

Associate Professors: Barnwell (Ecology and Behavioral Biology), Hendricks (Anthropology), Ingham (Anthropology), Jara (Spanish), Menanteau (Sociology), Phillips (History), Sousa (Portuguese)

Assistant Professors: Barstow (Anthropology), McCaa (History), Rodriguez (Spanish), Weil (Geography), Wiemers (Wilson Library)

This program, through a multidisciplinary combination of area and language course work, is designed to prepare specialists in aspects of Latin American studies and activities. The wide range of courses offered on the Twin Cities campus and in foreign study programs provides an excellent opportunity to pursue Latin American studies in a wide variety of disciplines.

You must plan your major or minor program in consultation with an adviser. If you have a special thematic or regional interest (e.g., human rights, communication, economic development, the Caribbean and the Guianas, the Andean countries, Brazil), you are encouraged to pursue it by designing a relevant cluster of courses. A list of approved Latin American courses and a list of approved related courses are available in the adviser's office, 220 Johnston Hall.

Field experience in Latin America is encouraged, and credit for it may be arranged (see Foreign Study). Students are urged to take advantage of University opportunities for cross-cultural experience prior to foreign study.

Transfer credit, credit for directed research in non-LAS courses, or credit for other courses not on the approved lists may be applied to the major or minor when appropriate. The student's adviser determines the assignment to categories.

Opportunities for graduates of this program include teaching, research, government service, or work in mass communication.

B.A. MAJOR SEQUENCE

Required Preparatory Courses—3131; completion of Span 1105 or Port 1105 (use of proficiency exams encouraged); Hist 1401 or 3401, 1402 or 3402, 1403 or 3403 (preferably in sequence)

Major Requirements—16 cr in Latin American courses from three or more social science departments other than history

8 cr of Latin American humanities other than history

Additional cr in approved courses to bring total to 48

4 cr of 5120 (may be included among required social science or humanities courses)

Additional cr from approved lists of courses to bring total to 48, no more than 12 cr of which can be from list of related courses

If you have completed Span 1105, you may not count toward the major credits for any Spanish literature courses offered in translation or more than 8 credits of Portuguese literature courses offered in translation. If you have completed Port 1105, you may not count toward the major credits for any Portuguese literature courses offered in translation or more than 8 credits of Spanish literature courses offered in translation.

Up to 10 credits may be taken S-N; up to 15, with adviser approval, in independent study or directed research.

MINOR SEQUENCE

Required Preparatory Course—3131; completion of Span 1105 or Port 1105 (use of proficiency exams encouraged). If you select a Caribbean focus, you may petition to have a comparable level of French or Dutch accepted in lieu of Span or Port 1105.

Minor Requirements—24 cr in Latin American or related courses distributed as follows:

4 cr of Latin American history

4 cr of Latin American humanities other than history

8 cr of Latin America courses from two social science departments other than history

4 additional cr of Latin American course work in history or a social science department

Additional cr from approved lists of courses to bring total to 24, no more than 9 of which can be in your major.

3131. INTRODUCTION TO LATIN AMERICAN STUDIES. (4 cr) Staff

Contributions by various disciplines to the study of the culture and political and economic systems of Latin America.

5101-5102. METHODS AND SOURCES FOR LATIN AMERICAN STUDIES. (4 cr per qtr; prereq jr or sr or grad student, reading knowledge of Spanish or Portuguese or #)

Research sources, particularly bibliographic; reference materials and principal works. Prepares students for discipline-centered and interdisciplinary research.

5120. PROSEMINAR: INTERDISCIPLINARY TOPICS IN LATIN AMERICAN STUDIES. (4 cr per qtr; prereq #...reading knowledge of Spanish or Portuguese usually required)

Interdisciplinary approach to specialized topics. Team taught by teachers from two or more disciplines, with community resource people.

5970. DIRECTED STUDIES. (Cr ar; prereq #)

Guided individual reading or study.

Library School (Lib)

Staff—*Director*, Wesley Simonton, 419 Walter Library; *Director of Undergraduate Studies*, Joan Leigh, 419 Walter Library

Professor: Simonton

Associate Professors: D'Elia, Maack, McClaskey, Olson

Assistant Professors: Crickman, Leigh, Rohde

The Library School, a graduate professional school, offers graduate course work in library and information service. Admission requirements for graduate programs may be found in the *Library School Bulletin* or the *Graduate School Bulletin*.

Lib 5101, 5221, 5401, and 5601 may be taken as electives by juniors and seniors in the College of Liberal Arts, particularly those who wish to determine vocational interest in the field.

If you are an undergraduate planning a career in library and information service, you are invited to visit the Library School office for advice.

Major Requirements and Course Descriptions

- 5101. INTRODUCTION TO LIBRARY AND INFORMATION SERVICES.** (4 cr) D'Elia, Olean
Social role of libraries and other information services; professional aspects of service; administration of libraries and related information agencies.
- 5221. RECORDS OF KNOWLEDGE.** (4 cr) Leigh, Rohde
History and development of the records of knowledge in relation to the communication problems of society; principles of selection and dissemination to meet library clientele information needs.
- 5401. ORGANIZATION OF INFORMATION I.** (3 cr) Leigh, Simonton
Methods and problems involved in the description, subject organization, and retrieval of records of knowledge and information in bibliographies, library catalogs, and machine-based systems.
- 5601. LIBRARY APPLICATIONS OF INFORMATION SCIENCE AND TECHNOLOGY.** (3 cr) Crickman
Computers and related information technology; the relationship of bibliographic storage and retrieval to system considerations. Development of literature retrieval algorithms and evaluation of their performance. Information measures and models of information science related to library evaluation.

Linguistics (Ling)

Staff—Chair, Larry G. Hutchinson, 142 Klaeber Court; *Director of Undergraduate Studies,* Bruce Downing, 134 Klaeber Court; *Director, English Program for International Students,* Mark Landa, 164 Klaeber Court

Professors: Robinett, Sanders

Associate Professors: Downing, Houlihan, Hutchinson, Kac, Miranda, Sheldon

Assistant Professors: Pinkerton, Stenson, Tarone

Linguistics is the science of human language and the principles governing its structure, acquisition, use, and change.

General Education—Courses that may be of interest to nonmajors include 1001, 1005, 3001, 3005, 3111, 3301, 3811, 5002, 5003, 5101, 5301, 5503, 5601, 5701, 5821.

B.A. MAJOR SEQUENCE

Major Requirements—3001 or 5001, 3301 or 5301, 3601 or 5601, 5201, 5302
12 additional cr in 3xxx or 5xxx linguistics courses (no more than 8 in one area, such as phonology or syntax); related courses in other departments may be applied to the major with the approval of the director of undergraduate studies

Three yrs college study in one foreign language, or two yrs in one and one in a second (requirement may be satisfied by examination); 3 cr in history and/or structure of one language studied

At least seven of the linguistics courses counted toward the major must be taken A-N.

MINOR SEQUENCE

Minor Requirements—Four courses, including 3001 and two of the following: 3301, 3601, 5201

The minor program must be approved by the director of undergraduate studies.

- 1001. THE NATURE OF HUMAN LANGUAGE.** (4 cr; may not be used as prereq for advanced courses in linguistics)
Facts and theories concerning human language and their relevance to the study of human behavior.
- 1005. LANGUAGE AND SOCIETY.** (4 cr)
The role of language in human social interaction; linguistic indicators of social status and attitudes; language and sex roles; linguistic ecology; language planning for multilingual communities; implications for educational and public policy.
- 3001. INTRODUCTION TO LINGUISTICS.** (5 cr, §3005, §5001)
Phonetics, phonology, morphology, syntax, semantics, and historical-comparative linguistics; language learning and psychology of language; linguistic universals; language in society.
- 3001H. HONORS COURSE: INTRODUCTION TO LINGUISTICS.** (5 cr, §3001, §3005, §5001; prereq honors regis or #)
For description, see 3001.

- 3006. LINGUISTICS FOR FOREIGN LANGUAGE TEACHERS.** (4 or, §3001, §5001)
Linguistics and its relevance to foreign language teaching.
- 3051-3052. HONORS COURSE: LINGUISTICS.** (4 or per qtr; prereq candidacy for honors in linguistics or #)
- 3111. WRITING SYSTEMS AND DECIPHERMENT.** (4 or)
The origin and history of writing. Types of writing systems. Alphabetic scripts and transliterations. Relationships between writing and speech. Codes and code breaking. Decipherment of ancient languages.
- 3301f. PHONETICS.** (5 or, §5301, §5003; prereq 3001 or §3001 or #)
Physiology and acoustics of speech sounds; practice in production and perception.
- 3601. INTRODUCTION TO HISTORICAL LINGUISTICS.** (4 or, §5601; prereq 3001 or #)
Processes of language change in phonology, syntax, and semantics; linguistic reconstruction; origin of language; language families; development of writing.
- 3711. TECHNIQUES FOR LANGUAGE SELF-INSTRUCTION.** (4 or)
Linguistic principles and techniques for acquiring command of a second language through individual study; concurrent study of a language through self-instruction.
- 3811. LANGUAGE LOYALTY AND BILINGUALISM IN MINNESOTA.** (4 or; 1001 or 3001 recommended...knowledge of a second language helpful)
Linguistic ecology; maintenance and loss of immigrant and native languages in America; linguistic borrowing; foreign accents; types of bilingual behavior; research strategies; student research on bilingual communities in the Twin Cities and surrounding areas.
- 3970. DIRECTED STUDIES.** (1-5 or per qtr; prereq linguistics major, #)
Guided individual reading or study.
- 5001. INTRODUCTION TO LINGUISTICS.** (5 or, §3001, §3005; prereq grad student or #)
For description, see 3001.
- 5002. LINGUISTIC ANALYSIS.** (4 or, §5201, §5302; especially recommended for nonmajors; 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.
- 5003. APPLIED PHONETICS.** (5 or, §3301, §5301; not open to linguistics majors; prereq 5001 or §5001 or #)
Primarily for teachers of English as a second language.
- 5006. EXPERIMENTAL PHONETICS.** (4 or; prereq 3301 or 5301 or #)
Physiological and instrumental studies of speech. Laboratory.
- 5008. TOPICS IN EXPERIMENTAL PHONETICS.** (4 or; prereq 5006 or #)
- 5011-5012-5013. MATHEMATICAL LINGUISTICS.** (4 or per qtr; prereq linguistics major or #)
The propositional and first-order predicate calculi; nonclassical logics; set theory; axiomatics; algebra; grammar; automata theory.
- 5181. LANGUAGE TYPES AND LINGUISTIC UNIVERSALS.** (4 or; prereq 3001 or 5001 or #)
Comparison of languages and language types; cross-linguistic similarities and universals of language, and their explanation.
- 5201w-5202s. INTRODUCTION TO SYNTAX.** (4 or 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.
- 5206f. ADVANCED SYNTAX.** (4 or; prereq 5202, 5302 or #)
The nature of syntactic argumentation; validation and comparison of theories, models, and analyses.
- 5211. SEMANTICS.** (4 or; prereq 5011, 5202 or #)
Linguistic analysis and explanation of synonymy, analyticity, presupposition, and other meaning phenomena in natural language; alternative theories of meaning.
- 5301f. PHONETICS.** (5 or, §3301, §5003; prereq 3001 or 5001 or §5001 or #)
For description, see 3301.
- 5302w-5303s. INTRODUCTION TO PHONOLOGY.** (4 or 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: The standard theory of generative phonology; comparison with alternative theories.
- 5304. ADVANCED PHONOLOGY.** (4 or; prereq 5201, 5303 or #)
The nature of phonological argumentation; validation and comparison of theories, models, and analyses.
- 5401. INTRODUCTION TO COMPUTATIONAL LINGUISTICS.** (4 or; prereq 3001 or 5001 or CSci 3103 or #)
Methods and issues in computer processing of natural language: speech recognition and synthesis; LISP and augmented transition networks; syntactic- and semantic-based parsing; meaning representations; applications.

Major Requirements and Course Descriptions

- 5503. INTRODUCTION TO APPLIED LINGUISTICS.** (4 cr; prereq 3001 or 3005 or 5001 or #)
The role of linguistics in neighboring disciplines; applications to practical fields such as lexicography, orthography, translation, language planning, reading, English and foreign language teaching, bilingual education, education of the deaf and correction of language disorders; computer applications; forensic applications.
- 5601. INTRODUCTION TO HISTORICAL LINGUISTICS.** (4 cr, §3601; prereq 3001 or 5001 or #)
For description, see 3601.
- 5602, 5603. LANGUAGE CHANGE AND LINGUISTIC RECONSTRUCTION.** (4 cr per qtr; prereq 3601 or 5601, 5201, 5302 or #)
Phonological and syntactic change; internal and comparative approaches to linguistic reconstruction.
- 5605f-5606w-5607s. INDO-EUROPEAN LINGUISTICS.** (4 cr per qtr; prereq 3601 or 5601 or #)
Reconstruction of Proto-Indo-European phonology, morphology, and syntax; principal developments in major Indo-European languages.
- 5691. HISTORY OF LINGUISTICS.** (4 cr; prereq 3601 or 5601, 5202, 5303 or #)
Objectives and methods of linguistic analysis from antiquity to present.
- 5701. CONTRASTIVE LINGUISTICS.** (4 cr; prereq 5002 or 5201 and 5302, 5003 or #)
Comparison of related sets of data in different languages; implications for linguistic theory and foreign language learning.
- 5702. SECOND-LANGUAGE ACQUISITION.** (4 cr; prereq 3001 or 5001, 5002 or 5201 and 5302, 5701 or 15701 or #)
Empirical and theoretical studies of second-language acquisition and processing.
- 5711. FIELD METHODS IN LINGUISTICS.** (4 cr; prereq 5202, 5303 or #)
Techniques for obtaining and analyzing linguistic data from unfamiliar languages through direct interaction with a native speaker.
- 5721. ENGLISH AS A SECOND LANGUAGE: METHODS.** (4 cr; prereq 3001 or 5001 or #)
Linguistics applied to teaching English as a second language.
- 5722. ENGLISH AS A SECOND LANGUAGE: PRACTICUM.** (3 cr; S-N only; prereq major or minor in ESL, 5721, #)
Observation of and practice in teaching English as a second language.
- 5723. ENGLISH AS A SECOND LANGUAGE: MATERIALS.** (3 cr; prereq 5721, 5722, #)
Application of linguistics to evaluation and preparation of materials for teaching English as a second language.
- 5741-5742. LINGUISTIC DESCRIPTION OF MODERN ENGLISH.** (4 cr per qtr; prereq 3001 or 5001 or #)
Word and sentence structure in present-day English.
- 5805. PSYCHOLINGUISTICS.** (4 cr; prereq 5002... or 5201 and 5302... or #)
Empirical and theoretical studies of language acquisition and processing.
- 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.
- 5910. SEMINAR IN LINGUISTICS.** (4 cr per qtr; prereq #)
- 5970. DIRECTED STUDIES.** (1-5 cr per qtr; prereq linguistics or ESL major, #)
Guided individual reading or study.

ENGLISH AS A SECOND LANGUAGE (ESL)

Noncredit English language courses are offered for foreign students who have been admitted or are applying for admission to the University or another institution of higher education. Students are admitted to classes at the four levels shown below, according to proficiency tests administered through the program office, 152 Klaeber Court.

- 0100. ELEMENTARY ENGLISH AS A SECOND LANGUAGE.** (No cr; for students who are engaged full time in English study; prereq Δ ; 25 hrs per wk; special fee)
- 0110. LOWER INTERMEDIATE ENGLISH AS A SECOND LANGUAGE.** (No cr; for students whose level of English proficiency may allow them to take one academic class; prereq Δ ; 20-25 hrs per wk; special fee)
- 0120. UPPER INTERMEDIATE ENGLISH AS A SECOND LANGUAGE.** (No cr; for students whose level of English proficiency may allow them to take two academic classes; prereq Δ ; 10-20 hrs per wk; special fee)
- 0130. ADVANCED ENGLISH AS A SECOND LANGUAGE.** (No cr; for students who need supplementary work in specific English skills areas; prereq Δ ; 5-10 hrs per wk; special fee)

Literature and Fine Arts (LFA)

Courses in literature and fine arts are cross-disciplinary and sometimes experimental. For current offerings, see the *Class Schedule* or inquire in 203 Johnston Hall. Other cross-disciplinary courses are listed under the headings Social Science and Natural Science and Technology. A major program is not offered in LFA.

3970. DIRECTED STUDIES. (1-5 cr per qtr; prereq consultation with Office for Special Learning Opportunities, Δ)
Guided individual reading or study.

School of Management

CLA students may take up to 16 credits of course work offered by other colleges. The credits may be applied toward CLA degrees, but may not be used to fulfill group distribution requirements. Descriptions of courses offered by the School of Management can be found in the bulletin of that college.

Information about requirements for entering the School of Management can be found in section III.

MARATHI

See South Asian Studies.

Mathematics (Math)

Institute of Technology

Staff—*Head*, Willard Miller, Jr., 127 Vincent Hall; *Associate Head*, Robert Hardt, 127 Vincent Hall; *Director of Undergraduate Studies*, James T. Joichi, 127 Vincent Hall; *Director of Graduate Studies*, Eugene B. Fabes, 127 Vincent Hall

Regents' Professors: Markus, Serrin

Professors: Aeppli, Aronson, Berger, Caffarelli, Eagon, Ellis, Fabes, S. Gaal, Gil de Lamadrid, Goldman, Green, Hardt, Harris, Hejhal, Jain, Keynes, Kinderlehrer, Littman, Loud, Marden, McCarthy, McGehee, Messing, Meyers, Miller, Nitsche, Orey, Pohl, Pour-El, Prikry, Pruitt, Reich, Rejto, Richards, Roberts, Sattinger, Sell, Sibuya, Storvick, Weinberger

Associate Professors: Agard, Baxter, Bramson, Brauer, Feshbach, Frank, Fristedt, Fuhrken, L. Gaal, Gershenson, Gulliver, Jenkins, Jodeit, Joichi, Kahn, Kenig, Miracle, Richter, Sperber, Stenberg, Striebel, Thompson, Webster, White

Assistant Professors: Gray, Harper, Lang, Luskin, Moeckel, Ni, Olver, Rees, Stanton, Triantafillou

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 mathematics (B.Math.) degree in the Institute of Technology. Information about the B.Math. program may be found in the *Institute of Technology Bulletin*.

Placement of Students—Entering freshmen are assigned math classification numbers (available in their college offices) based on high school grades and ACT and SAT tests. Courses are chosen in consultation with an adviser. Advanced standing students are placed in courses according to their previous academic records.

Honors—Information about honors courses and graduation with honors may be obtained in the Mathematics office, 127 Vincent Hall.

Major Requirements and Course Descriptions

B.A. MAJOR SEQUENCE

Required Preparatory Courses—One freshman sequence: 1211-1221-1231; 1311-1321-1331; 1511-1521-1531; or 1611-1621

One sophomore sequence: 3511-3521-3531; 3211, 3142, 3066; 3211, 3221, 3231; or 3211, 3221, 3675 (the first sequence is highly recommended)

Major Requirements—36 cr in 5xxx courses including 5601-5602 or 5612-5613; 5232-5233 or 5242-5243 or 5262-5263 or 5282-5283; and a three-qr sequence (which may be satisfied by taking the third qr of one of the previous sequences)

Courses in the major must be taken on A-N grading.

All majors are required to file a one-year plan each year in the Mathematics office, 127 Vincent Hall.

MINOR SEQUENCE

Minor Requirements—Completion of required preparatory courses for the major and three 5xxx mathematics courses including two courses in a single sequence

Courses in the minor must be taken on A-N grading.

0005. ARITHMETIC FOR ADULTS. (No cr; 3 hrs per wk; special fee)

Practical course in elementary mathematics. Arithmetic of whole numbers, fractions, and decimal fractions. Computations. Measurement of length, area, and volume. Percentage problems. Statistics, probability, and computer programming (BASIC).

0006. ELEMENTARY ALGEBRA. (No cr; 5 hrs per wk; special fee)

Elements of algebra through quadratic equations (equivalent to ninth-grade algebra).

0009. INTERMEDIATE ALGEBRA. (No cr; prereq 1 yr high school algebra or grade of C or better in 0006; 5 hrs per wk; special fee)

Covers high school higher algebra.

1005-1006. FOUNDATIONS OF ARITHMETIC. (3 cr per qtr; for pre-elementary education students only [no cr for other CLA students]; prereq plane geometry, 2 yrs high school algebra...or plane geometry, grade of C or better in 0009)

Logical and axiomatic basis of rules for arithmetical operations with integers, rational and irrational numbers; real number; line and inequalities as background for teaching arithmetic in elementary school; topics from geometry and congruences; history of mathematics and its role in culture and civilization.

1008. TRIGONOMETRY. (4 cr; prereq plane geometry, 2 yrs high school algebra...or §1111, plane geometry, grade of C or better in 0009)

Analytic trigonometry, identities, equations, properties of the trigonometry functions; right and oblique triangles.

1111. COLLEGE ALGEBRA AND ANALYTICAL GEOMETRY. (5 cr, §1201; prereq plane geometry, 2 yrs high school algebra...or plane geometry, grade of C or better in 0009)

Functions, graphs, quadratic equations, progressions, inequalities, complex numbers, theory of equations, permutations and combinations, probability, systems of equations, determinants, graphing of linear and quadratic equations, conics and standard position, logarithms.

1131. FINITE MATHEMATICS. (5 cr; for students in prebusiness and social and behavioral sciences; prereq 3½ yrs high school math or grade of C or better in 1111)

Elementary computer programming, financial mathematics, probability, linear algebra, linear programming, Markov chains.

1142. SHORT CALCULUS. (5 cr; for students requiring a minimal amount of calculus; prereq 3½ yrs high school math or grade of C or better in 1111 or 1201)

Derivatives, integrals, differential equations, maxima and minima, partial differentiation, applications.

1201. PRE-CALCULUS. (5 cr, §1111; for students who need to review high school higher algebra and trigonometry before taking a calculus sequence; prereq 4 yrs high school math including trigonometry)

Inequalities, analytical geometry; complex numbers, binomial theorem; mathematical induction; functions and graphs; trigonometric, exponential, and logarithmic functions.

1211-1221-1231. CALCULUS II-III. (5 cr per qtr; prereq 4 yrs high school math including trigonometry...or grade of C or better in 1201...or grade of C or better in 1008 and 1111...or equiv...grade of C or better required to continue in sequence)

Analytical geometry and calculus of functions of one variable, applications. Infinite series and sequences.

- 1311-1321-1331. COMPUTER CALCULUS I-II-III.** (5 or per qtr; prereq 4 yrs high school math including trigonometry... or grade of C or better in 1201... or grade of C or better in 1008 and 1111... or equiv... grade of C or better required to continue in sequence)
Essentially the same as 1211-1221-1231 but topics presented from a computer viewpoint and in a different order.
- 1511H-1521H-1531H. HONORS CALCULUS I-II-III.** (5 or per qtr; prereq Δ)
Honors sequence for high ability students. Covers content of 1211-1221-1231 with emphasis on theory but computational aspects are not neglected.
- 1611-1621. HONORS: ACCELERATED CALCULUS I-II.** (5 or per qtr; prereq Δ)
Accelerated sequence for high ability students. Covers content of 1211-1221-1231 with emphasis on computational aspects.
- 1711-1721-1731. SECONDARY STUDENTS HONORS CALCULUS I-II-III.** (5 or per qtr; prereq #, Δ)
Accelerated honors sequence for selected mathematically talented high school students. Essentially the same as 1511H-1521H-1531H, plus applications to science and engineering. Emphasis on theory and computations.
- 3001. MATHEMATICS AS A HUMAN ENDEAVOR.** (1 or; prereq 1221 or equiv or #)
Mathematics as a career. Lectures by academic and industrial mathematicians and practitioners in related areas. Applications to science, engineering, and business. Mathematics as a science, a liberal art, and a human activity.
- 3066. ELEMENTARY DIFFERENTIAL EQUATIONS.** (4 or, §3221; prereq grade of C or better in 1231 or equiv)
Elementary techniques of problem solving. First- and second-order equations, linear equations of higher order.
- 3142. INTRODUCTION TO LINEAR ALGEBRA.** (4 or, §3221, §3511; prereq 2 qtrs calculus)
Vectors, systems of linear equations, matrices, determinants, eigenvalues, applications. Techniques and some proofs of theorems.
- 3161. SYNTHETIC METRIC GEOMETRY.** (4 or; prereq 1211 or equiv)
Euclidean geometry; ruler and compass constructions and theorems on triangles and circles not studied in high school plane geometry.
- 3211. MULTIVARIABLE CALCULUS.** (5 or; prereq grade of C or better in 1231 or equiv)
Partial differentiation, chain rule, implicit functions, applications. Multiple integrals in two and three dimensions.
- 3221. INTRODUCTION TO LINEAR ALGEBRA AND LINEAR DIFFERENTIAL EQUATIONS.** (5 or, §3066, §3142, §3511; prereq grade of C or better in 1231 or equiv)
Vectors, systems of linear equations, matrices, determinants, bases, eigenvalues. Linear differential equations and systems with constant coefficients, initial value problem and general solution, variation of parameters for inhomogeneous equations.
- 3231. VECTOR ANALYSIS.** (4 or, §5601-5602; prereq grade of C or better in 3211 or equiv)
Scalar and vector products, derivatives, geometry of space curves, del operator, line and surface integrals, divergence and Stokes theorem, transformation of coordinates, dyadics, applications.
- 3511-3521-3531. HONORS: LINEAR ALGEBRA I-II-III.** (5 or per qtr, §3142, §3221 for 3511; primarily for high-ability math majors, engineers, scientists; prereq grade of B or better in 1231 or equiv... grade of C or better to continue in sequence)
3511H: Ideas and computations of linear algebra including linear independence, linear transformations, matrices, and determinants. 3521H-3531H: Calculus of several variables relying heavily on linear algebra including differentiation and integration of functions of several variables, coordinate systems, Jacobian of a map, application of concepts and computations to vector analysis, basics of linear differential equations. Applications. Order of topics may vary.
- 3582. FOUNDATIONS OF ALGEBRA.** (4 or; prereq 3142 or equiv)
Groups, rings, fields. Applications to number theory and polynomials.
- 3583. FOUNDATIONS OF GEOMETRY.** (4 or; prereq 1231 or equiv)
Axiomatics. Non-Euclidean geometry. Theorems of Desargues and Pappus.
- 3675. INTRODUCTORY MATHEMATICS.** (4 or; prereq 1231 or equiv)
Designed to bridge the gap between elementary computational courses and theoretical courses encountered at the 5xxx level.
- 3711. SECONDARY STUDENTS HONORS CALCULUS IV.** (5 or; prereq 1731H)
Accelerated honors course for selected mathematically talented high school students. Multivariable calculus, linear algebra, applications to science and engineering. Emphasis on theory and computations.
- 5056. THEORY OF INTEREST.** (4 or; prereq 1231 or equiv)
Application of compound interest formulas to annuities, sinking funds, bonds, and similar items. Primarily for mathematics and business majors interested in actuarial science.
- 5057-5058. ACTUARIAL SCIENCE PRINCIPLES—LIFE CONTINGENCIES I-II.** (4 or, §Ins 3230; prereq 1231 or 1131, 1221 for 5057)
5057: How to calculate net premiums, gross premiums, reserves, and nonforfeiture values of major life insurance contracts. Impact of assumed mortality, interest, and expense assumptions on these items. 5058: Multiple life functions; multiple-decrement function (tables) and tables with secondary decrements. Generalized models. Relationships involving compound contingent functions and use with forces of interest.

Major Requirements and Course Descriptions

- 5070. TOPICS IN THE HISTORY OF MODERN MATHEMATICS.** (4 cr [may be repeated for cr with Δ]; prereq one 5xxx mathematics sequence or equiv)
Mathematical developments within the last 200 years.
- 5081. FUNDAMENTALS OF ANALYSIS.** (4 cr; prereq 3211 or equiv or #; does not satisfy 5xxx-level requirements for math majors)
Topics in analysis to develop analytic abilities and to broaden perspective on and enhance interest in mathematics. May include real number systems, theory of sets, continuous functions, and properties of limits.
- 5151. ELEMENTARY SET THEORY.** (4 cr; prereq 3211 or equiv or #)
Basic properties of operations on sets, cardinal numbers, simply ordered sets, well-ordered sets, ordinal numbers, axiom of choice, axiomatics.
- 5152. ELEMENTARY MATHEMATICAL LOGIC.** (4 cr, §5162; prereq 3211 or equiv or #)
Sets and relations; statement calculus; Boolean algebras; predicate calculus, models, validity and truth; first-order theories as illustrations of the axiomatic method; the completeness theorem; the incompleteness theorem and metamathematics.
- 5162-5163-5164. MATHEMATICAL LOGIC.** (4 cr per qtr; prereq 3211, 3142... or 3211, 3221... or equiv... or Phil 5202 or #)
Propositional and predicate calculi, models for systems of logic, recursive functions, decision and completeness problems.
- 5209. THEORY OF NUMBERS.** (4 cr; prereq 3211 or equiv or #)
Rigorous introduction to the 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.
- 5232-5233. COMPUTER-ORIENTED LINEAR ALGEBRA.** (4 cr per qtr, §5242-5243, §5262 or §5282 if content was linear algebra, §5264, §5284; prereq 3142 or 3221 or equiv or #)
Linear transformations on finite dimensional vector spaces. Linear dependence, matrix algebra, inner products, orthogonality, and matrix inversion presented from algorithmic viewpoint, with students constructing and running illustrative computer programs. Eigenvalues and eigenvectors, Jordan canonical form, polar representation of linear transformations, determinants.
- 5242-5243. LINEAR ALGEBRA WITH APPLICATIONS.** (4 cr per qtr, §5232-5233, §5262 or §5282 if content was linear algebra, §5264, §5284; prereq 3142 or 3221 or equiv or #)
Systems of linear equations, finite dimensional linear spaces, bases, linear transformations, matrices, determinants, eigenvalues, reduction to canonical forms, quadratic and bilinear forms, applications.
- 5244. GROUP THEORY.** (4 cr per qtr, §5262, §5282; prereq 3142 or 3221 or equiv or #)
Permutations groups; groups related to geometrical configuration; invariant subgroups, Jordan-Holder composition theorem, Sylow groups, Abelian groups, elementary divisors, applications.
- 5262-5263-5264. MODERN APPLIED ALGEBRA.** (4 cr; prereq 3221 or 3142 or equiv)
Modern algebra developed in an application-oriented way. Sets, functions, binary relations graphs, and partially ordered sets with applications to finite state machines, matrix models, and trees. Groups, modular arithmetic, polynomial rings, finite fields, and linear algebra with applications to switching functions, cyclic codes, shift registers, fast adders, and enumeration.
- 5282-5283-5284. FUNDAMENTAL STRUCTURES OF ALGEBRA.** (4 cr per qtr; prereq one soph sequence or #... some previous abstract mathematics 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.
- 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.
- 5343. INTRODUCTION TO ALGEBRAIC TOPOLOGY.** (4 cr; prereq 5342)
Classification of two-manifolds, fundamental group, homology theory.
- 5375. DIFFERENTIAL GEOMETRY.** (4 cr; prereq 3211 or equiv or #)
Plane and space curves. Frenet formulas, elementary theory of surfaces.
- 5376-5377. DIFFERENTIAL GEOMETRY.** (4 cr per qtr; prereq 5375 and 1 qtr linear algebra)
Differential forms. Advanced theory of surfaces, integral geometry, Riemannian geometry.
- 5404. VARIATIONAL PROBLEMS.** (4 cr; prereq 3211, 3066... or 3211, 3221... or equiv or #)
Introduction to 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.

- 5427. APPLIED MATHEMATICS FOR THE LIFE SCIENCES.** (4 cr; prereq 3211, 3066, 3142...or 3211, 3221...or equiv or #)
 Mathematical tools useful in deterministic models arising in life sciences. Linear systems of difference and differential equations. Stability of nonlinear systems, including linearization techniques and Liapunov theory. Examples from demography, population ecology, and population genetics.
- 5428. MATHEMATICAL MODELS IN ECONOMICS AND THE SOCIAL AND MANAGEMENT SCIENCES.** (4 cr; prereq 3211, 3066, 3142...or 3211, 3221...or equiv or #)
 Mathematical models and associated mathematical techniques for describing the behavior of and for optimizing various systems. How to find a model for a given situation.
- 5441. MATHEMATICAL THEORY OF FLUID FLOW.** (4 cr; prereq 5568 or 5572 or equiv or #)
 General equations of fluid mechanics; thermodynamics. Classical constitutive equations. Specialization to various subfields of fluid mechanics, hydrostatics, barotropic perfect fluids, gas dynamics, and viscous flow theory. Examples of exact solutions.
- 5447-5448-5449. MATHEMATICAL THERMODYNAMICS.** (4 cr per qtr; primarily for mathematics majors interested in applications, engineers, scientists; prereq 3066, 5601...or 5613...or 5567, 5568...or #)
5447-5448: Introduction to mathematical structures underlying classical thermodynamics. Concepts of heat, hotness, and material systems, formulation of laws of thermodynamics, the general accumulation theorem, absolute temperature, Carnot cycles (and efficiency of heat engines). Applications to reversible and distributed systems, and concept of entropy. **5449:** Equilibrium of thermal systems. Gibbsian equilibrium theory and the phase rule; applications to mixtures and to phase transitions. Mechanical theory of equilibrium. Thermodynamics of irreversible processes; theory of quasi-ideal systems and continuous systems. Clausius-Duhem inequality.
- 5457-5458-5459. METHODS OF APPLIED MATHEMATICS.** (4 cr per qtr; prereq 3211, 3066...or 3211, 3221...or equiv or #)
 Analytic tools used in applications of mathematics; emphasis on technique. Real and complex variables, matrices, ordinary and partial differential equations, calculus of variations, asymptotic expansions.
- 5473-5474-5475. APPROXIMATION THEORY AND THEORY OF NUMERICAL ANALYSIS.** (4 cr per qtr; prereq 3211, 3142...or 3211, 3221...or equiv...and CSci 1100; 3 lect per wk, informal lab)
5473: Finite differences. Interpolation. Linear systems. Numerical integration and differentiation. Successive approximations. Newton's method. Numerical analysis of raw data. **5474:** Approximation theory. Polynomial and spline interpolation. Gaussian quadratures. Numerical solutions of ordinary differential equations. Runge-Kutta methods. Numerical stability. Error estimates. **5475:** Topics selected from: Padé approximations. Continued fraction expansions. Trigonometric approximations. Symbolic calculus. Dynamics of mappings including invariant manifolds and heteroclinic orbits. Advanced topics in the actuarial sciences.
- 5476. THEORY OF APPROXIMATION IN NUMERICAL ANALYSIS.** (4 cr; prereq 5473, 5568 or 5573)
 Orthogonal functions, Chebyshev approximations, trigonometric approximations, saturation classes, rational approximations, approximations in several variables, spline interpolation and approximations, use of approximation in computing.
- 5512. DIFFERENTIAL EQUATIONS WITH APPLICATIONS I.** (4 cr; prereq 3211, 3066...or 3211, 3221...or equiv or #)
 Applications, review of special techniques, and numerical approximation for first-order equations. Euler and Runge-Kutta methods with error analysis. Applications and power series solutions for second-order equations.
- 5513. DIFFERENTIAL EQUATIONS WITH APPLICATIONS II.** (4 cr; prereq 5512)
 Applications and Laplace transforms for second-order linear equations. First-order linear systems with elementary linear algebra. Phase-plane analysis with applications. Boundary value problems and an introduction to partial differential equations.
- 5514. INTEGRAL EQUATIONS.** (4 cr; prereq 5512...or 3221, 5601...or 3066, 5601...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.
- 5521-5522-5523. INTRODUCTION TO ORDINARY DIFFERENTIAL EQUATIONS.** (4 cr per qtr; prereq one soph sequence or #)
5521: Existence and uniqueness theorems; successive approximations; differential inequalities; linear systems; fundamental matrix solutions; linear systems with constant coefficients; variation of parameters. **5522:** Phase plane analysis; Poincaré-Bendixson theory; linear and nonlinear oscillations; stability theory; asymptotic behavior of solutions; control theory. **5523:** Power series solutions, majorant method; regular and irregular singular points; error estimates perturbation methods.
- 5567. FOURIER SERIES AND BOUNDARY VALUE PROBLEMS.** (4 cr, §5571; prereq 3211, 3066...or 3211, 3221...or equiv or #)
 Partial differential equations of theoretical physics. Fourier series, proof of convergence, orthogonal systems. Sturm-Liouville systems, solution of boundary value problems by separation of variables, applications.
- 5568. ELEMENTARY THEORY OF COMPLEX VARIABLES.** (4 cr, §5572; prereq 3231 or 5602 or equiv course in vector analysis)
 Derivative and integral of a function of a complex variable. Cauchy integral theorem and formula, residues. Application to evaluation of integrals, conformal mapping.

Major Requirements and Course Descriptions

- 5569. OPERATIONAL MATHEMATICS.** (4 or, §5573; prereq 5568)
Laplace transforms, Fourier transforms, inversion theorems; applications to differential equations.
- 5571-5572-5573. ELEMENTARY PARTIAL DIFFERENTIAL EQUATIONS.** (4 or per qtr; prereq 5603 or 5613)
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.
- 5601-5602-5603. ADVANCED CALCULUS.** (4 or per qtr; prereq 3211 or equiv or #)
5601: Differentiation of functions of several variables; vector algebra; curves in three dimensions; directional derivative and gradient, inverse transformation and implicit function theorems; change of variables in multiple integrals. 5602: Line and surface integrals; Stokes theorem; convergence of infinite series; orthogonal functions; uniform convergence; integration and differentiation of series. 5603: Real numbers; continuous functions; limits; properties of continuous functions; differentiation; the Riemann integral; improper integrals.
- 5612-5613-5614. INTRODUCTION TO ANALYSIS.** (4 or per qtr; principally for students planning a grad major in mathematics, as preparation for grad courses in analysis; prereq one soph sequence or #)
Theory of real numbers; elements of point set theory; limits; differentiation; multivariable analysis.
- 5615. LEBESGUE INTEGRAL.** (4 or; prereq 5603 or 5612 or #)
Basic limit theorems. Comparison with Riemann integral. Lebesgue measure. Absolute continuity.
- 5679. PROBABILITY.** (4 or, §5681; prereq 3211 or equiv or #)
Elementary principles of probability, total and compound probability, expectation, repeated trials, and topics chosen from the following: Stirling formula, the probability integral, geometrical probability, probability of causes, Bayes theorem, errors of observation, principle of least squares.
- 5681-5682-5683. INTRODUCTION TO PROBABILITY.** (4 or per qtr; prereq 3531 or 3631 or two 5xxx math courses or Stat 5133 or #)
Logical development and various applications of probability. Probability spaces, random variables, central limit theorem; Markov chains.
- 5701. COMBINATORICS.** (4 or; prereq 3211 or equiv, 3rd-yr standing...soph level linear algebra is helpful)
Basic concepts in combinatorics. Enumeration including binomial counting, permutations, generating functions, inclusion-exclusion principle, recurrence relations. Application. Matching theory and designs.
- 5702. INTRODUCTION TO GRAPH THEORY.** (4 or; prereq 3211 or equiv, 3rd-yr standing...soph level linear algebra is helpful)
Basic concepts. Topics from connectedness, Eulerian graphs, trees, matrices, Hamiltonian graphs, coloring problems, plane graphs, enumeration. Applications.
- 5703. COMBINATORIAL ALGORITHMS AND OPTIMIZATION.** (4 or; prereq 3211 or equiv, knowledge of some programming language)
Basic algorithmic methods in combinatorics, with emphasis on optimization.
- 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 graduate courses.

Microbiology (MicB)

Medical School

Staff—Head, Dennis W. Watson, 1060 Mayo Memorial Building; *Director of Undergraduate Studies,* Palmer Rogers, 1015 Mayo Memorial Building

Regents' Professor: Watson

Professors: Anderson, Brand, Busta, Chapman, Dworkin, Fan, Faras, Greene, Hall, Hooper, Jenkin, Johnson, Plagemann, Quie, Rogers, Schachtele, Schmidt, Simmons, Tsuchiya, Wannamaker

Associate Professors: Cleary, Crawford, Germaine, Gray, Muscoplat, Needham, Prince, Reilly, Zissler

Assistant Professors: Bey, Click, Collett, Handwerger, Liljemark, Schlievert, Tsien, Wohlhueter

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 potentialities 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 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 1009, 1103 or 1106; Chem 1004-1005, 3100-3101, 3301-3302, 3305-3306, and 3303 or Biol 5001; Math 1211-1221-1231 or 1311-1321-1331 or 1611-1621; Phys 1041-1042-1045-1046 or 1104-1105-1106-1107-1108-1109

Major Requirements—3103 or 5105 or VPB 3103 or Biol 5013; MicB 5216 or 5218, 5321, 5900

12 or 13 3xxx-5xxx cr in microbiology or related courses (depending on your interests; related courses may be in botany, biology, ecology and behavioral biology, food science and nutrition, genetics and cell biology, medical technology, public health, or laboratory medicine)

1101. ELEMENTARY MICROBIOLOGY. (4 cr; intended for students in CLA, dental hygiene, physical therapy, mortuary science,...others #...not intended for majors; prereq Biol 1009 or ¶Biol 1009 or equiv) Prince
Principles of microbiology; a general survey of pathogenic bacteria, molds, protozoa, and viruses; elements of immunity, sanitary analysis of water and milk, disinfectants and sterilants.

3103.¹ GENERAL MICROBIOLOGY. (5 cr, §5105, §Biol 5013, §VPB 3103; prereq soph with C avg in prereq courses to major sequence...or jr with 10 cr in chemistry and 5 cr in biological sciences or #) Schmidt
Morphology, physiology, taxonomy, and ecology of bacteria. Applications of fundamental principles. Laboratory.

VPB 3103.¹ GENERAL MICROBIOLOGY. (5 cr, §MicB 3103, §MicB 5105, §Biol 5013; not open to veterinary medical students; prereq 10 cr chemistry, 4 cr biological sciences) Maheswaran
Morphology, genetics, physiology, and ecology of microorganisms. Application of principles of microbiology to immunity and medicine.

Biol 5013 (formerly 3013).¹ MICROBIOLOGY. (5 cr, §Biol 3013, §MicB 3103, §MicB 5105, §VPB 3103; prereq Biol 5001) Chapman, Dworkin, C Woodward
Taxonomy, anatomy, physiology, biochemistry, and ecology of microbes. Molecular structure in relation to bacterial function.

LMed 5103. PRINCIPLES OF DIAGNOSTIC MICROBIOLOGY. (3 cr; prereq general course in microbiology, #) Ederer, Wells
Current techniques in laboratory diagnosis of infectious disease; isolation and identification of bacteria and yeast; antibiotic sensitivity testing.

5105.¹ BIOLOGY OF MICROORGANISMS. (5 cr, §3103, §Biol 5013, §VPB 3103; prereq 5 cr biological sciences, Biol 5001 or #) Dworkin
Taxonomy, anatomy, physiology, biochemistry, and ecology of microbes. Molecular structure in relation to bacterial function. Laboratory.

5106. ADVANCED GENERAL MICROBIOLOGY LABORATORY. (3 or; prereq 5105 or equiv) Dworkin
Isolation from natural sources of a variety of microorganisms such as *Clostridium*, yeast, *Caulobacter*, myxobacteria, *Leptospira*, photosynthetic bacteria, *Bdellovibrio*, luminescent bacteria, and others. Laboratory only.

FScN 5120. FOOD MICROBIOLOGY. (5 or; 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; utilization of microorganisms in manufacture of dairy and food products; recognition and control of food-borne pathogens and food poisoning.

FScN 5122. SANITATION AND CONTROL OF MICROORGANISMS. (2 cr; prereq FScN 5120 or #...¶FScN 5123 recommended, especially for food science and technology majors)
Factors that influence control and destruction of microorganisms; chemical, physical, and microbiological principles in cleaning and sanitizing dairy and food processing equipment; inactivation of microorganisms and thermal process evaluation; microbiological and preservation methods; development of sanitation programs; microbiological criteria; hazard analysis and critical control point concept.

¹Microscope required. Students may obtain use of microscope by purchasing \$3 microscope card from the bursar.

Major Requirements and Course Descriptions

- FScN 5123. MICROBIOLOGY OF FOOD FERMENTATIONS.** (2 cr; prereq FScN 5120 or #...FScN 5122 advised, especially for food science and technology majors)
Characteristics of bacteria, yeasts, and molds involved in dairy and food fermentations; properties of lactic bacteriophages, methods of control in dairy fermentations; composition and factors that influence activity of dairy and food starter cultures; microbiology of natural and controlled fermentations; use of microorganisms in production of single-cell protein of products consumed as food, and in waste utilization.
- LMed 5133. MEDICAL MYCOLOGY.** (3 cr; prereq medical microbiology, diagnostic microbiology or #) Ederer
Laboratory diagnosis of infections caused by yeasts, dermatophytes, and systemic fungi.
- LMed 5136. ANAEROBIC BACTERIOLOGY.** (Cr ar; prereq biochemistry, medical microbiology, diagnostic microbiology or #)
Anaerobic respiration in bacteria. Methods of anaerobic culture. Taxonomy and classification of anaerobes. Biochemical and gas chromatographic differentiation of anaerobes. The role of anaerobes in disease.
- PubH 5171. ENVIRONMENTAL MICROBIOLOGY.** (3 cr; prereq MicB 3103 or #) Greene
Survival, dissemination, transportation, and significance of microorganisms in the environment; application of principles to environmental health problems.
- 5216. IMMUNOLOGY.** (4 cr; prereq Biol 5001) Schlievert
Nature of antigens and antibodies; chemical basis of serologic specificity; qualitative and quantitative aspects of antigen-antibody reactions; theories of antibody production; cellular antigens and blood grouping; nature of complement and its role in immunologic phenomena; mechanisms of hypersensitivity; hypersensitivity-like states and immunologic diseases; transplantation and tumor immunity; host-parasite interactions. Laboratory.
- 5218. IMMUNOLOGY.** (3 cr; prereq Biol 5001) Schlievert
Same as 5216 without laboratory.
- 5232. MEDICAL MICROBIOLOGY.** (3 cr; not open to medical students; prereq 5105 or 3103 or 8110 or Biol 5013, 5216 or 5218) 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.
- 5233.¹ MICROORGANISMS AND DISEASE.** (7 cr; not open to microbiology majors; prereq 10 cr chemistry and 5 cr biological sciences or #) Johnson
Nature of microorganisms, immunology, medical bacteriology, virology, mycology, parasitology, and principles of disease control. Laboratory.
- 5234.¹ MEDICAL MICROBIOLOGY LABORATORY.** (2 cr; prereq 5232 or 15232) Cleary
Exercises demonstrating the principles and techniques employed in the study of the interactions between microorganisms and humans that lead to a diseased state.
- 5235. MICROORGANISMS AND DISEASE.** (4 cr; not open to microbiology majors; prereq 10 cr in chemistry and 5 cr in biological sciences or #) Johnson
Same as 5233 without laboratory.
- FScN 5320. ADVANCED DAIRY AND FOOD MICROBIOLOGY.** (4 cr; prereq sr, FScN 5122 or #)
Food starter cultures; composition of starters, nutrition and metabolism, inhibitors in milk, strain association and compatibility, preservation and mass production, bacteriophage in cheesemaking. Influence of food environments on spore formation, activation, germination, and resistance. Natural and microbial toxicants in foods, occurrence, techniques (general and specific) for monitoring their presence and control.
- 5321. PHYSIOLOGY OF BACTERIA.** (3 cr; prereq 3103 or 5105 or Biol 5013 or VPB 3103, 10 cr organic chemistry or biochemistry, 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.
- 5322. PHYSIOLOGY OF BACTERIA LABORATORY.** (2 cr; prereq 5321 or 15321, lab course in basic bacteriology) Rogers
Techniques employed in study of bacterial physiology and metabolism.
- PubH 5342. PUBLIC HEALTH BACTERIOLOGY.** (Cr ar; prereq MicB 5216, 5232, 5234, #)
Bacteriologic and serologic diagnosis, public health laboratory administration and methods.
- 5351. INDUSTRIAL MICROBIOLOGY.** (3 cr; prereq 5321 or #) Hanson
Application of microbial systems to industrial processes; basic principles of fermentation technology; microbial production of antibiotics, biochemicals, enzymes, hormones, bulk fuels, and chemical feedstocks. Applications and principles of immobilized cells and enzyme techniques.
- 5424.¹ BIOLOGY OF VIRUSES.** (4 cr; prereq 5321 or Biol 5001 and #) 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. Laboratory.

¹Microscope required. Students may obtain use of microscope by purchasing \$3 microscope card from the bursar.

- 5611. MICROBIAL ECOLOGY.** (4 cr; prereq general microbiology course, Biol 5001 or #) Crawford
Microbial adaptation and diversity; role of microorganisms in natural processes; methods in microbial ecology; other topics of interest to microbial ecologists.
- 5811. FIELD STUDIES IN MICROBIAL ECOLOGY.** (5 cr; prereq course in microbiology) Crawford
Natural microbial populations: enumeration of specific types of microorganisms in natural environments, enrichment techniques, submerged slide culture, and observations of natural, microbiological phenomena.
- 5900. TOPICS IN MICROBIOLOGY.** (1 cr; S-N only; open to sr microbiology majors) Rogers
Seminars on research programs, historical perspectives, significant emerging fields, professional societies and publications, career opportunities.
- 5970. DIRECTED STUDIES.** (Cr ar; prereq #) Rogers, staff
Guided individual studies.
- 5990. UNDERGRADUATE RESEARCH.** (Cr ar; prereq #) Rogers, staff
Guided individual research.

MIDDLE EASTERN STUDIES

See Near and Middle Eastern Studies.

MILITARY SCIENCE

See Reserve Officers' Training Corps.

MODERN GREEK

See Classics.

Music (Mus)

Staff—*Director*, Lloyd Ultan, 104 Scott Hall; *Head, Band and Orchestra Instruments, Jazz Studies*, David Baldwin; *Head, Choral/Opera/Vocal Studies*, D. Clifton Ware; *Head, Composition/Theory*, Paul Fetler; *Head, Keyboard and Fretted Instruments*, Paul Freed; *Head, Music Education/Therapy*, Judith Jellison; *Head, Musicology/ Ethnomusicology*, Alan Kagan; *Director of Graduate Studies*, Edgar Turrentine; *Director of Undergraduate Studies*, Stephen Schultz; *Assistant to the Director*, Charles Byrne

Regents' Professor: Argento

Professors: Bencriscutto, Cardamone-Jackson, Caswell, Fetler, Freed, Laudon, Massmann, Riedel, Stokes, Sutton, Turrentine, Ultan, Weiser

Associate Professors: Baldwin, Borg, Buckner, Hilley, Jellison, Jorgenson, Kagan, Kim, Lancaster, McNab, Remenikova, Sanford, Schultz, Ware, Weller

Assistant Professors: Anderson, Gross, Ivory, Lubet, McClary, Rasmussen

Affiliated Faculty—Adams, Angelucci, Barrus, Bonecutter, Braginsky, Burris, Capps, Clute, Culp, Dahlgren, D. Eagle, E. Eagle, Fine, Foli, Hasseimann, Haugen, Holub, Jamieson, Kamminga, Lancaster, Laskin, Malmberg, McDonald, McGuire, F. Miller, J. Miller, Ricketts, Robinson, Schuessler, Smith, Tartaglia, Thomson, Tolbert, Van, West, Williams, Wilson, Wittich, Zeitlin, Zellmer

The School of Music offers the B.A. and B.M. degrees in music and, through the College of Education, the B.S. degree in music education and in music therapy.

The B.A. program is designed for students who wish to major in music while enrolling in a diversified program of elective course work outside the major. The program is recommended for students expecting to pursue major work in music history or musicology. It is not recommended for students planning professional careers in other music subfields.

Major Requirements and Course Descriptions

The B.M. program is designed for students who wish to complete professional studies in performance or in composition and theory. A total of 180 credits, 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, students must take a qualifying examination in which they perform (play or sing) in the area of their specialty.

The B.S. program is designed for students who wish to major in music education or music therapy. To enter the program, students transfer to the College of Education upon completion of the core requirements, usually at the end of the sophomore year. Descriptions of music education courses can be found in the *College of Education Bulletin*.

To be admitted to the major for any of the three degree programs, you must audition and be placed in a suitable level of applied music study. A placement examination in basic theory and aural perception is required also. Majors are encouraged to pass a piano proficiency test as early as possible after admission to the major, but no later than the sophomore year. Transfer students are placed on the basis of an entrance audition and examinations in music theory and music history.

You should consult with your adviser in selecting courses to satisfy all requirements.

The School of Music is a full member of the National Association of Schools of Music.

B.A. MAJOR SEQUENCE

Major Requirements—Applied Music (major instrument or voice): 12 cr at the x2xx level or higher

Theory: 1501, 1502, 1503, 1511, 1512, 1513, 1514, 1515, 1516, 3501, 3502, 3503

Music history: 1602, 1603, 1604, 1605, 1606

Ensemble participation: Minimum of 6 cr (one per qtr)

Music electives: 18 cr at the 3xxx-5xxx level

B.M. MAJOR SEQUENCE

Core Requirements (first two years)—Applied music: 12 cr at the 12xx level or higher; 12 cr at the 32xx level or higher (not required for jazz studies and composition/theory majors)

Theory: 1501, 1502, 1503, 1511, 1512, 1513, 1514, 1515, 1516, 3501, 3502, 3503

Music history: 1602, 1603, 1604, 1605, 1606

Large-ensemble participation: 6 cr (one per qtr)

Major Requirements (in addition to core requirements listed above)

Performance Major

Applied music: 24 cr at the 33xx level

Theory: 3504, 3505, 3506

Ensemble participation: (harp, strings, woodwinds, brass, percussion, and voice): 6 cr (one per qtr)

Music electives: To total a minimum of 117 cr in music

Information about special requirements in the various performance areas is available in the School of Music office.

Composition and Theory Major

Applied music: 12 cr at the 32xx level or higher

Theory: 3504, 3505, 3506

Composition: 3550 (6 cr)

Orchestration: 5561, 5562, 5563

Ensemble participation: 6 cr (one per qtr)

Music electives: To total a minimum of 117 cr in music

Half recital on completion of applied study

Final oral examination

Jazz Studies Major

1151, 1152, 1153, 1351, 1352, 1353; 12 cr of 1340, 5340; 24 cr of 1330, 5330; 8 cr of 5540; Afro 1301, 3108

Applied music: 6-12 cr at the 32xx level

Theory: 3504, 3505, 3506

Music electives: To total a minimum of 117 cr in music

Half recital of a classical nature (junior year)

Full jazz recital (senior year)

B.S. MAJOR SEQUENCE

Core Requirements (first two years)—Applied music: 12 cr at the x2xx level or higher

Theory: 1501, 1502, 1503, 1511, 1512, 1513, 1514, 1515, 1516, 3501, 3502, 3503

Music history: 14 cr from 1602, 1603, 1604, 1605, 1606

Ensemble participation: 6 cr (one per qtr)

Class piano: 1151, 1152, 1153 or exemption

General psychology: Psy 1001

For music education majors only: MuEd 1201

For music therapy majors only: MuEd 1801, 4 cr in abnormal psychology, 4 cr in anatomy, 5 cr in biology, 4 cr in physiology

A minimum grade average of C (2.00) in all course work taken prior to admission and C+ (2.50) in all course work taken in music theory, music history, and the principal applied area must be earned.

Students must complete an interview with a major adviser in music education or music therapy before their applications for admission will be given final consideration.

Major Requirements—Music Education, Choral/General: 10 cr of applied music at the 32xx level or higher; 6 cr or exemption in class voice and/or piano; 5377; minimum of 5 cr in ensembles in addition to core requirement; MuEd 3301, 3302, 3322, 3331, 3415; 12 cr of MuEd 3650; SeEd 3150 or Elem 3101; SeEd 3155 or Elem 3100; SPFE 3090; PsyF 3380; PsyS 3106; PubH 3004; minimum of 3 cr in physical education

Music Education, Instrumental: 6 cr of applied music at the 32xx level plus 4 cr in secondary instruments at the 14xx level; 3 cr in large ensembles in addition to core requirement, plus 3 cr in chamber ensembles; MuEd 3302, 3500, 3501, 3503, 3504, 3505, 3515, 3516; 12 cr in MuEd 3650; SeEd 3150 or Elem 3101; SeEd 3155 or Elem 3100; SPFE 3090; PsyF 3380; PsyS 3106; PubH 3004; minimum of 3 cr in physical education

Music Therapy: Minimum of 18 cr in applied music (including core requirements) to be selected in consultation with the music therapy adviser; minimum of 3 cr in ensembles (in addition to core requirements); MuEd 3322, 3415, 3501, 3503, 3504, 3505, 3515, 3800, 3801, 3802, 3804, 3805, 3806, 3850, 3851, 3852; PsyF 3380; PsyS 3106; PubH 3004; 3 cr in physical education (courses in dance and dance therapy recommended); one course in special education; 12 additional cr in the behavioral sciences, the social sciences, and special education selected in consultation with the major adviser

MINOR SEQUENCE*Plan A: Music in Society and Culture*

Minor Requirements—20 cr selected from 3807, 3808, 5027, 5028, 5029, 5701, 5702, 5704, 5705, 5804, 5811

No more than 20 percent of the total credits may consist of directed study or may be taken on S-N grading.

Minor programs must be approved by a Plan A adviser.

Major Requirements and Course Descriptions

Plan B: Performance

Required Preparatory Courses—1001 or 1501 and 1511

Minor Requirements—16 cr distributed as follows: 4 cr in applied music, 4 cr in ensemble, 4 additional cr in applied music or ensemble, 4 cr in any course listed under Plan A or 3021.

Admission to Plan B requires successful completion of an entrance audition. Admission to 1501 requires successful completion of a theory entrance exam.

Minor programs must be approved by a Plan B adviser.

Plan C: Jazz Studies

Required Preparatory Courses—1001 or 1501 and 1511

Minor Requirements—17 cr distributed as follows: 3 cr of 5340, 6 cr of 5330, Afro 3108, 4 cr of applied music

Admission to Plan C requires successful completion of an entrance audition. Admission to 1501 requires successful completion of a theory entrance exam.

Minor programs must be approved by a Plan C adviser.

INTRODUCTORY AND SURVEY

1001f,w,s. FUNDAMENTALS OF MUSIC. (4 cr; for non-music majors)

Basic musical elements, functional relationships and structures. Systems of musical notation and analysis. Musical practices of various times and styles.

1021f,w. INTRODUCTION TO MUSIC. (5 cr, §3021) Sutton

Music in the repertory of our culture—forms and styles from 17th and 20th centuries. Aural analyses, relationships of large units of musical form.

3021w,s. INTRODUCTION TO MUSIC. (5 cr, §1021; open to jr and sr non-music majors) Sutton

Similar to 1021, but more extensive.

5027f, 5028w, 5029s. HISTORY OF MUSICAL STYLES. (4 cr per qtr) Cardamone-Jackson

Stylistic developments in Western music, 9th century to present day. 5027: Middle Ages, Renaissance, baroque. 5028: Classical period, early romantic period, nationalism. 5029: 1850 to present.

BAND AND ORCHESTRAL INSTRUMENTS

(See also Applied Music)

1330f,w,s. JAZZ IMPROVISATION. (2 cr per qtr [max 12 cr]; prereq audition, #) Benciscutto

A progressive, systematic approach to the theory and practice of jazz improvisation, utilizing small groups including a rhythm section and one or more wind instruments.

1340f,w,s. JAZZ ENSEMBLE. (1 cr per qtr [max 12 cr]; prereq audition, #) Benciscutto

A 20-member performing organization covering significant jazz compositions and arrangements written specifically for this medium.

1410f,w,s. BAND. (1 cr per qtr; prereq #) Benciscutto

Concert Band Ensemble; Symphony Band Ensemble; Symphony Bands I and II; Marching Band. Concert and Symphony Bands perform standard and contemporary repertory. Marching Band performs at University functions.

1420f,w,s. ORCHESTRA. (1 cr per qtr; prereq #) Massmann

Symphonic repertory through performance. Minimum of one concert per quarter. Players from all colleges may participate. Major choral works with the University Chorus, guest and student soloists, appearances on tours.

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.

3440f,w,s. ENSEMBLE. (1 cr per qtr; prereq audition)

For description, see 1440.

5330f,w,s. JAZZ IMPROVISATION. (2 cr per qtr [max 6 qtrs]; prereq 6 qtrs of 1330 or audition, #) Benciscutto

For description, see 1330.

5340f,w,s. JAZZ ENSEMBLE. (1 cr per qtr [max 6 qtrs]; prereq 6 qtrs of 1330 or audition, #) Benciscutto

For description, see 1340.

- 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.
- 5361f-5362w-5363s. VIOLIN PEDAGOGY I.** (2 cr per qtr; prereq 12 cr in 1205 or 1206 or 1305 or 1306 or #) Massmann, West, Tartaglia
Teaching private violin students at beginning, intermediate, and advanced levels. Demonstrations of pedagogical techniques.
- 5364, 5365. CELLO PEDAGOGY.** (2 cr per qtr; 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.
- 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.
- 5387-5388. INSTRUMENTAL CONDUCTING.** (4 cr per qtr; prereq #)
Instrumental conducting—techniques, score analysis, performing practice.
- 5390f, w.s. PERCUSSION ENSEMBLE.** (1 cr per qtr; prereq #) Schultz
Practice and performance of standard and contemporary compositions for percussion ensembles in various combinations.
- 5410f, w.s. BAND.** (1 cr per qtr; prereq audition) Bencriscutto
For description, see 1410.
- 5420f, w.s. ORCHESTRA.** (1 cr per qtr; prereq audition) Massmann
For description, see 1420.
- 5440f, w.s. ENSEMBLE.** (1 cr per qtr; prereq audition)
For description, see 1440.
- 5450f, w.s. COLLEGIUM MUSICUM.** (1 cr per qtr; prereq audition) McClary
Small ensembles of singers and instrumentalists; study and performance of early music.
- 5460f, w.s. CONTEMPORARY MUSIC ENSEMBLE.** (2 cr per qtr; prereq audition) Stokes
Practice and performance of recent music for various combinations of vocal and instrumental ensembles.

CHORAL/OPERA/VOCAL STUDIES

(See also Applied Music)

- 1160f, w.s. VOICE: CLASS LESSONS.** (2 cr per qtr)
Fundamentals of vocal production—posture, respiration, phonation, articulation.
- 1430f, w.s. UNIVERSITY CHORUS; CONCERT CHOIR; WOMEN'S CHORUS; MEN'S CHORUS; ST. PAUL CAMPUS CHORUS.** (1 cr per qtr; prereq #) Lancaster, Jorgenson
- Sec. 1, 2—University Chorus:* Major symphonic works with Minnesota Orchestra, University Symphony Orchestra, University Concert Band.
- Sec. 3—Concert Choir:* Ensemble chosen from the University Chorus.
- Sec. 4—Women's Chorus:* Rehearsals and performances of standard material. Appearances at on- and off-campus functions.
- Sec. 5—Men's Chorus:* Standard materials as well as special arrangements. Appearances at on- and off-campus functions.
- Sec. 6—St. Paul Campus Chorus:* At least one public appearance a quarter; special events connected with St. Paul campus.
- 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.
- 3440f, w.s. ENSEMBLE.** (1 cr per qtr; prereq audition)
For description, see 1440.
- 5370. VOCAL PERFORMANCE SEMINAR.** (2 cr per qtr; prereq 18 cr in applied voice, #) Ware
Vocal performance in a seminar setting. Performance problems—stage deportment, interpretation, vocal technique, diction.
- 5371f-5372w-5373s. DICTION FOR SINGERS.** (2 cr per qtr; prereq 12 cr of 1204 or #) Weller
International Phonetic Association alphabet; principles used in singing pronunciation of English, Italian, German, and French. 5371: English and Italian. 5372: German. 5373: French.

Major Requirements and Course Descriptions

- 5375-5376. VOCAL PEDAGOGY.** (4 or per qtr; prereq 18 or applied voice, MuEd 3431 or #)
Anatomical study of the vocal mechanism. Principles and techniques of vocal production. Teaching methods and application of knowledge.
- 5377. THE ADOLESCENT SINGING VOICE.** (3 cr; prereq 3xxx clearance in voice for vocal majors or 6 cr of applied voice for non-vocal majors)
Principles of voice in teaching adolescent singers. Directed teaching, required readings, and study of relevant repertoire.
- 5384-5385. CHORAL CONDUCTING.** (4 or per qtr; prereq #; offered 1983-84 and alt yrs) Lancaster
Choral conducting—hand techniques, sound control, articulation, breath control, intonation.
- 5399f,w,s. PERFORMANCE IN CONDUCTING.** (2 cr; prereq 5385 or 5388, #)
Preparation and conducting, with documentation, of an ensemble program.
- 5430f,w,s. UNIVERSITY CHORUS; CONCERT CHOIR; WOMEN'S CHORUS; MEN'S CHORUS; ST. PAUL CAMPUS CHORUS.** (1 or per qtr; prereq audition) Lancaster, Jorgenson
For description, see 1430.
- 5440f,w,s. ENSEMBLE.** (1 or per qtr; prereq audition)
For description, see 1440.
- 5450f,w,s. COLLEGIUM MUSICUM.** (1 or per qtr; prereq audition) McClary
Small ensembles of singers and instrumentalists; study and performance of early music.
- 5460f,w,s. CONTEMPORARY MUSIC ENSEMBLE.** (2 or per qtr; prereq audition) Stokes
Practice and performance of recent music for various combinations of vocal and instrumental ensembles.
- 5467-5468-5469. STAGE MOVEMENT AND ACTING FOR SINGERS.** (4 or per qtr; prereq audition, #)
Stage movement and acting styles; application of techniques to music theater.
- 5470f,w,s. OPERA WORKSHOP.** (3 or per qtr; prereq ability to sing arias satisfactorily, audition) Sutton
Preparation and performance of operatic arias and scenes; combined problems of musical and dramatic interpretation. A fully staged production.
- 5490f,w,s. CHAMBER SINGERS.** (1 or per qtr; prereq audition) Lancaster
Mixed chorus of 16 to 20 voices. Performances each quarter.
- 5741, 5742. VOCAL LITERATURE.** (4 or per qtr; prereq 12 or in 1104 or 1204 or 1304 or #) Sutton
Literature and pedagogy; performance of songs from major and minor composers. Vocal techniques from major schools of singing as they relate to song performance.

COMPOSITION/THEORY

- 1501-1502-1503. THEORY II-III.** (3 cr per qtr; prereq theory entrance exam, Δ for 1501... Δ for 1502, 1503) Gross
1501: Rudiments; writing, analysis, and performance of monophony and two-voice texture; basic contrapuntal techniques, phrasing, and cadential types. 1502: Writing, analysis, and performance of three- and four-voice textures; free and imitative counterpoint, basic harmonic relationships, and short vocal forms (e.g., ballade and virelay). 1503: Writing, analysis, and performance of free and imitative counterpoint and basic harmony; secondary dominants, modulation, figured bass, and accompanied-line keyboard styles (e.g., early baroque fantasia).
- 1507su-1508su. THEORY REVIEW I-II.** (3 or per qtr; prereq #)
Melodic and harmonic structure.
- 1511f-1512w-1513s. EAR-TRAINING AND SIGHT-SINGING I.** (1 or per qtr; prereq fr theory entrance exam, acceptance in x2xx mode in applied music or #) Gross
Melodic, harmonic, and rhythmic dictation; sight-singing; clef-reading; musicianship drills.
- 1514f-1515w-1516s. EAR-TRAINING AND SIGHT-SINGING II.** (1 or per qtr; prereq 1513, placement in x2xx mode in applied music or #)
Further development of aural skills presented in 1511-1512-1513.
- 1517su-1518su. EAR-TRAINING AND SIGHT-SINGING.** (3 cr per qtr; prereq #)
Aural skills: sight-singing, interval recognition, melodic and harmonic dictation, vocal improvisation.
- 3501-3502-3503. THEORY IV-V-VI.** (3 cr per qtr; prereq Δ)
3501: Writing, analysis, and performance of tonal literature; chorale style, two- and three-part inventions, baroque dance and instrumental forms. Harmonic vocabulary expanded to include Neapolitan, German, French, and Italian sixth chords. 3502: Writing, analysis, and performance of art song, keyboard, chamber ensemble, and orchestral forms principally of the classical period. 3503: Writing, analysis, and performance of art song, keyboard, chamber ensemble, and orchestral forms principally of the romantic period.
- 3504f. THEORY VII.** (3 cr; prereq 3503)
Writing, analysis, and performance of ethnic and non-Western compositional techniques and forms.

- 3505w. THEORY VIII.** (3 cr; prereq 3504)
Writing, analysis, and performance of vocal and instrumental works in the diverse styles of the first half of the 20th century (e.g., polytonal, whole tone, quartal, and serial).
- 3506s. THEORY IX.** (3 cr; prereq 3505)
Writing, analysis, and performance of vocal and instrumental works utilizing serial and aleatoric techniques. Changing roles of time, texture, vertical and linear components, and introduction of synthesizer and computer resources.
- 3550. COMPOSITION.** (2 cr per qtr [12 cr max]; prereq 3503, #)
Original works in various forms. Techniques and styles of composition; development of original approaches.
- 3571. MUSIC CALLIGRAPHY.** (2 cr; prereq music or music education major; offered when feasible)
Techniques and forms of notation; manuscript preparation and layout; duplication methods; general copyright procedures.
- 3584, 3585. MUSIC: ITS MEANING AND STRUCTURE.** (4 cr per qtr) Fetler
Selected works of various periods. Purpose, meaning, continuity, direction in music. Relationship of spontaneity and theoretical principles.
- 3791. INTRODUCTION TO ELECTRONIC MUSIC.** (4 cr; prereq 4 or in music or #) Ultan, Stokes
Musical literature to which electronic materials contribute. Listening, discussion, and reading. Exercises in use of equipment.
- 5501f, 5502w, 5503s. ADVANCED MATERIALS AND STRUCTURE OF MUSIC.** (2 cr per qtr; prereq 1506) Argento
Stylistic study of musical materials and structures. 5501: Before 1850. 5502: 1850-1950. 5503: Since 1950; electronic, aleatoric, mathematical techniques. New attitudes and notational practices.
- 5511. ADVANCED EAR-TRAINING I.** (3 cr; prereq 1516 or #) Fetler
Dictation of melodic, harmonic, and rhythmic materials in a variety of styles. Contemporary sonorities.
- 5512. ADVANCED EAR-TRAINING II.** (3 cr; prereq 1516 or #) Fetler
Dictation of melodic, harmonic, rhythmic, and contrapuntal materials. Twentieth-century tone combinations, meters, and rhythms. Tonal, polytonal, and atonal exercises. Tonal memory.
- 5531. ANALYSIS I.** (3 cr; prereq 1506) Groos
Survey of analytical techniques. Introduction to advanced analytical techniques. Schenker, Hindemith, Cooper-Meyer, and others.
- 5532. ANALYSIS II.** (3 cr; prereq 5531)
Representative masterworks of the 20th century.
- 5533. ANALYSIS III.** (3 cr; prereq 5531)
Procedures and techniques of analysis applied to music composed since ca. 1950.
- 5540f,w,s. JAZZ COMPOSITION AND ARRANGING.** (2 cr; prereq 1506, #) Bencriscutto
Original creative writing in the jazz style or with strong jazz influence for any medium of musical expression, guided in individual sessions with instructor.
- 5541f-5542w-5543s. ADVANCED COUNTERPOINT.** (2 cr per qtr; prereq 3543) Fetler
Practice in writing three- and four-voice fugues; contrapuntal devices and problems; polyphonic works of periods from *ars nova* to the present day.
- 5550. COMPOSITION I.** (2 cr per qtr [12 cr max]; prereq 1506, #) Argento, Fetler, Ultan, Stokes
Original works in various forms.
- 5560. ELECTRONIC MUSIC LABORATORY.** (2 cr per qtr; prereq 3791 or #) Stokes, Ultan
Electronic musical techniques and compositional methods. Performance in combination with instruments and voices.
- 5561f-5562w-5563s. ORCHESTRATION.** (2 cr per qtr; prereq 1506) Argento
Scoring instruments for ensemble combinations and full orchestra.
- 5564. BAND ARRANGING.** (3 cr; prereq 1506, 5563 or MuEd 3516 or #) Bencriscutto, Schultz
Scoring techniques for wind and percussion instruments. Scoring for band. Creative arrangements for marching or concert band.

KEYBOARD AND FRETTED INSTRUMENTS

(See also Applied Music)

- 1051, 1052, 1053. PIANO CLASS FOR NON-MUSIC MAJORS.** (2 cr per qtr; prereq 1051 for 1052 and 1051 and 1052 for 1053 or #) Hillely
Basic beginning keyboard skills of sight-reading, harmonization, transposition, and improvisation for non-music majors.

Major Requirements and Course Descriptions

- 1151f-1152w-1153s. PIANO: CLASS LESSONS.** (2 cr per qtr; prereq music major) Hilley
Keyboard skills in harmonization, improvisation, sight-reading, accompaniment, repertory, technique. Group learning.
- 1171f-1172w-1173s. GUITAR: CLASS LESSONS.** (2 cr per qtr)
Fundamentals and progressive development of skills. 1171: Strumming techniques, harmonizations in basic keys. 1172: Advanced strumming techniques, bass runs, finger-picking strums. 1173: Melodic techniques, advanced harmonizations. (Student must furnish own guitar.)
- 1351, 1352, 1353. JAZZ CLASS PIANO.** (2 cr per qtr; prereq 1153 or #) Buckner
Keyboard skill development in chord-style symbology, reading chord progressions, translating chord symbols into formula voicings, expanded harmonies, aural development, jazz style "comping."
- 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.
- 1521f-1522w-1523s. KEYBOARD TRAINING.** (2 cr per qtr; primarily for piano and organ majors; prereq 1503 and 1513)
Hilley
Keyboard harmony; realization of figured basses; score reading; transposition; improvisation.
- 3440f,w,s. ENSEMBLE.** (1 cr per qtr; prereq audition)
For description, see 1440.
- 5351f-5352w-5353s. PIANO PEDAGOGY I.** (2 cr per qtr; prereq 12 cr in 1101 or 1201 or 1301 or 1151-1152-1153 or #; offered when feasible)
Demonstration and discussion of group piano instruction at the elementary level. Literature appropriate to conceptual learning through the discovery approach.
- 5354f-5355w-5356s. PIANO PEDAGOGY II.** (2 cr per qtr; prereq 12 cr in 1101 or 1201 or 1301 or 1151-1152-1153 or #; offered when feasible)
Piano pedagogy. Teaching materials; application of principles and techniques in a directed teaching setting.
- 5357f, 5358w, 5359s. GRADUATE PIANO SEMINAR.** (2 cr per qtr; prereq #; offered 1983-84 and alt yrs) Freed, Weiser, McNab
Piano study instruction and performance. Terminology, repertory, evolution of piano construction, performance practice from baroque to contemporary literature.
- 5440f,w,s. ENSEMBLE.** (1 cr per qtr; prereq audition)
For description, see 1440.
- 5450f,w,s. COLLEGIUM MUSICUM.** (1 cr per qtr; prereq audition) McClary
Small ensembles of singers and instrumentalists; study and performance of early music.
- 5460f,w,s. CONTEMPORARY MUSIC ENSEMBLE.** (2 cr per qtr; prereq audition) Stokes
Practice and performance of recent music for various combinations of vocal and instrumental ensembles.
- 5521f, 5522w, 5523s. KEYBOARD HARMONY.** (2 cr per qtr; primarily for piano and organ majors; prereq 1506, sr or grad student) Hilley
Diatonic and chromatic harmony at the piano. Realization of figured bass music of the 17th and 18th centuries. Performance of choral, orchestral, and chamber music of classical and early romantic periods from open score, using all clefs.
- 5744f, 5745w, 5746s. PIANO LITERATURE.** (2 cr per qtr; prereq 12 cr in 1101 or 1201 or 1301 or #; offered 1982-83)
Weiser
History of keyboard literature for piano performances from end of 16th century to present. Performance illustrations, recordings.
- 5747. ORGAN LITERATURE.** (2 cr; prereq grad organ or musicology student or #; offered 1982-83)
Organ literature and playing from 14th century to the present. Mutual influence of organ construction and composition; national schools of organ playing.

MUSIC EDUCATION/THERAPY

See the *College of Education Bulletin* for course offerings.

MUSICOLOGY/ETHNOMUSICOLOGY

- 1602w. MUSIC AND SOCIETY.** (3 cr; prereq 1501 or #) Kagan
Music and its cultural context in rural, urban, and tribal societies.
- 1603s-1604f-1605w-1606s. HISTORY OF WESTERN MUSIC.** (4/3/4/4 cr per qtr; prereq 1502) Laudon, Cardamone-Jackson
The development of musical styles and genres. 1603: Romanesque, Gothic, and Renaissance eras. 1604: Baroque era. 1605: Classical-romantic era. 1606: 20th century.

- 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 an understanding of human musical expressions.
- 3708. BLACK MUSIC PRIOR TO WORLD WAR I.** (5 cr, §Afro 3105) Southall
 Musical contributions and achievements of black Americans in the United States during the 19th and early 20th centuries.
- 3709. AFRO-CARIBBEAN, AFRO-HISPANIC, AND AFRO-BRAZILIAN MUSIC.** (4 cr, §Afro 3301) Southall
 Links between African music and music of black America, West Indies, South and Central America. The Afro-Cuban style and modern jazz.
- 3757, 3758. HISTORY OF THE SYMPHONY.** (4 cr per qtr; prereq 1506, 1606) McClary
 The symphony from its beginnings to the present. Representative compositions; readings from standard biographies and primary source materials. 3757: From Haydn to Liszt. 3758: From Brahms to the present.
- 3807. MUSIC OF SOUTHEAST ASIA AND PACIFIC CULTURES.** (4 cr)
 Style, form, and theory of village and courtly institutions in Indonesia and Southeast Asia; variety of musical practices and behavior in Australia and Pacific cultures.
- 3808. MUSIC OF EAST ASIA.** (4 cr)
 Religious, courtly, operatic, chamber, and folk music of China, Japan, Korea, and Tibet. Historical developments in and cultural determinants of style, repertoire, and usage.
- 5182f. BAROQUE PERFORMANCE PRACTICES.** (4 cr; prereq sr or grad student, 1506, 1606 or #) McClary
 Ornamentation, phrasing, articulation, and improvisation in music of period 1550-1759. Instruction books of the period; performance of baroque music in baroque style.
- 5601f-5602w-5603s. HISTORY OF OPERA.** (3 cr per qtr; prereq 9 cr in history of music, art, theatre or European history from 1600 or #) Argento
 Origins of opera; development as a musicodramatic form through analysis of libretto and music of representative masterpieces of the late Renaissance, baroque, classical, romantic, and contemporary periods.
- 5607. GREGORIAN CHANT.** (4 cr; prereq 1606 or #; offered when feasible) Riedel
 Forms and style.
- 5634f, 5635w, 5636s. MUSIC IN BAROQUE ERA.** (4 cr per qtr; prereq 1606; offered 1983-84 and alt yrs) McClary
 Vocal, instrumental, and sacred styles of baroque era.
- 5637f, 5638w, 5639s. MUSIC IN GALANT AND CLASSIC PERIODS.** (4 cr per qtr; prereq 1606; offered 1982-83 and alt yrs) Laudon
 The transition from late baroque to galant and classical styles.
- 5641f, 5642w, 5643s. MUSIC IN ROMANTIC ERA.** (4 cr per qtr; prereq 1604 or #; offered 1983-84) Laudon
 Concert music and the concept of the romantic. Solo music and the concept of the artist. Chamber music and the "cultivation" of music.
- 5661. GEORGE FRIEDRICH HANDEL: LIFE AND WORKS.** (4 cr; prereq 1606 or #; offered when feasible) Riedel
 Musical culture in middle and northern Germany, 17th and 18th centuries. Oratorio in Italy, France, Germany, and England. G. F. Handel's work, emphasis on his oratorios. Handel and England.
- 5662. HEINRICH SCHÜTZ: LIFE AND WORKS.** (4 cr; prereq 8 cr in music or art history or German literature or political history to 1700 or #; offered when feasible) Riedel
 Political events in 17th-century Germany, Europe; Protestant hymn, psalm literature. Their musical elaborations in works of Schütz. Madrigals, monodies, sacred concert and cantatas, passions.
- 5663. LASSO AND PALESTRINA.** (4 cr; prereq 8 cr in music history or Renaissance and baroque art or political history to 1700 or general history of Western philosophy or #; offered when feasible) Riedel
 Council of Trent. Influence on sacred music of 16th century. Lasso's cosmopolitan style, Palestrina's a cappella style. Palestrina style, 17th, 18th centuries. Caecilianism of 19th, 20th centuries.
- 5664. CHARLES IVES: LIFE AND WORKS.** (4 cr; offered when feasible) Riedel
 Ives' compositions. Ives and American transcendentalism. Ives and the Progressive Party. Ives as a 19th- and 20th-century composer.
- 5665. RABINDRANATH TAGORE: MUSIC AND POETRY.** (4 cr; offered when feasible) Kagan
 Life, philosophy, works. Influences: Europe, India's classical and folk traditions. Poetic forms and themes. Influence upon Bengali literature. Songs, operas, with bilingual texts.
- 5666. STRAVINSKY.** (4 cr; prereq 12 cr in music history, 1506) Cardamone-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).
- 5667. CHAMBER MUSIC OF BEETHOVEN.** (4 cr; prereq 1506, 1606; offered when feasible) McClary
 Analysis of chamber compositions of Beethoven, particularly the quartets. His use of chamber sonorities and classical forms, his changes in style, and aesthetic problems.

Major Requirements and Course Descriptions

- 5701, 5702. AMERICAN MUSIC.** (4 cr per qtr; prereq 1606 or 8 or in American history or American studies or #) Riedel
From colonial times to present. American Indian music; sacred music in America, from Puritan New England to the present time; jazz; music education; the symphony orchestra; contemporary music.
- 5704, 5705. LATIN AMERICAN MUSIC.** (4 cr per qtr) Riedel
Pre-Maya and pre-Inca times through colonial period to present. Music of Indians in Brazil, Inca countries. Afro-American, Ibero-Latin American music. Folk, popular, contemporary music.
- 5707. SCANDINAVIAN MUSIC.** (4 cr; prereq major in music or Scandinavian or humanities or #; offered when feasible)
Music of Norway, Sweden, Finland, Denmark, Iceland; historical background, folk music, church music, music of today.
- 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.
- 5810. ASIAN MUSIC IN PERFORMANCE.** (2 or per qtr; prereq #) Kagan, staff
Vocal and instrumental skills developed through applied training and lecture demonstrations.
- 5811. TRADITIONAL INDIAN MUSIC: THE SACRED AND THE PROFANE.** (5 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.
- 5841. MUSIC BIBLIOGRAPHY.** (4 cr; prereq 1606 or #) Holm
Music bibliographies, reference materials, and monuments of music.
- 5861. INTRODUCTION TO ETHNOMUSICOLOGY.** (5 cr; prereq #; offered 1983-84 and alt yrs) Kagan
Scope, aims, methods, and resources of research in ethnomusicology. Preliterate, folk, and high-art music of the world—style, form, usage, and function. Musical typology and comparative studies.
- 5863. MUSICAL INSTRUMENTS OF THE WORLD.** (4 cr; offered 1983-84 and alt yrs) Kagan
Organology; classification and comparative study of musical instruments in all cultures; history, distribution, structure, technology, acoustics. Instruments in literature, myths, iconography.

MISCELLANEOUS

- 3970f,w,s. DIRECTED STUDIES.** (1-15 cr per qtr; prereq #, Δ) Staff
Guided individual reading or study.
- 3980f,w,s. DIRECTED TEACHING.** (1-4 or per qtr; prereq #, Δ) Staff
- 5950. TOPICS IN MUSIC.** (1-5 or per qtr; exact number of or and prereq designated for each offering)
For topics, see current *Class Schedule*.

APPLIED MUSIC (MusA)

Courses in applied music are classified according to eight modes: principal, major, secondary required, secondary elective, principal beyond requirement, major beyond requirement, minor, and elective. Each mode is offered at the 1xxx (introductory), 3xxx (intermediate) and 8xxx (graduate) levels. 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, 106 Scott 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 in the elective, secondary elective, principal beyond requirement, and major beyond requirement modes. See the current *Class Schedule* for the fee schedule.

Credits and prerequisites for applied music courses are as follows:

- 1101 to 1324: (2 or 4 cr; prereq audition, Δ)
1401 to 1724: (2 or 4 cr per qtr [12 cr max]; prereq music major, Δ)
3101 to 3324: (2 or 4 cr; prereq 12 cr in corresponding 1xxx-level course, qualifying exam, Δ)
3401 to 3724: (2 or 4 cr per qtr [12 cr max]; prereq music major, Δ)
3801 to 3823: (2 or 4 cr per qtr; prereq audition, Δ)
5101 to 5125: (2 or 4 cr per qtr; prereq audition, Δ)
8101 to 8324: (2 or 4 cr; prereq audition, Δ)
8401 to 8724: (2 or 4 cr per qtr [12 cr max]; prereq music major, Δ)

Applied music courses in the various modes offered at the undergraduate level are listed below.

Instrument	Principal	Major	Secondary Required	Secondary Elective	Principal Beyond Requirement	Major Beyond Requirement	Minor
Piano	1201	1301	1401	1501	1601	1701	
Harpichord	1202	1302	1402	1502	1602	1702	
Organ	1203	1303	1403	1503	1603	1703	
Voice	1204	1304	1404	1504	1604	1704	
Violin	1205	1305	1405	1505	1605	1705	
Viola	1206	1306	1406	1506	1606	1706	
Cello	1207	1307	1407	1507	1607	1707	
Double Bass	1208	1308	1408	1508	1608	1708	
Flute	1209	1309	1409	1509	1609	1709	
Oboe	1211	1311	1411	1511	1611	1711	
Clarinet	1212	1312	1412	1512	1612	1712	
Saxophone	1213	1313	1413	1513	1613	1713	
Bassoon	1214	1314	1414	1514	1614	1714	
French Horn	1215	1315	1415	1515	1615	1715	
Trumpet	1216	1316	1416	1516	1616	1716	
Trombone	1217	1317	1417	1517	1617	1717	
Baritone	1218	1318	1418	1518	1618	1718	
Tuba	1219	1319	1419	1519	1619	1719	
Percussion	1221	1321	1421	1521	1621	1721	
Harp	1222	1322	1422	1522	1622	1722	
Guitar	1223	1323	1423	1523	1623	1723	
Accordion				1524			
Sitar				1525			
Piano	3201	3301	3401	3501	3601	3701	3801
Harpichord	3202	3302	3402	3502	3602	3702	3802
Organ	3203	3303	3403	3503	3603	3703	3803
Voice	3204	3304	3404	3504	3604	3704	3804
Violin	3205	3305	3405	3505	3605	3705	3805
Viola	3206	3306	3406	3506	3606	3706	3806
Cello	3207	3307	3407	3507	3607	3707	3807
Double Bass	3208	3308	3408	3508	3608	3708	3808
Flute	3209	3309	3409	3509	3609	3709	3809
Oboe	3211	3311	3411	3511	3611	3711	3811
Clarinet	3212	3312	3412	3512	3612	3712	3812
Saxophone	3213	3313	3413	3513	3613	3713	3813
Bassoon	3214	3314	3414	3514	3614	3714	3814
French Horn	3215	3315	3415	3515	3615	3715	3815
Trumpet	3216	3316	3416	3516	3616	3716	3816
Trombone	3217	3317	3417	3517	3617	3717	3817
Baritone	3218	3318	3418	3518	3618	3718	3818
Tuba	3219	3319	3419	3519	3619	3719	3819
Percussion	3221	3321	3421	3521	3621	3721	3821
Harp	3222	3322	3422	3522	3622	3722	3822
Guitar	3223	3323	3423	3523	3623	3723	3823
Accordion				3524			
Sitar				3525			

Instrument	Electives	
Piano	1101	3101
Harpichord	1102	3102
Organ	1103	3103
Voice	1104	3104
Violin	1105	3105
Viola	1106	3106
Cello	1107	3107
Double Bass	1108	3108
Flute	1109	3109
Oboe	1111	3111
Clarinet	1112	3112
Saxophone	1113	3113

Major Requirements and Course Descriptions

Instrument	Electives	
Bassoon	1114	3114
French Horn	1115	3115
Trumpet	1116	3116
Trombone	1117	3117
Baritone	1118	3118
Tuba	1119	3119
Percussion	1121	3121
Harp	1122	3122
Guitar	1123	3123
Accordion	1124	3124
Sitar	1125	3125

Natural Science and Technology (NSci)

Courses in natural science and technology, designed for students majoring in nonscience fields, are cross-disciplinary and sometimes experimental. For current offerings, see the *Class Schedule* or inquire in 203 Johnston Hall. Other cross-disciplinary courses are listed under the headings Social Science and Literature and Fine Arts. A major program is not offered in natural science and technology.

3011w. CHEMISTRY IN ART. (4 cr; prereq major in studio arts, art history, design, art education or #; 3 lect plus lab hrs) Chemistry of materials and processes used by artists. Pigments and dyes, vehicles, solvents, plastics, metals, ceramics, photography, print processes, lasers, health hazards.

3970. DIRECTED STUDIES. (1-5 cr per qtr; prereq consultation with Office for Special Learning Opportunities, Δ) Guided individual reading or study.

NAVAL SCIENCE

See Reserve Officers' Training Corps.

Near and Middle Eastern Studies

Near and Middle Eastern studies examines the ancient Near East and Islamic and Judaic civilizations. The department is composed of two parallel programs: ancient Near Eastern and Jewish studies, and Middle Eastern and Islamic studies.

ANCIENT NEAR EASTERN AND JEWISH STUDIES

Staff—Chair, Coordinator, and Director of Undergraduate Studies, Tzvee Zahavy, 176 Klaeber Court

Associate Professors: Paradise, Reisman, Zahavy

Adjunct Faculty—Professors: Bachrach (History), Berman (History), Cooperman (Sociology), Kraabel (Classics), Krislov (Political Science), Roshwald (Humanities)

Associate Professors: Prell (Anthropology), Ross (Religious Studies)

Major programs are offered in ancient Near Eastern studies; Hebrew language and literature; and Jewish studies.

B.A. MAJOR SEQUENCE—ANCIENT NEAR EASTERN STUDIES

Major Requirements—Hebr or Arab 1101-1102-1103, 3011-3012-3013; Hist 3051-3052-3053

31 additional cr in courses at 3xxx level or above in art and archaeology, history, and language and literature, chosen with adviser approval

B.A. MAJOR SEQUENCE—HEBREW

Major Requirements—Hebr 3015-3016-3017

Two qtrs of biblical studies, two qtrs of rabbinics, two qtrs of modern literature, one course at 3xxx level or above, using materials in translation

B.A. MAJOR SEQUENCE—JEWISH STUDIES

Major Requirements—Hebr 1101-1102-1103, 3011-3012-3013; JwSt 3034

36 cr in courses at 3xxx level or above in Jewish languages and literatures, social sciences, and philosophy and religion, chosen with adviser approval

Akkadian (Akka)

5011-5012-5013. ELEMENTARY AKKADIAN. (4 cr per qtr; for advanced undergrads by permission only and for grad students)

Cuneiform script. Akkadian grammar, written drills, readings from historical annals, law collections, religious and epic literature.

Aramaic (Arm)

5011, 5012, 5013. ARAMAIC. (4 cr per qtr; for students preparing for biblical studies, ancient history majors, and students specializing in Semitic languages; recommended for students of Talmud; prereq 1 yr Hebrew or Arabic or #)

5011: Biblical Aramaic—grammar, fluency in reading biblical and ancient Aramaic. 5012: Syriac—grammar, fluency of reading Syriac texts. 5013: Aramaic inscriptions—epigraphy, morphology, and syntax of Aramaic inscriptions, 9th to 5th centuries B.C.

Hebrew (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.

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.

1104-1105-1106. INTRODUCTION TO BIBLICAL HEBREW. (5 cr per qtr)

Hebrew alphabet, basic grammar, and vocabulary needed to read narrative portion of Bible. For students without previous knowledge of Hebrew.

1301. SURVEY OF HEBREW GRAMMAR. (2 cr; for students who have the ability to read simple texts but desire a better grammatical foundation; prereq 1102 or 1013 or #)

Grammatical forms; grammar exercises based on graded reading materials emphasizing transition to biblical texts. Oral and written drills.

3011f-3012w-3013s. INTERMEDIATE HEBREW. (5 cr per qtr; prereq 1103, qualified fr or #)

Modern short stories, contemporary idiom, newspaper articles, biblical narratives. Review of fundamentals of grammar. Stresses development of fluent speech and composition.

3015f-3016w-3017s. ADVANCED MODERN HEBREW. (4 cr per qtr; prereq 3013 or #)

Further development of fluent speech and self-expression in composition; introduction to advanced literature and the Hebrew press. Exposure to a variety of literary styles and genres.

3111, 3112. 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.

3121, 3122, 3123. MEDIEVAL HEBREW LITERATURE. (4 cr per qtr; prereq 3013 or #)

3121: 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. 3122: Medieval Hebrew philosophical texts—Sa'adia Gaon, Judah Halevi, Maimonides. 3123: Medieval Hebrew poetry. Representative poets from Middle Ages—Yanai, Kalir, Ibn Gabirol, Halevi, others.

Major Requirements and Course Descriptions

- 3131, 3132. TALMUDIC TEXTS.** (4 or 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.
- 3201, 3202, 3203. READINGS IN BIBLICAL HEBREW.** (4 or 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.
- 3204, 3205. A BOOK OF THE BIBLE.** (4 or per qtr; prereq 3013 or #)
Scientific study of a book of the Bible. Modern scholarly trends and medieval exegesis. Analysis of a selected text.
- 3204H, 3205H. HONORS COURSE: A BOOK OF THE BIBLE.** (4 or per qtr; prereq 3013 or #)
Students attend lectures in 3204, 3205 and meet with lecturer one additional period each week.
- 3301. MODERN HEBREW ESSAY.** (4 or; prereq 3017 or #)
Works from 19th- and 20th-century Hebrew essayists. Jewish nationalism, literary criticism, social and political issues, religion, philosophy.
- 3304. MODERN HEBREW SHORT STORY.** (4 or; prereq 3017 or #)
Works of Agnon, Hazaz, Yizhar, Yehoshua, and others. The disintegration of traditional society, freedom, militarism, alienation, genocide, and other themes.
- 3307. MODERN HEBREW POETRY.** (4 or; prereq 3017 or #)
Major Israeli poets such as Rachel, Lamdan, Shionsky, Leah Goldberg, Alterman, Greenberg, Pagis, Amihai, Ravikovitsh, and others.
- 3980. DIRECTED INSTRUCTION.** (1-5 or 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.
- 5100. PROBLEMS IN RABBINIC LITERATURE.** (4 or per qtr [12 or max]; prereq 3112 or 3132 or #)
Methods for critical analysis of texts. Religiohistorical issues.
- 5200. PROBLEMS IN BIBLICAL STUDIES.** (4 or per qtr; for majors and others adequately prepared to read Bible in Hebrew; prereq 3202 or #)
Scholarly issues in modern biblical studies. Scientific methodology and use of research tools.
- 5970. DIRECTED READINGS.** (Cr ar; prereq 3013 or #)
Special problems for advanced students.
- 5990. HONORS COURSE: RESEARCH.** (Cr ar; prereq 5970 or #)
Independent research under guidance of faculty member. Must begin fall quarter.

Sumerian (Sum)

- 5011-5012. ELEMENTARY SUMERIAN.** (4 or per qtr; for advanced undergrads who have had 2 yrs of another foreign language and for grad students)
Sumerian writing and grammar. Readings from classical Sumerian literary and historical texts.

Ancient Near Eastern Studies (ANEJ)

- 1001. THE BIBLE: NARRATIVE TEXTS.** (4 or)
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.
- 1002. THE BIBLE: PROPHECY.** (4 or)
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. Introduction to textual analysis and biblical scholarship.
- 1003. THE BIBLE: WISDOM, POETRY AND APOCALYPTIC.** (4 or)
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.
- 3101. ANCIENT NEAR EASTERN TEXTS IN TRANSLATION.** (4 or)
The Sumerian-Akkadian literary and historical tradition. Relationships of the Mesopotamian traditions, particularly to the Old Testament.
- 3117. THE DEAD SEA SCROLLS: THE INTERTESTAMENTAL PERIOD.** (4 or)
Jewish sectarianism in the pre-Christian period; position of the Dead Sea sect. Qumran texts in English; communal organization, modes of worship, theology, and Messiah concept as a precursor to later religious developments. Knowledge of Hebrew not required.

- 3251. THE MODERN STUDY OF THE OLD TESTAMENT. (4 cr)**
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.
- 3501, 3502, 3505. ANCIENT ISRAEL. (4 or per qtr, \$5501, \$5502, \$5505)**
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.
- 5501, 5502, 5505. ANCIENT ISRAEL. (4 or per qtr, \$3501, \$3502, \$3505; prereq grad student or #)**
Students attend lectures of 3501, 3502, 3505 but follow a special syllabus. Knowledge of Hebrew not required.
- 5701. INTRODUCTION TO COMPARATIVE STUDY OF SEMITIC LANGUAGES. (4 cr; prereq grad student or #, 1 yr of two Semitic languages)**
Historical survey of linguistic development in Semitic languages. Phonology and morphology.
- 5711. NORTHWEST SEMITIC INSCRIPTIONS. (4 cr; prereq 3013 or #)**
Introduction to Paleo-Hebrew script. Morphology, phonology, syntax, and linguistic changes in early Hebrew, Moabite, Phoenician, and Punic inscriptions.
- 5970. DIRECTED STUDIES. (1-4 or per qtr; prereq #)**
Guided individual reading or study.

Jewish Studies (JwSt)

- 1034. INTRODUCTION TO JUDAISM. (4 cr, \$3034, \$ReIS 1034)**
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.
- 3034. INTRODUCTION TO JUDAISM. (4 cr, \$1034, \$ReIS 1034)**
Meets with 1034. Additional written assignments and reading.
- 3100. JUDAISM IN THE TIME OF EARLY CHRISTIANITY (70-640 A.D.). (4 cr)**
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.
- 3115. MISHNAH AND MIDRASH IN TRANSLATION. (4 cr)**
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.
- 3125. MAIMONIDES'S GUIDE OF THE PERPLEXED. (4 cr)**
Medieval Jewish philosophy; problems of creation, providence, revelation, prophecy, and the law against the background of classical and medieval thought. Knowledge of Hebrew not required.
- 3126. MODERN JUDAISM. (4 cr)**
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.
- 3142, 3143. JUDAISM IN THE MIDDLE AGES. (4 or per qtr)**
Jewish philosophy and mysticism in the Middle Ages. Works of Sa'adia Gaon, Judah Halevi, Maimonides. Faith and reason, existence of God, creation, good and evil. Mystical doctrines of the Zohar, Lurianic Qabbalah, Shabbatai Zvi.
- 3315. CONTEMPORARY ISRAELI LITERATURE IN TRANSLATION. (4 cr)**
Modern short stories and poetry. Works of Agnon, Yizhar, Hazaz, Yehoshua, Greenberg, Amihai, Pagis, and others. Alienation, crisis of faith, war, genocide, and freedom.
- 3461, 3402, 3403. ART AND ARCHITECTURE OF THE JEWISH PEOPLE. (4 or per qtr)**
3401: The ancient world; 2100 B.C.E.-638 C.E. Survey of the art and architecture of the Jewish people from time of exodus to rise of Islam. 3402: Jews in the Muslim and Christian World—7th-18th centuries. Developments in the art and architecture of the Jewish people in response to Muslim and Christian influences. 3403: The modern world—19th-20th centuries. Pre- and post-emancipation Jewish artists; art in Israel today.
- Hum 3401. THE HERITAGE OF ANCIENT ISRAEL. (4 cr)**
The heritage of ancient Israel as conveyed by the Bible (Old Testament) and early postbiblical literature. Philosophies underlying ancient Israel analyzed through selected texts.

Major Requirements and Course Descriptions

Hum 3403. MODERN ISRAEL. (4 cr)

Modern Israel as a cultural, historical, political, and social phenomenon. Historical-spiritual roots of Israel and its cultural renaissance.

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.

3521. THE HOLOCAUST. (4 cr)

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.

Clas 5089. INTRODUCTION TO BIBLICAL ARCHAEOLOGY. (4 cr)

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.

Pol 5457. TOPICS IN MIDDLE EASTERN POLITICS. (4 cr; prereq 1051 or #)

Governmental structures and their political matrix. Cultural, religious, and regional influences. Israeli emphasis treats problems of a created society with planned institutions, role of nominally ideological parties, conflict over theocratic base for a modern secular state. Arab states emphasis treats effects of modernization, religious conflict, Zionism, Arab unity.

5621. COMPARATIVE SOCIOLOGY OF JEWISH COMMUNITIES. (4 cr; prereq Soc 1001 or 1002 or #)

Historical, cross-societal analysis of Jewish communities. Social organization, structure of Diaspora communities. Sephardic, Ashkenazic, Asian communities. Jew in American society; demography, social ecology, social psychology, stratification patterns.

5900. TOPICS IN JEWISH STUDIES. (4 cr per qtr)

Historical, religious, sociological, anthropological, and humanistic study of Judaism and the Jewish people. Approach and method of study varies with topic.

5970. DIRECTED READINGS. (1-12 cr per qtr [12 cr max]; prereq #)

Guided individual reading or study.

MIDDLE EASTERN AND ISLAMIC STUDIES (MidE)

Staff—Acting Administrator, Jean Cameron-Hiel, 203 Johnston Hall

Adjunct Faculty—Professors: Banerjee (Geology), Barker (South Asian Studies), Chejne (Spanish and Portuguese), Farah (History), Kaba (History), Sheppard (Art History), Spencer (Anthropology), Stavrou (History)

Associate Professors: Bashiri (South Asian Studies), Lelyveld (History and South Asian Studies)

Assistant Professors: Alvi (South Asian Studies), Nimtz (Political Science), Sampson (Political Science)

A major and a minor program are offered in Middle Eastern studies.

Note: It is expected that after the 1982-83 academic year Middle Eastern and Islamic studies courses will be taught under a new organizational structure. Consult your college office for further information.

B.A. MAJOR SEQUENCE—MIDDLE EASTERN STUDIES

Preparatory Courses—Demonstration of reading competence in an appropriate language such as Arabic, Persian, or Turkish (may be satisfied by two years of language instruction); 3505 or 5505

Major Requirements—16 cr in core courses with at least one course from each core category (literature, Islamic studies, and civilization); 12 cr selected from Anth 3251, Arth 3909, Hist 3043, 3434, 5274-5275, ID 3301, Pol 5457, RelS 1036, SoAS 3508, Span 5501

MINOR SEQUENCE—MIDDLE EASTERN STUDIES

24 3xxx-5xxx cr with at least one course from each core category (literature, Islamic studies, and civilization, for total of 12 cr) and remainder from interdepartmental courses listed above for major, chosen with approval of department adviser

1536 (formerly 1036). THE RELIGION OF ISLAM. (4 cr, §RelS 1036)

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.

3201. ARABIC LITERATURE IN TRANSLATION: PRE-ISLAMIC TO 1500. (4 cr)

Golden age of Arabic poetry: poets, themes, and trends; new developments in the classical age; the rise of belletristic writings; prose styles; folk literature; *Bidpai Fables* and the *Arabian Nights*: selected readings; narrative genres, sacred and profane.

3202. ARABIC LITERATURE IN TRANSLATION: THE REVIVAL AGE, 1800 TO PRESENT. (4 cr)

Revivalist and rejuvenative trends in poetry; the free verse movement, poets and themes; poetry of social consciousness; the novel, novella, short stories; leading fiction and drama writers.

3210. THE QUR'AN AS LITERATURE. (4 cr)

Texts and commentaries in translation. Knowledge of Arabic not required.

3505 (formerly 3001). SURVEY: THE MIDDLE EAST. (4 cr, §5505)

Cultural, religious, and scholarly achievements of Middle Eastern peoples from pre-Islamic times to the present.

3511, 3512. IRANIAN CIVILIZATION. (4 cr per qtr)

3511: Iranian civilization from the Archaemenids to the rise of the Sasanians; the role of the common person. 3512: From the fall of the Sasanians to the present; the role of the common person.

3541, 3542, 3543. HISTORY OF THE ARABS. (4 cr per qtr)

3541: From pre-Islamic days to downfall of Umayyads of Damascus. 3542: From Abbasids to fall of Baghdad in 1258. 3543: From Crusades to modern times.

3541H, 3542H, 3543H. HONORS COURSE: HISTORY OF THE ARABS. (4 cr per qtr)

For description, see 3541, 3542, 3543. Students attend 3541, 3542, 3543 lectures and meet with lecturer one additional period each week.

3544 (formerly 3525). THE ARAB WORLD IN RECENT TIMES. (4 cr)

The central Arab lands (the Arabian peninsula, Iraq, Syria, Jordan, Lebanon, Egypt) and the North African region (Libya, Tunisia, Morocco, Algeria) from end of World War I to the present. Foreign occupation and the struggle for independence; position in regional and international politics.

3545. ISLAMIC MYSTICISM. (4 cr)

The rise of Sufism, from asceticism to theosophical mysticism; the leading historical personalities, their beliefs and preachings; relationship to Orthodox Islam and non-Muslim mystical movements; concepts and organizations; the place of Sufism in modern religious trends.

3555. ZOROASTRIANISM. (4 cr)

Zoroastrianism as revealed in the Gathas and expanded in the Vendidad. Knowledge of Persian not required.

3601. PERSIAN FICTION IN TRANSLATION. (4 cr; offered concurrently with 5601)

Major Persian works: *The Blind Owl* by Hedayat, *The Patient Stone* by Chubak, and *The Wedding* by Se'edi.

3602. PERSIAN POETRY IN TRANSLATION. (4 cr; offered concurrently with 5602)

Major poetic works of Iran: quatrains of Omar Khayyam, sonnets of Hafiz; "new" Persian poetry such as the works of Forugh Farrokhzad.

5311. HISPANO-ARABIC POETRY. (4 cr; prereq 5503 or #)**5501-5502-5503. HISPANO-ARABIC LITERATURE AND CULTURE. (4 cr per qtr; prereq #)**

Literary styles and genres in classical and modern writings; compositions based on texts studied.

5505 (formerly 5001). SURVEY: THE MIDDLE EAST. (4 cr, §3505)

For description, see 3505.

5521 (formerly 5121). THE MIDDLE EAST IN WORLD AFFAIRS: OTTOMAN-PERSIAN SPHERE, 1300-1789. (4 cr)

Rise and efflorescence of the Il-Khanid, Timurid, and Safawid civilizations in Persia and of the Ottoman in West Asia: historical, institutional, cultural, socioeconomic development; contacts with the West.

5523 (formerly 5123). THE MIDDLE EAST IN WORLD AFFAIRS: THE 19TH CENTURY. (4 cr)

Structure of society; cultural and political impact of the West; revivalist and nationalist trends; reformist and separatist movements.

Major Requirements and Course Descriptions

5525 (formerly 5125). THE MIDDLE EAST IN WORLD AFFAIRS: THE ARAB WORLD, TURKEY AND IRAN, 1915 TO THE PRESENT. (4 cr)

Struggle for independence; rise of Turkey and Iran; problems of social, cultural, economic, and political development; modernizing trends; role in international affairs.

5546. THEOLOGICAL AND MYSTICAL DOCTRINES OF ISLAM. (4 cr)

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.

5601. PERSIAN FICTION. (4 cr; prereq Per 3013 or #; offered concurrently with 3601)

Major Persian prose works, using original texts: *bufe kur*, *saenge saebur*, and *ezdevaj*.

5602. PERSIAN POETRY. (4 cr; prereq Per 3013 or #; offered concurrently with 3602)

Major Persian poetic works, using original texts: *ruba'iyate omar khayyam*, the *ghazals* of Hafiz, development of *se'ire now*.

5960. TOPICS IN MIDDLE EASTERN STUDIES. (4 cr per qtr)

Topics specified in *Class Schedule*.

5970. DIRECTED READINGS. (1-4 cr; prereq #, Δ)

Work on special problems for advanced students. Readings and periodic consultations.

NORWEGIAN

See Scandinavian.

PERSIAN

See South Asian Studies.

Personal Orientation (PO)

Department of Psychology

Psy 1001. HOW TO STUDY. (2 cr; cannot be applied toward any CLA degree)

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.

Philosophy (Phil)

Staff—Chair, William H. Hanson, 399 Ford Hall; **Director of Graduate Studies**, Burnham Terrell, 335 Ford Hall; **Director of Undergraduate Studies**, Michael Root, 389 Ford Hall

Professors: Earman, Eaton, Gunderson, Hanson, Hopkins, Lewis, Mason, Sartorius, Savage, Terrell, Wallace

Associate Professors: Buchanan (on leave fall 1982), Dahl, Dolan, Peterson, Root

Assistant Professors: Anderson, Scheman

Philosophy is the study of the most general principles of the nature of reality, human conduct, and the various branches of knowledge.

If you intend to enter theological seminaries or other institutions of religious training, you should note the theological study preparation curriculum.

General Education—If you are interested in moral and social issues, you will find 1003, 1004, 3302, 3303, 3304, 3305, and 5xxx-level ethics and political philosophy courses of value. Courses in logic (1001 and 3201) and philosophy of science (3631) may be of interest to science majors. Courses in aesthetics, philosophy of language, and history of philosophy may be of interest to nonspecialists.

B.A. MAJOR SEQUENCE

Required Preparatory Courses—Background or introductory work to prepare for major program

Major Requirements—1002 or 1102; 1001 or 3201; 3001; 3003; 3105 or 5105 or 5601; 3311 or 5311 or 5312 or 5321 or 5415

At least nine 4- or 5-cr 3xxx-5xxx philosophy courses with grades of C or higher, at least three of which are at the 5xxx level and at least four of which are completed at the University; two courses may have grades of S

Major project: obtain details from director of undergraduate studies

The major program must be approved by a faculty adviser.

MINOR SEQUENCE

Minor Requirements—Minimum of 20 3xxx-5xxx cr in philosophy

Course selections must be approved by a philosophy department faculty member.

1001f, w.s. LOGIC. (5 cr) Staff

Application of formal techniques for evaluating arguments.

1002f, w.s. INTRODUCTION TO PHILOSOPHY. (5 cr, §1102) Staff

Problems, principal methods and schools of philosophy; historical and contemporary views.

1002H. HONORS COURSE: INTRODUCTION TO PHILOSOPHY. (5 cr; prereq honors regis or #) Staff

For description, see 1002.

1003f, w.s. ETHICS. (5 cr, §1103) Staff

Problems that arise when human beings attempt to think systematically about conduct and value.

1003H. HONORS COURSE: ETHICS. (5 cr; prereq honors regis or #) Staff

For description, see 1003.

1004. INTRODUCTION TO POLITICAL PHILOSOPHY. (5 cr, §1104) Staff

Central concepts and principal theories of political philosophy.

1004H. HONORS COURSE: INTRODUCTION TO POLITICAL PHILOSOPHY. (5 cr; prereq honors regis or #) Staff

For description, see 1004.

1005. INTRODUCTION TO INDUCTIVE AND SCIENTIFIC REASONING. (5 cr) Staff

Techniques for evaluation of theories and of causal and statistical hypotheses encountered both in science and in everyday life; methods of rational decision making. Emphasis on learning to deal rationally with scientific and allegedly scientific claims.

1006. PHILOSOPHY AND PSYCHICAL RESEARCH. (5 cr) Anderson

Implications of alleged paranormal phenomena for scientific methodology and for philosophical problems concerning mind, causation, time, and survival of bodily death.

1102. INTRODUCTION TO PHILOSOPHY: INTENSIVE WRITING. (5 cr, §1002) Staff

Equal emphasis on writing and reading about philosophical problems.

1103. ETHICS: EMPHASIS ON WRITING. (5 cr, §1003) Dolan, Peterson, Wallace

Introduction to study of conduct and value with equal emphasis on writing and reading about philosophical problems and theories.

1104. INTRODUCTION TO POLITICAL PHILOSOPHY: INTENSIVE WRITING. (5 cr, §1004) Mason

Central concepts and principal theories with emphasis on writing and reading about philosophical problems and theories.

3001f, 3002w, 3003s, 3004f. GENERAL HISTORY OF WESTERN PHILOSOPHY. (5 cr per qtr) Staff

Major developments in Western philosophic thought from its beginnings among 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.

3001Hf, 3002Hw, 3003Hs, 3004Hf. HONORS COURSE: GENERAL HISTORY OF WESTERN PHILOSOPHY. (5 cr per qtr; prereq honors regis or #) Staff

For description, see 3001, 3002, 3003, 3004.

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.

Major Requirements and Course Descriptions

- 3105. INTRODUCTION TO THE THEORY OF KNOWLEDGE.** (4 cr; prereq 1001 or 3201 or #) Anderson, Dolan, Earman, Savage, Wallace
Theories and problems concerning evidence, belief, and knowledge.
- 3201f. ELEMENTS OF SYMBOLIC LOGIC I.** (5 cr, §5201) Dahl, Dolan, Hanson, Wallace
Development of a formalized language. Syntax and semantics of sentential and first-order predicate logic. Deductive systems.
- 3202w. ELEMENTS OF SYMBOLIC LOGIC II.** (5 cr, §5202; prereq 3201 or #) Anderson, Dolan, Hanson, Wallace
Further study of first-order predicate logic: identity, axiomatic development. Various metatheorems: soundness, consistency, and completeness.
- 3231. INTRODUCTION TO THE PHILOSOPHY OF LANGUAGE.** (4 cr; prereq 1001 or 3201 or 5201 or #) Anderson, Dolan, Mason, Peterson, Root, Wallace
Elementary issues concerning the nature of reference, linguistic convention, linguistic truth, translation, synonymy or the relation between language and thought.
- 3231H. HONORS COURSE: INTRODUCTION TO THE PHILOSOPHY OF LANGUAGE.** (4 cr; prereq honors regis or #)
For description, see 3231.
- 3234. PHILOSOPHY OF FEMINISM.** (4 cr; prereq #) Scheman
Theories in ethics, political and social philosophy, metaphysics, epistemology, philosophy of mind, or aesthetics viewed in light of emerging feminist criticism.
- 3302. MORAL PROBLEMS OF CONTEMPORARY SOCIETY.** (5 cr) Mason, Dahl, Dolan, Sartorius, Scheman, Terrell
Selected problems of current interest.
- 3303. ETHICS, POPULATION, AND ENVIRONMENT.** (5 cr) Sartorius
Moral and political theoretical problems associated with population and environmental policy proposals.
- 3304. LAW AND MORALITY.** (5 cr) Staff
Human personhood, legal and moral rights, and self-respect issues studied through use of major court decisions and philosophical essays. Likely topics: privacy, legal paternalism, morals enforcement, abortion, punishment, civil disobedience.
- 3305. MEDICAL ETHICS.** (5 cr) Dolan
Moral problems confronting physicians, patients, and others concerned with medical treatment, research, and public health policy. Topics include the management of death, genetic engineering, confinement and mental illness, abortion, informed consent and truth telling in physician-patient relationships, and distributive justice in the allocation of scarce medical resources. Relationships between individual decision making and institutional policies.
- 3306. ETHICS AND ENGINEERING.** (5 cr) Dahl
Ethical problems that arise in the practice of engineering, e.g., risk assessment, technology vs. public safety, conflicts of interest, whistle blowing, professionalism.
- 3311. INTRODUCTION TO ETHICAL THEORY.** (4 cr)
Nature and justification of moral judgments and moral principles; analysis of representative moral views.
- 3502. INTRODUCTION TO AESTHETICS.** (4 cr) Eaton, Gunderson
Development of aesthetic theories from Plato to Tolstoy.
- 3631. LOGIC OF SCIENTIFIC REASONING.** (4 cr, §5631; prereq 1001 or 3201) Hanson, Savage
Principles of scientific method; contemporary approaches to scientific inference.
- 3781. CONTEMPORARY EXISTENTIALISM.** (4 cr; prereq 3003 or 3004 or 5054 or #) Hopkins, Mason, Root
Major philosophical insights of one or more of the following existentialist thinkers: Heidegger, Sartre, Jaspers, Nietzsche, Kierkegaard, Camus, Merleau-Ponty.
- 3900. HONORS COURSE: UNDERGRADUATE SEMINAR.** (4 cr per qtr; prereq honors regis and 8 cr in 3xxx-5xxx philosophy courses) Staff
Topics of contemporary interest, varying from quarter to quarter.
- 3910. MAJOR SEMINAR.** (4 cr; prereq philosophy major or #)
Writing projects on varying subjects.
- 3970. DIRECTED STUDIES.** (1-5 cr per qtr; prereq #) Staff
Guided individual reading or study.
- 3980. DIRECTED INSTRUCTION.** (1-5 cr per qtr; prereq #) Staff
- 3990. HONORS COURSE: THESIS.** (4 cr per qtr; prereq sr, honors regis in philosophy, GPA of 3.50 or better in previous work)
Individual assignments carried out under faculty direction.
- 5003. AMERICAN PHILOSOPHY.** (4 cr; prereq 1002 or 1 qtr history of philosophy or #; offered when feasible)
Selected American philosophers such as Edwards, Peirce, James, Dewey, Lewis.

- 5004. SOCRATIC DIALOGUES.** (4 cr; prereq 3001 or #) Lewis, Peterson
Early Socratic dialogues of Plato; Socratic method and paradoxes.
- 5005. PLATO.** (4 cr; prereq 3001 or #) Hopkins, Peterson
Major dialogues.
- 5008. ARISTOTLE.** (4 cr; prereq 1 qtr history of philosophy or #) Dahl, Peterson
Passages from major works.
- 5012. PLATO AND ARISTOTLE.** (4 cr; prereq 3001 or #; offered when feasible) Dahl, Peterson
Comparative presentation of metaphysical and epistemological views; problems of universals.
- 5020. PROBLEMS IN POST-ARISTOTELIAN PHILOSOPHY.** (4 cr per qtr, §C1as 5020; prereq 3001 or 3002 or 5008 or 5012 or C1as 5085 or 5086 or #)
Problems in philosophy after Aristotle and before Augustine. Topics may include Stoics, Epicureans, Cynics, Sceptics, neo-Pythagoreans, middle and late Platonists.
- 5021. MEDIEVAL PHILOSOPHY.** (4 cr; prereq 3001 or 3002 or #) Hopkins, Terrell
Selected topics in writings of Augustine, Anselm, Aquinas, Scotus, and Ockham.
- 5033. RATIONALISM.** (4 cr; prereq 3003 or #; offered when feasible) Lewis
Descartes, Spinoza, and Leibniz.
- 5034. DESCARTES.** (4 cr; prereq 3003 or #) Lewis, Root
Philosophical works.
- 5035. SPINOZA.** (4 cr; prereq 3003 or #; offered when feasible) Lewis, Scheman
The *Ethics*.
- 5036. LEIBNIZ.** (4 cr; prereq 3003 or #; offered when feasible) Dahl, Earman, Lewis, Wallace
Selected philosophical writings.
- 5041. LOCKE.** (4 cr; prereq 3003 or #) Gunderson, Lewis, Terrell
The *Essay Concerning Human Understanding*.
- 5042. BERKELEY.** (4 cr; prereq 3003 or #) Lewis, Terrell
Philosophical works.
- 5043. HUME.** (4 cr; prereq 3003 or #) Terrell
Treatise and Inquiry.
- 5044. LATER EMPIRICISM.** (4 cr; prereq 3003 or #; offered when feasible) Terrell
Empiricist traditions, principally in Great Britain, from Hume to Russell.
- 5046. KANT.** (4 cr; prereq 3003 or 3004 or #) Dahl, Mason
Passages from major works.
- 5052. BRENTANO.** (4 cr; prereq 3003 or #; offered when feasible) Terrell
Philosophy of Franz Brentano; significance in background of contemporary philosophy.
- 5054. KIERKEGAARD.** (4 cr; prereq 1 qtr history of philosophy or #) Mason
Major philosophical works.
- 5055. SOCIAL AND POLITICAL PHILOSOPHY OF KARL MARX.** (4 cr; prereq 3004 or #) Hopkins
Central topics in Marx's social and political philosophy: philosophy of history, alienation, emancipation, critique of ethical and political ideas, death of the state. Marx's criticism of traditional epistemology and methodology; his epistemological and methodological assumptions.
- 5068. LATER PHILOSOPHY OF WITTGENSTEIN.** (4 cr; prereq 3003 or 5231 or #) Mason, Scheman
Philosophical Investigations.
- 5076. THOREAU.** (4 cr; prereq 4 cr in philosophy or #) Dolan
Walden and selected essays.
- 5101. METAPHYSICS.** (4 cr; prereq 1 qtr history of philosophy or #) Dolan, Earman, Wallace
Philosophical theories concerning the nature of reality.
- 5105. THEORY OF KNOWLEDGE.** (4 cr; prereq 1001 or 3201 or #) Dolan, Earman, Savage
Problems and concepts involved in the explanation and justification of claims to knowledge.
- 5201. ELEMENTS OF SYMBOLIC LOGIC I.** (5 cr, §3201) Dahl, Dolan, Hanson, Wallace
For description, see 3201.
- 5202. ELEMENTS OF SYMBOLIC LOGIC II.** (5 cr, §3202; prereq 3201 or 5201 or #) Anderson, Dolan, Hanson, Wallace
For description, see 3202.
- 5203. INTERMEDIATE SYMBOLIC LOGIC.** (4 cr; prereq 3202 or 5202) Anderson, Hanson, Wallace
Axiomatic development of first-order predicate logic and first-order number theory; proofs of limitative results such as undecidability of predicate logic and incompleteness of number theory. Significance of limitative results.

Major Requirements and Course Descriptions

- 5211. NONCLASSICAL LOGICS.** (4 cr; prereq 3202 or 5202 or Math 5162 or #) Anderson, Hanson
Axiomatic and semantic treatment of propositional and predicate modal logics; problems of interpreting modal languages; problem of formalizing the notion of entailment.
- 5221. PHILOSOPHY OF LOGIC.** (4 cr; prereq 3202 or 5202 or Math 5162 or #) Anderson, Hanson, Wallace
Logic and reality; relation of logic to mathematics; theory of descriptions, paradoxes; identity.
- 5231. PHILOSOPHY OF LANGUAGE.** (4 cr; prereq 1001 or 3201 or 5201 or #) Anderson, Dolan, Mason, Peterson, Root, Wallace
Central topics. Theories of reference, linguistic truth, relation of language and thought, translation and synonymy.
- 5232. TOPICS IN THE PHILOSOPHY OF LANGUAGE.** (4 cr; prereq 3231 or 5231 or #) Anderson, Dolan, Mason, Peterson, Root, Wallace
Detailed study of topics surveyed in 5231 or other topics central to the philosophy of language.
- 5301. HISTORY OF ETHICS: BRITISH MORALISTS.** (4 cr; prereq 1003 or 1 qtr history of philosophy or #) Terrell
Ethical theory in Great Britain from 17th through 19th centuries.
- 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 5301). Specific topics announced in *Class Schedule*.
- 5311. ETHICAL THEORY.** (4 cr; prereq 1003 or #) Dahl, Mason, Sartorius, Wallace
Representative theories on the nature and justification of moral judgments.
- 5312. FACTS, VALUES, AND THE OBJECTIVITY OF ETHICS.** (4 cr; prereq 1003 or #) Dahl, Mason, Scheman
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.
- 5321. THEORIES OF JUSTICE.** (4 cr; prereq 1003 or 1004 or 5311 or #) Mason, Sartorius
Philosophical accounts of the concept and principles of justice.
- 5324. ETHICS AND EDUCATION.** (2-4 cr; prereq 8 or in philosophy of education or #) Terrell
Recent studies relating ethical theory and philosophy of education; theories of moral development and moral education.
- 5414. POLITICAL PHILOSOPHY.** (4 cr; prereq 1004 or #) Dolan, Sartorius
Central concepts and principal theories of political philosophy.
- 5415. PHILOSOPHY OF LAW.** (4 cr; prereq 1003 or 1004 or 3302 or social science major or #) Sartorius
Analytical accounts of law and legal obligation.
- 5501. PRINCIPLES OF AESTHETICS.** (4 cr; prereq 3502 or #) Eaton, Gunderson
Standards of evaluation; aesthetic experience; representation, meaning.
- 5512. PHILOSOPHY AND LITERARY CRITICISM.** (4 cr; prereq 4 cr in philosophy or #) Eaton, Gunderson, Scheman, Wallace
Goals and aims of literary criticism; the problems that arise in attempting to justify principles of criticism.
- 5521. PHILOSOPHY OF RELIGION.** (4 cr; prereq 8 or in philosophy) Anderson, Hopkins
Grounds and sanctions of religion, according to various philosophies.
- 5601. PHILOSOPHY OF SCIENCE.** (4 cr; prereq 1001 or 3201 or #) Earman
Meaning, methods, and implications of modern science. Basic concepts, presuppositions, and procedures.
- 5602. DETERMINISM AND CAUSATION.** (4 cr; prereq 1001 or #) Earman
Attempts to analyze the concepts of determinism and causation and their importance for science and human affairs.
- 5611. PHILOSOPHY OF THE SOCIAL SCIENCES I.** (4 cr; prereq 12 or in philosophy or social sciences or #) Root, Sartorius, Scheman
Criteria for describing and explaining human actions; problems of objectivity, reduction, freedom.
- 5612. PHILOSOPHY OF THE SOCIAL SCIENCES II.** (4 cr; prereq 5611; offered when feasible) Scheman
Further study of certain topics introduced in 5611; analysis of models and measurements.
- 5613. RELATIVISM.** (4 cr; prereq 1002 or #) Mason, Root, Scheman, Wallace
Attempts of philosophers, social scientists, and literature students to understand aspects of human life and discourse by appealing to alleged relativities of concepts and institutions to culture, language, world view, or conceptual scheme.
- 5615. MINDS, BODIES, AND MACHINES.** (4 cr; prereq 4 or in philosophy or #) Gunderson
Philosophical relevance of cybernetics, artificial intelligence, and computer simulation.
- 5621. PHILOSOPHY OF HISTORY.** (4 cr; prereq 8 or in philosophy or 12 or in history) Hopkins, Mason
Philosophical interpretations of history, philosophical aspects of historical methods.
- 5631. LOGIC OF SCIENTIFIC REASONING.** (4 cr, §3631; prereq 1001 or 3201) Hanson
For description, see 3631.

- 5701. SURVEY OF CONTEMPORARY PHILOSOPHY.** (4 cr; prereq 3003 or #) Staff
Current systematic and critical philosophies as represented by principal exponents.
- 5720, 5730, 5740. STUDIES IN CONTEMPORARY PHILOSOPHERS.** (4 cr per qtr; prereq 3003 or #) Staff
Topics specified in *Class Schedule*.
- 5760, 5770. SELECTED TOPICS IN PHILOSOPHY.** (4 cr per qtr; prereq 4 3xxx-5xxx or in philosophy or #) Staff
Philosophical problems of contemporary interest. Specific topics announced in *Class Schedule*.
- 5781. CONTEMPORARY EXISTENTIALISM.** (4 cr; prereq 3003 or 3004 or 5054 or #) Hopkins, Mason
Writings of existentialist philosophers since Kierkegaard.
- 5911. PHILOSOPHY IN LITERATURE.** (4 cr; prereq major or concentration in philosophy or literature, or #) Eaton, Root, Scheman, Terrell, Wallace
Basic philosophical ideas in civilization as expressed in major works of literature.
- 5970. DIRECTED STUDIES.** (1-5 or per qtr; prereq #) Staff
Guided individual reading or study.
- 5990. DIRECTED RESEARCH.** (1-5 or per qtr; prereq #) Staff

Physics (Phys)

Institute of Technology

Staff—Head, Walter Weyhmann, 325 Physics; *Director of Graduate Studies,* Morton Hamermesh, 314 Physics; *Director of Undergraduate Studies,* Robert O. Pepin, 148 Physics; *Administrator,* David Holets, 311 Physics

Regents' Professor Emeritus: Nier

Professors: Bayman, Blair, Broadhurst, Cahill, Campbell, Courant, Dehnhard, G. Freier, P. Freier, Gasiorowicz, Geffen, Giese, Goldman, Greenlees, Halley, Hamermesh, Hintz, Hobbie, Johnson, Kellogg, Mantis, Pepin, Ruddick, Stuewer, Suura, Tang, Waddington, Weyhmann, Winckler, Zimmermann

Associate Professors: Ellis, Jones, Marquit, Marshak, Mauersberger, Peterson, Roll, Shapiro

Assistant Professors: Dahlberg, Dasgupta, Heller, Huang, Kapusta, Lysak, Rudaz, Shupe, Valls

Adjunct Faculty—Erickson (Augsburg College)

Physics, an exact science based on precise measurement, is concerned with the properties of matter and the laws that describe its behavior. Its objective is to understand how to formulate mathematical relationships between measured quantities.

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, secondary school teaching, or professional study in law, business, or medicine.

Prerequisites for any physics course may be waived with permission of the department or instructor. Students who have earned credit in 1001-1002, 1041-1042, 1061, 1104-1105-1106, or 1271-1281-1291 normally will not receive credit for corresponding courses in other physics sequences. Credit for nonlaboratory physics courses may be earned through special examination.

General Education—A detailed comparison of beginning physics courses is available in 148 Physics. Courses not requiring a calculus background are 1001 with lab 1005, 1002, 1041-1042 with labs 1045-1046, 1061 with lab 1065, 1071 with lab 1075, 3801, 5091. Premed courses are 1104-1105-1106 with labs 1107-1108-1109 or 1271-1281-1291 with labs 1275-1285-1295. Courses requiring calculus are 1271-1281-1291 with labs 1275-1285-1295. In order to satisfy the group B laboratory requirement by taking one of the above courses, you must complete the laboratory course associated with the lecture course.

Major Requirements and Course Descriptions

B.A. MAJOR SEQUENCE

Required Preparatory Courses—1271-1281-1291, 1275-1285-1295; Math 1211-1221-1231 or 1511-1521-1531 or 1611-1621 (more calculus is strongly recommended to gain firm background for required 3xxx and 5xxx physics courses)

Major Requirements—3011, 3511-3512-3513, 5021-5023-5024, 5121, 5123

Additional 5xxx physics or astronomy courses to total 40 cr

Majors are urged to take additional 5xxx physics, mathematics, or computer science courses. If you are planning to pursue graduate work in physics, you are advised to take 5022 and 5101-5102.

Information about requirements for students preparing for majors in physical science or for minors in physics through the College of Education is presented in the *College of Education Bulletin*.

1001 (formerly 1004). THE PHYSICAL WORLD. (4 cr, §any other physics courses except 1061; 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.

1002. THE PHYSICAL WORLD IN TRANSITION. (4 cr, §any other introductory physics courses except 1001, 1061; prereq 1001; 4 class hrs per wk)

Principles underlying recent discoveries in physics; their applications and potential applications to modern technology, and problems that may arise with these applications. Nuclear energy, radiology, lasers, solid-state physics, microelectronics, computers, superfluids and superconductors, robots, space physics, cosmology.

1005. PHYSICS LABORATORY. (1 cr; S-N only; prereq 1001 or §1001; 2 lab hrs per wk)

Laboratory experiments offered with 1001.

1041-1042 (formerly 1032-1031). INTRODUCTORY PHYSICS. (4 cr per qtr, §any other introductory physics courses; prereq high school algebra and plane geometry; 4 class hrs per wk)

Lectures and problems sessions. Primarily for students interested in topics useful in technical areas. Mechanics, fluids and gases, heat, waves, electricity and magnetism, light, optical instruments, atoms and spectra, nuclei, radioactivity. Associated labs are 1045-1046.

1045-1046. INTRODUCTORY PHYSICS LABORATORY (formerly 1036-1035). (1 cr per qtr; S-N only; prereq 1041 or §1041 for 1045...1042 or §1042 for 1046; 2 lab hrs per wk)

1061. PHYSICS OF HUMAN MOTION. (4 cr; prereq §1065, 1 yr high school algebra; 3 lect-discussion hrs per wk)

Classical mechanics applied to motion of human bodies in work, athletics, dance. Physics of muscles. Eight labs, some in gym. Associated lab is 1065.

1065. HUMAN MOTION LABORATORY. (1 cr; S-N only; prereq §1061; 2 lab hrs per wk)

Human motion experiments offered with 1061.

1071. INTRODUCTORY METEOROLOGY. (4 cr; prereq high school algebra; 4 lect hrs per wk)

Physics of atmospheric processes. Clouds, fronts, and cyclones. Weather forecasting. Human influence on the atmosphere. Associated lab is 1075.

1075. INTRODUCTORY METEOROLOGY LABORATORY. (1 cr; S-N only; prereq 1071 or §1071; 2 lab hrs per wk)

Field experiments offered with 1071.

1104-1105-1106. GENERAL PHYSICS. (4 cr per qtr; primarily for premed and biological science students; prereq Math 1142 and high school trigonometry or Math 1008 for 1104; 4 lect, 1 quiz hrs per wk)

1104: Mechanics. 1105: Heat and electricity. 1106: Magnetism, sound, light, modern physics. Associated labs are 1107-1108-1109.

1107-1108-1109. GENERAL PHYSICS LABORATORY. (1 or per qtr; S-N only; prereq 1104-1105-1106 or §1104-1105-1106; 2 lab hrs per wk)

Laboratory exercises in general physics offered with 1104-1105-1106.

1271-1281-1291. GENERAL PHYSICS. (4 cr per qtr; prereq completion of or concurrent regis in Math 1221 or 1521 or 1621 or equiv for 1271...completion of or concurrent regis in Math 1231 or 1531 or 1621 or equiv for 1281; may be taken with or without labs 1275-1285-1295; 3 lect, 1 problem, and 1 quiz hrs per wk)

Calculus-level general physics course. 1271: Mechanics. 1281: Heat, electricity. 1291: Magnetism, optics.

1275-1285-1295. GENERAL PHYSICS LABORATORY. (1 or per qtr; S-N only; prereq 1271-1281-1291 or §1271-1281-1291; 2 lab hrs per wk)

Laboratory exercises in general physics offered with 1271-1281-1291.

- 3011. OSCILLATIONS.** (4 cr; prereq 1291, Math 3221 or equiv; 3 lect and 1 problem hrs per wk)
Physical and mathematical study of harmonic oscillator. Transient behavior; resonance; impedance; mechanical and electrical examples; coupled systems; traveling and standing waves in one dimension; Fourier series, interference.
- 3015. LABORATORY IN OSCILLATIONS AND WAVES.** (1 cr; prereq 3011 or §3011; 3 lab hrs per wk)
Laboratory exercises in oscillations and waves.
- 3201. THERMODYNAMICS.** (4 cr; prereq 1281 or #; 3 lect and 1 problem hrs per wk)
The laws of thermodynamics, entropy, and probability; applications to simple systems, phase equilibrium, chemical potential.
- 3501. MODERN PHYSICS.** (4 cr, §3511-3512-3513; prereq 1291 or 1106; 3 lect and 1 problem hrs per wk)
Descriptive course. Quantum mechanics, hydrogen atom, multielectron atoms, molecular structure, quantum statistics, thermal radiation, solid state physics, nuclear physics.
- 3511-3512-3513. MODERN PHYSICS.** (4 cr per qtr; prereq 1291 or 1106, Math 1231 for 3511...Math 3221 or 3066 or equiv for 3512; 3 lect and 1 problem hrs per wk)
Introduction to special relativity, statistical physics, quantum mechanics; selected topics in atomic, molecular, solid state, nuclear, and particle physics phenomena.
- 3515. PHYSICS LABORATORY.** (1 cr; prereq 3501 or §3501 or 3512 or §3512; 3 lab hrs per wk)
Laboratory experiments in atomic, solid state, and nuclear physics.
- 3801. INTRODUCTION TO THE PHYSICS OF PHOTOGRAPHY.** (5 cr; prereq high school algebra, some photographic experience; 3 lect, 1 discussion, and 2 lab hrs per wk)
Principles of optics, electricity applied to photographic processes. Image formation; intensity, color of illumination; exposure of photographic materials. Technical literature applied to pictorial photography or tone reproduction; line reproduction and duplication.
- 3970. DIRECTED STUDIES.** (1-5 cr per qtr; prereq #, Δ)
Guided individual reading or study in areas arranged by student and faculty member.
- 5021-5022. INTRODUCTION TO ANALYTIC MECHANICS.** (4 cr per qtr; prereq 3011, Math 3231 or equiv; 3 lect and 1 problem hrs per wk)
Analytic course in Newtonian mechanics. Vectors and vector operators; angular momentum; central force problem; system of particles; tensors; rigid bodies; moving coordinate systems; continuous media; Lagrange equations. Mathematics beyond prerequisites developed as required.
- 5023-5024. INTRODUCTION TO ELECTRIC AND MAGNETIC FIELDS.** (4 cr per qtr; prereq 3011, Math 3231 or equiv; 3 lect and 1 problem hrs per wk)
Classical theory of electric and magnetic fields making free use of vector algebra and vector calculus. Maxwell's equations for free space and material media. Wave solutions.
- 5025. SPECIAL TOPICS IN ELECTRIC AND MAGNETIC FIELDS.** (4 cr; prereq 5024; 3 lect and 1 problem hrs per wk)
Topics selected by instructor.
- 5031-5032-5033. TOPICS IN MATHEMATICAL PHYSICS.** (4 cr per qtr; prereq two 5xxx mathematics courses; 3 lect and 1 problem hrs per wk)
Mathematical techniques for physics; application of mathematical methods to physical problems.
- 5051-5052-5053. CLASSICAL PHYSICS.** (4 cr per qtr; prereq 5022 and 5024, advanced calculus or #; 3 lect and 1 problem hrs per wk)
Classical mechanics, special relativity, and classical electrodynamics. Applications of advanced mathematical techniques.
- 5090. PHYSICS OF MUSICAL INSTRUMENTS.** (3 cr [no cr for physics grad students; may be repeated for cr with #], §MuEd 5750; prereq #)
Seminar: physical characteristics, processes in playing musical instruments. Nonmathematical; designed to improve performance and teaching skills. Electronic methods to sense and display cues that assist performance and teaching.
- 5091. PHYSICAL ACOUSTICS OF MUSIC.** (5 cr [no cr for physics grad students]; prereq 1 yr high school algebra and jr or sr or grad student in music or music education or equiv background in music theory and practice, as certified by instructor; 3 lect, 1 discussion, 3 lab hrs per wk)
Principles of physics and acoustics related to musical sounds, musical instruments, and the electronic production and reproduction of musical sounds. Laboratory.
- 5101-5102. INTRODUCTION TO QUANTUM MECHANICS.** (4 cr per qtr; prereq 3512; 3 lect and 1 problem hrs per wk)
Mathematical techniques of quantum mechanics. Wave packets; Schrödinger equation, angular momentum; radial equation; spin, perturbation theory; collision theory.
- 5121. METHODS OF EXPERIMENTAL PHYSICS: I.** (5 cr; prereq 3513 or #...knowledge of FORTRAN programming desirable; 3 lect and 4 lab hrs per wk)
Contemporary techniques. Includes probability and errors, introduction to analog and digital electronics, experimental strategy, and introduction to computer-based data acquisition and experimental control.

Major Requirements and Course Descriptions

- 5122. METHODS OF EXPERIMENTAL PHYSICS: II.** (4 or; prereq 5121 or #; 2 lect and 6 lab hrs per wk)
Contemporary techniques. Includes applications of Fourier transforms, signal averaging and phase-lock detectors, high-vacuum techniques, magnet and charged particle beam design. Laboratory: problems involving the use of microcomputers for data acquisition and experimental control.
- 5123. METHODS OF EXPERIMENTAL PHYSICS: III.** (4 or; prereq 5122 or #; 8 lab hrs per wk)
Contemporary techniques. Laboratory: choice of experimental projects in low temperature, solid state, nuclear, elementary particle, and cosmic ray physics.
- 5124 (formerly 3124). EXPERIMENTAL PROJECT.** (Cr ar; prereq 5123, #)
Research project in area of contemporary interest in physics. Project must be approved by faculty coordinator prior to registration.
- 5151-5152-5153. QUANTUM MECHANICS.** (4 or per qtr; prereq 5102 or equiv, advanced calculus or #; 3 lect and 1 problem hrs per wk)
Development from first principles. Schrödinger equation, angular momentum, scattering, matrix representations, spin, approximation methods, interaction with electromagnetic field, identical particles, applications to atomic systems.
- 5162. INTRODUCTION TO PLASMA PHYSICS.** (4 or; prereq 5022 and 5024 or #)
Magnetohydrodynamics and properties of collisionless plasmas, applications to magnetic field of earth and sun and plasma confinement. Transport phenomena and effects of collisions.
- 5201-5202. THERMAL AND STATISTICAL PHYSICS.** (4 or per qtr; prereq 3513 or equiv; 4 lect hrs per wk)
5201: Thermodynamics, statistical mechanics. 5202: Applications of thermodynamics and statistical mechanics, kinetic theory, fluctuations, transport theory.
- 5211. INTRODUCTORY SOLID STATE PHYSICS.** (4 or; prereq 5101, 5202 or equiv; 4 lect hrs per wk)
Diffraction of waves in solids; electron band structure; crystal binding and vibrations; optical, dielectric, and magnetic properties of solids.
- 5231-5232-5233. INTRODUCTION TO SOLID STATE PHYSICS.** (4 or per qtr; for grad and advanced undergrad students in physics, science, and engineering; 4 lect hrs per wk)
5231: Crystal structure and binding; diffraction; phonons; thermal and dielectric properties of insulators. 5232: Free-electron model; band structure; semiconductors; diamagnetism; paramagnetism; ferromagnetism; antiferromagnetism. 5233: Optical phenomena, lasers; superconductivity; surface properties; ferroelectricity.
- 5301. INTRODUCTION TO NUCLEAR PHYSICS.** (4 or; prereq 5102 or equiv; 3 lect and 1 problem hrs per wk)
Static properties and dynamic processes of atomic nuclei. Survey for nonspecialists; first course for those intending to specialize in nuclear physics.
- 5351. EXPERIMENTAL PARTICLE PHYSICS.** (4 or; prereq 3513; 3 lect hrs per wk and field trips)
Interactions of particles and photons with matter and radiation. Detectors for particles and photons used in elementary particle, nuclear, and cosmic ray physics.
- 5371. INTRODUCTION TO ELEMENTARY PARTICLE PHYSICS.** (4 or; prereq 5102 or #)
Relativistic kinematics; mass, spin, isospin, and strangeness of elementary particles; SU3 classification and the quark model; particle reactions and decays; experimental methods of detection and analysis.
- 5401. INTRODUCTION TO CONTEMPORARY PROBLEMS IN COSMIC RAY AND SPACE PHYSICS.** (4 or; primarily for students specializing in other branches of physics; prereq #; offered alt yrs)
Cosmic rays: characteristics, motion in the interplanetary and interstellar medium. X-rays and radio astronomy.
- 5441. INTRODUCTORY DYNAMIC METEOROLOGY I.** (5 cr; prereq 1291 and Math 3231 or 5602 or #, 3 lect and 3 lab hrs per wk)
Fluid dynamics of large-scale weather systems; mathematical introduction to quasi-geostrophic model used in numerical weather prediction. Concurrent laboratory study of weather charts to illustrate application of theory.
- 5442. INTRODUCTORY DYNAMIC METEOROLOGY II.** (4 or; prereq 5441 or #)
Energetics and general circulation of the atmosphere.
- 5451. CLOUD PHYSICS.** (3 or; prereq Math 3211 or equiv, 1 yr general physics; 3 lect hrs per wk)
Composition of the atmosphere, past, present, and future. Thermodynamics of atmosphere with condensable water; properties and growth of drops and ice crystals; particles in the atmosphere.
- 5452. CLOUD SYSTEMS.** (3 or; prereq Math 3211 or equiv, 1 yr general physics; 3 lect hrs per wk)
Circulation, energy balance of atmosphere. Radar techniques for analyzing cloud systems. Cloud structure and motion.
- 5453. ELECTRICAL PROPERTIES OF CLOUDS.** (3 cr; prereq Math 3211 or equiv, 1 yr general physics; 3 lect hrs per wk)
Structure, thermodynamics, and electrical properties of water and ice. Ions in the atmosphere. Generation of charge and its effects on cloud processes. Generation of lightning and properties of lightning discharges.
- 5461. PHYSICS AND CHEMISTRY OF THE EARTH'S UPPER ATMOSPHERE.** (4 cr; prereq general physics, calculus)
Survey of atmosphere above 15 km; physics and chemistry of the stratosphere, mesosphere, and thermosphere; temperature and density profiles; major and minor constituents and their distributions; aspects of pollutants; reactions and rates; global variation of constituents; the energy budget of the atmosphere.

- 5551. TOPICS IN PHYSICS FOR BIOLOGY AND MEDICINE: MECHANICS AND MOLECULAR PHYSICS.** (5 or; prereq general physics and calculus)
Statics (forces in bones and joints). Graphical analysis. Statistical physics (entropy, reversibility, Boltzmann factor and Nernst equation, Brownian movement, free energy). Diffusion, bulk flow, and osmosis.
- 5552. TOPICS IN PHYSICS FOR BIOLOGY AND MEDICINE: ELECTRICITY AND SIGNALS.** (5 or; prereq general physics and calculus)
Electricity, circuits (electrocardiogram, networks, nerve conduction); transducers, amplifiers; oscillators; feedback and control; signal analysis (Fourier analysis, correlation functions, power spectra).
- 5553. TOPICS IN PHYSICS FOR BIOLOGY AND MEDICINE: LIGHT, ATOMS, AND NUCLEI.** (5 or; prereq general physics, calculus)
Atoms (dispersion, absorption, spectra, polarized light). X-rays (production, absorption, dosimetry). Nuclei (nuclear size, mass, decay).
- 5801. MODERN OPTICS.** (4 or; prereq 5024 or #; 4 lect hrs per wk)
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.
- 5805. CONTEMPORARY OPTICS.** (4 or; prereq #; 3 lect and 1 problem hrs per wk)
Theory of lasers and their applications in holography, nonlinear optics, etc. Nonlinear optics. Optics of anisotropic media. Theory of image formation and spatial filtering. Properties of optical detectors.
- 5924. HISTORY OF 19TH-CENTURY PHYSICS.** (4 or, §HSci 5924; prereq general physics or #)
Conceptual developments in physics in 19th century (Young, Fresnel, Oersted, Ampère, Faraday, MacCullagh, Maxwell, Hertz, Lorentz, Lavoisier, Rumford, Mayer, Joule, Helmholtz, Carnot, Clausius, Kelvin, Boltzmann, Mach, others). Relationships to social, philosophical, and theological influences.
- 5925. HISTORY OF 20TH-CENTURY PHYSICS.** (4 or, §HSci 5925; prereq general physics or #)
Conceptual developments in relativity (Michelson, Lorentz, Poincaré, Einstein, others), quantum mechanics (Planck, Einstein, Rutherford, Bohr, Sommerfeld, Ehrenfest, Pauli, Millikan, Compton, Heisenberg, de Broglie, Schrödinger, Born, others), and nuclear physics (Chadwick, Gamow, Fermi, others). Relationships to social, philosophical, and theological influences.
- 5950. SEMINAR.** (Cr ar; primarily for sr physics majors, Δ)
- 5970. DIRECTED STUDIES.** (1-5 or; prereq #, Δ)
Independent, directed study in areas arranged by the student and a faculty member.
- 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—Chair and Director of Graduate Studies, Eugene Grim, 6-255 Millard Hall; **Director of Undergraduate Studies,** Gordon Kepner, 6-255 Millard Hall

Professors: Bacaner, Bloedel, Cavert, Fox, Grim, Harvey, Johnson, Levitt, Lifson, Meyer, Oppenheimer, Poppele, Purple, Terzuolo, Zanjani

Associate Professors: Knox, J. S. Lee, Y. C. P. Lee, Soechting, Wangenstein

Assistant Professors: Anderson, Fohlmeister, Kepner, H. C. Lee, Stish

Instructors and Lecturers: Blackshear, Bloom, Kronenberg (lecturer), Love (lecturer), Martinson (lecturer), Michels (lecturer)

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, is acceptable for group B.

Major Requirements and Course Descriptions

B.A. MAJOR SEQUENCE

Required Preparatory Courses—One year each of college chemistry, physics, and mathematics (through integral calculus)

Major Requirements—3055, 3056; 20 3xxx-5xxx cr in approved courses from related fields such as mathematics, physics, and chemistry

- 1001f. HUMAN PHYSIOLOGY.** (4 cr; not open to health science students; prereq high school biology, high school chemistry or #; 3 lect, 2 lab-dem hrs per wk) Kepner
Human organ systems, normal and pathological functions, feedback regulation and control. Applications to everyday aspects of body function and health.
- 1002w. HUMAN PHYSIOLOGY.** (4 cr; introductory survey for allied health sciences; prereq 1 qtr biology, 1 qtr chemistry, human anatomy or #; 3 lect, 2 dem hrs per wk) Blackshear
- 3051w. HUMAN PHYSIOLOGY.** (5 cr; primarily for nursing and physical therapy students; prereq 1 yr chemistry, biology; 4 lect, 2 dem hrs per wk) Love
- 3052f, 3053w. PRINCIPLES OF PHYSIOLOGY.** (3 cr per qtr; prereq 1 yr each college chemistry, physics, mathematics through integral calculus) Johnson
- 3055f, 3056w. PRINCIPLES OF PHYSIOLOGY.** (5 cr per qtr; prereq 1 yr each college chemistry, physics, mathematics through integral calculus) Johnson
- 3070f. NEUROPHYSIOLOGY.** (2 cr; primarily for pharmacy students; prereq biochemistry, human or mammalian anatomy; begins 7th wk of qtr) Staff
- 3071w. HUMAN PHYSIOLOGY.** (5 cr; primarily for pharmacy students; prereq 3070) Staff
- 3091. HONORS COURSE: READINGS IN PHYSIOLOGY.** (Cr and hrs ar [may be repeated]; open to honors candidates in physiology only) Staff
Selected topics; written or oral reviews prepared and discussed on tutorial basis.
- 3092. HONORS COURSE: PROBLEMS IN PHYSIOLOGY.** (Cr and hrs ar [may be repeated]; open to honors candidates in physiology only) Staff
Selected laboratory problems; written reports.
- 3970. DIRECTED STUDIES.** (Cr ar; prereq #, Δ) Staff
Guided individual reading and study on topics not covered in other courses.
- 5094f-5095w. HUMAN PHYSIOLOGY.** (3 cr per qtr; primarily for grad nursing students; prereq biochemistry and human or mammalian anatomy; 3 lect hrs per wk) Kepner, Poppele
- 5103f. GENERAL PHYSIOLOGY.** (3 cr; prereq physical chemistry, #; offered even yrs only) Grim, Johnson, Kepner, Levitt, Lifson
Mechanisms of membrane transport and energy transformation in cells, tissues, and organisms.
- 5104w. NEUROPHYSIOLOGY.** (4 cr; prereq neuroanatomy, #; offered odd yrs only) Knox, Poppele, Purple, Terzuolo
- 5105s. CARDIOVASCULAR PHYSIOLOGY.** (4 cr; prereq #; offered odd yrs only) Bacaner, Cavert, Fox, Johnson
- 5106f. RESPIRATORY PHYSIOLOGY.** (3 or 4 cr [4-cr regis includes lab and is intended for physiology grad students only]; prereq #; offered odd yrs only) Kronenberg, Wangersteen
- 5107w. ALIMENTARY PHYSIOLOGY.** (3 cr; prereq #; offered even yrs only) Grim, Lifson
- 5108a. NEPHROLOGY.** (4 cr; prereq #; offered even yrs only) Harvey
- 5110w-5111s. HUMAN PHYSIOLOGY.** (5/6 cr; primarily for Phase A3 and A4 med students; prereq anatomy, biochemistry, 5110 for 5111) Staff
- 5113f,w,s. PROBLEMS IN PHYSIOLOGY.** (Cr and hrs ar; prereq #) Staff
Topics assigned for readings or laboratory study; conferences.
- 5116s. BIOPHYSICAL APPROACHES TO PHYSIOLOGY.** (4 cr; prereq 3055 or #; 2 lect, 2 conf hrs per wk) Kepner
Membrane permeability and transport. Detailed study of fundamental and classic research papers that provide the physical-chemical foundations for these concepts.

POLISH

See Russian and East European Studies.

Political Science (Pol)

Staff — *Chair*, W. Phillips Shively, 1414 Social Sciences Building; *Director of Undergraduate Studies*, Charles H. Backstrom, 1380 Social Sciences Building; *Undergraduate Advisers*: 1482 Social Sciences Building

Regents' Professor: Turner

Professors: Backstrom, Benjamin, Flanigan, Fogelman, Holt, Hopmann, Krislov, Scott, Shively, Sorauf, Sullivan, Wynia

Associate Professors: Ball, Duvall, Eyestone, Gray, Job, Kvavik, Nimitz, Shaw, Walcott

Assistant Professors: Berkowitz, Dietz, Olson, Sampson, Simon

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, and the principal terms and concepts of political science. Courses at 3xxx and 5xxx levels, 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.

Undergraduate Seminars, Fieldwork, Internships, and Satellite Courses — Undergraduate advisers can provide detailed information about special study opportunities offered by the department:

Three-credit 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.

A maximum of eight elective credits may be completed in fieldwork and internships.

In two-credit "satellite" courses (1010), which are offered in conjunction with 1xxx courses, students examine specialized topics related to the concerns of the "parent" courses. Topics and instructors are announced before and during the first week of regular course meetings; only students already enrolled in the parent courses will be admitted. Enrollment in each course is limited to 15.

For the Nonmajor—All political science courses with the exception of honors courses, are open to nonmajors on A-N 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 appropriately considered general in nature, and many are elected by nonmajors.

B.A. MAJOR SEQUENCE

Major Requirements—1001, 3051, and one of the following: 1025, 1026, 1054, 1061

At least 39 cr in 3xxx and 5xxx political science courses (including 3051), taken on A-N grading and with grades of C or better. Of the required 3xxx and 5xxx work, at least two courses must be from the political theory, comparative government and politics, or international relations subfields, and at least two from the politics and behavior, American governmental systems and processes, or public law subfields. No more than four courses may be taken in any one field.

For information on requirements for the major project, contact the undergraduate advising office, 1462 Social Sciences Building.

Interested students should refer to the International Relations section for the major in that area.

Students ready to declare a major (or double major) should contact the undergraduate advising office, where staff advisers, and a faculty adviser assigned at this time, will help in the selection of course work appropriate to educational and career objectives.

Major Requirements and Course Descriptions

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, fieldwork, and independent or directed study cannot be used to fulfill minor requirements.

Students considering a minor should consult an adviser in 1482 Social Sciences Building about the proposed program and should obtain approval of the director of undergraduate studies.

GENERAL

- 1001. AMERICAN GOVERNMENT AND POLITICS.** (5 cr) Staff
Principles, organization, processes, functions of government, and the interplay of political forces in the United States. Attention throughout to current issues.
- 1010. SATELLITE SEMINAR.** (2 cr per qtr; prereq #)
Selected topics in political science, to be determined by instructor. Students must be registered in an appropriate 1xxx political science course. Such registration entitles students to apply for registration in a 1010 seminar related to that course. Seminar offerings are announced prior to and during the first week of the quarter.
- 1025. WORLD POLITICS.** (4 cr) Duvall, Hopmann, Job, staff
Contemporary international relations; forms of state interaction; problems of conflict and cooperation.
- 1026. AMERICAN FOREIGN POLICY.** (4 cr) Berkowitz, Hopmann, Sampson, Wynia, 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.
- 1027. URBAN POLITICS.** (4 cr) Nimtz, Scott, staff
Urban politics and issues facing American cities. Political conflicts over economic and social problems.
- 1041. CONTEMPORARY POLITICAL IDEOLOGIES.** (4 cr) Ball, Fogelman, Shaw, staff
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.
- 1054. INTRODUCTION TO COMPARATIVE POLITICS.** (4 cr) Staff
Politics of democratic, communist, and third world nations; causes and consequences of different forms of political life.
- 1061. INTRODUCTION TO POLITICAL THOUGHT.** (4 cr) Staff
Major concepts, ideas, and arguments concerning such topics as liberty, justice, obligation, consent, authority, violence.
- 3051 (formerly 1051). INTRODUCTION TO POLITICAL ANALYSIS.** (5 cr) Benjamin, Fogelman, Holt, Shively, Wynia, staff
Formation of political communities, political participation, policymaking, compliance, legitimacy, political development, types of political systems. Empirical and normative problems. Comparisons among major countries.

SPECIAL COURSES

Most 3xxx and 5xxx courses are listed under their specialized fields. "Special" courses, not assigned to these fields, are listed here.

- 3070. DIRECTED FIELD STUDIES.** (1-4 or per qtr; prereq #, Δ)
Faculty-supervised research related to work in political or governmental organizations.
- 3080. INTERNSHIP.** (4 or per qtr [8 or max]; S-N only; prereq Δ) Backstrom, Eyestone, staff
Internship with government or community organizations, arranged by the department and awarded competitively.
- 3085. INTRODUCTION TO POLITICAL RESEARCH.** (4 or; prereq 3051 or #) Flanigan, Gray, Shively, 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.
- 3108. HONORS COURSE: THE POLITICAL SCIENCE DISCIPLINE.** (4 or; open only to political science honors program majors)
Political science as an academic discipline: subfields, major intellectual problems, trends; approaches to problems of political phenomena.

- 3109. HONORS COURSE: SEMINAR.** (3 cr; open only to political science honors program majors; prereq 3108)
Design of a research project in political science; theory construction, measurement, research methods, and data collection.
- 3110. HONORS WORK IN SELECTED FIELDS.** (3 or 6 or per qtr [6 or max]; open only to political science honors program majors; prereq 3109)
Individual research and writing of departmental honors thesis.
- 3970. DIRECTED STUDIES.** (1-6 or per qtr; prereq #, Δ)
Guided individual reading or study.

POLITICAL THEORY

- 3659. AMERICAN POLITICAL THOUGHT.** (4 cr; prereq 3051 or 9 or in social science or #) Ball, Shaw
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.
- 3661. DEMOCRATIC THEORY.** (4 cr; prereq 3051 or 9 or in social science or #) Ball, Shaw
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.
- 3668. RECENT EMPIRICAL THEORY.** (4 cr; prereq 3051 or #; offered alt yrs) Aldrich, Fogelman
Empirical theories such as those of power, systems, games, structural functionalism, conflict. Usefulness of these formulations in political analysis.
- 3699. ADVANCED SEMINAR.** (3 cr; prereq jr or sr, #) Staff
Advanced analysis with supervised research and writing in areas of political theory.
- 5664. DEVELOPMENT OF POLITICAL THOUGHT: ANCIENT.** (4 cr; prereq 3051 or 9 cr in social science or #) Ball, Dietz, staff
Biblical thought, ancient Chinese thought; classical Greek thought; Plato and Aristotle, primitive natural law; Cynics and Stoics; theory in Roman Republic and Empire; 1st-century Christianity.
- 5665. DEVELOPMENT OF POLITICAL THOUGHT: MIDDLE AGES.** (4 cr; prereq 3051 or 9 cr in social science or #) Ball, Dietz, staff
Early Christianity and the church fathers; moral theory and political theory; empire and church in ideology; Roman and canon law; theory of persecution; St. Thomas; 14th- and 15th-century conceptions.
- 5666. DEVELOPMENT OF POLITICAL THOUGHT: EARLY MODERN.** (4 cr; prereq 3051 or 9 cr in social science or #) Ball, Dietz, staff
Renaissance; Machiavelli; More; Reformation and Counter-Reformation; English Civil War; Hobbes and Locke; rise of liberalism; Montesquieu and Rousseau; French Revolution and reaction.
- 5669. RECENT POLITICAL THOUGHT.** (4 cr; prereq 3051 or 9 or in social science or #) Ball, Fogelman, Shaw
Main currents from Marx to present; socialist, anarchist, liberal, and conservative thought; problems such as alienation and political obligation.

COMPARATIVE GOVERNMENT AND POLITICS

Courses 3773, 5769, 5772, 5774, described under Politics and Behavior below, may be used to support study in this field.

- 3499. ADVANCED SEMINAR.** (3 cr; prereq jr or sr, #) Staff
Advanced analysis with supervised research and writing in areas of comparative government and politics.
- 5441. WESTERN EUROPEAN GOVERNMENT AND POLITICS.** (5 cr; prereq 3051 or 12 cr in social science or #) Holt, Shively, staff
Political institutions in their social settings; power and responsibility; governmental stability; political decision making, government and economic order.
- 5443. GOVERNMENT AND POLITICS OF THE SOVIET UNION.** (4 cr; prereq 3051 or 12 cr in social science or #) Turner
The rise of Bolshevism; sources and nature of Bolshevik ideology; history and institutional character of the Soviet regime; sources of power; role of the party and functional groups; patterns of change.
- 5444. GOVERNMENT AND POLITICS OF SCANDINAVIAN COUNTRIES.** (4 cr; prereq 12 cr in social science) Kvakik
Scandinavian political institutions and behavior; Scandinavian party politics, interest groups, and legislative behavior. Voting patterns and voter alignments.
- 5446. GOVERNMENT AND POLITICS OF SOUTH ASIA.** (5 cr; prereq 12 cr of 3xxx or 5xxx courses in social science) Staff
Governmental institutions in historical and social settings. Dynamic processes of modernization within a democratic institutional framework. Public policies involving social and economic development: agrarian reform, population control, industrial growth.

Major Requirements and Course Descriptions

- 5448. GOVERNMENT AND POLITICS OF AFRICAN COUNTRIES.** (4 cr; prereq 3051 or 12 cr in social science 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.
- 5453. JAPANESE GOVERNMENT AND POLITICS.** (4 cr; prereq 3051 or 12 cr in social science or #) Benjamin, Turner
Constitutional and political development in Japan; political ideas, government, political parties, problems.
- 5454. CHINESE GOVERNMENT AND POLITICS.** (4 cr; prereq 3051 or 12 cr in social science or #) Benjamin, Turner
Traditional Chinese society; fragmentation of China, rise of the Communist 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.

- 5455. LATIN AMERICAN GOVERNMENT AND POLITICS.** (5 cr; prereq 3051 or #) Wynia
Latin American political heritage, political processes, contemporary public policy issues; problems of social, economic, and political change in selected countries.
- 5456. CANADIAN GOVERNMENT AND POLITICS.** (4 cr; prereq 12 cr in social science or #) Job
Structure and operation of Canadian governmental institutions; Canadian political parties and electoral behavior; the French Canadian nation; federal-provincial distribution of powers and conflicts; current public policy issues including U.S.-Canadian relations.
- 5457. TOPICS IN MIDDLE EASTERN POLITICS.** (4 cr; prereq 3051 or #) Krislov, Nimtz, Sampson
Governmental structures and their political matrix. Cultural, religious, and regional influences. Israeli emphasis treats problems of a created society with planned institutions, role of nominally ideological parties, conflict over theocratic base for a modern secular state. Arab states emphasis treats effects of modernization, religious conflict, Zionism, Arab unity.

INTERNATIONAL RELATIONS

- 3810 (formerly 3825). TOPICS IN INTERNATIONAL POLITICS/FOREIGN POLICY.** (4 cr) Staff
Examines one or more issues in contemporary interstate relations. Topics may include international petroleum politics, law of the sea, creation of a new international economic order, regulation of the oceans, limitation of arms races.
- 3835 (formerly 5884). THE INTERNATIONAL SYSTEM.** (4 cr) Hopmann, Job
Structure of international system; balance of power, bipolar and other international systems; theories of stability, change, conflict, and cooperation.
- 3836 (formerly 3826). FOREIGN POLICY DECISION MAKING.** (4 cr) Berkowitz, Sampson
Theories and examples of foreign policy decision-making processes including policy formulation and implementation. Examples drawn from various foreign policy issues.
- 3899. ADVANCED SEMINAR.** (4 cr; prereq jr or sr, #) Staff
Advanced analysis with supervised research and writing in areas of international relations. Topics vary from quarter to quarter. See department office for current offerings.
- 5323. AMERICAN DEFENSE POLICY.** (4 cr; prereq 3825 or 3826 or 3835 or 3836 or 6 cr in ROTC or #)
Major policy issues such as American strategic theory and war capabilities; limited war theory and capabilities; arms control and disarmament. Defense policymaking process in the Executive Office, Congress, Department of Defense, military services, private sector. Implications of American defense policies for foreign and domestic policy.
- 5810. ADVANCED TOPICS IN INTERNATIONAL POLITICS/FOREIGN POLICY.** (4 cr; prereq 3825 or 3826 or 3835 or 3836 or #) Staff
Topics of current analytic or policy importance in international relations/foreign policy. Topics vary.
- 5875. AMERICAN DIPLOMACY AND FOREIGN ECONOMIC POLICY.** (4 cr; prereq 3825 or 3826 or 3835 or 3836 or #) Berkowitz, Hopmann, Sampson
Issues and processes related primarily to economic or diplomatic aspects of U.S. foreign policy; implications for U.S. defense and domestic policies; problems of coordinating information gathering, decision making, and implementing foreign policy apparatus under crises and noncrisis conditions.
- 5877. COMPARATIVE FOREIGN POLICY.** (4 cr; prereq 3825 or 3826 or 3835 or 3836 or #) Hopmann, Sampson
Comparative analysis of foreign policies of major states; national and international determinants of foreign policy behavior.
- 5881. INTERNATIONAL LAW.** (5 cr) Staff
Growth and character of international law; sources and evidences; relations to national law; subjects (individuals, states, international agencies); principles; international courts and jurisdiction; state territory; law of the sea; legal responsibility of states; treaties and agreements of diplomatic and consular agents; human rights.
- 5883. INTERNATIONAL ORGANIZATIONS.** (4 cr; prereq 3825 or 3835 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.

- 5885. INTERNATIONAL PEACE AND VIOLENCE.** (4 cr; prereq 3825 or 3826 or 3835 or 3836 or #) Hopmann, Job
Normative issues surrounding international violence; causes of violence and mechanisms for creating international peace; alternative structures for limiting future violence and maintaining peace.
- 5886. INTERNATIONAL DIPLOMACY, BARGAINING, AND NEGOTIATION.** (4 cr; prereq 3825 or 3826 or 3835 or 3836 or #) Hopmann, Walcott
Strategies and processes of international diplomacy, bargaining, and negotiation to resolve contemporary international disputes, including international security, arms limitation, and disarmament.
- 5889. THE POLITICS OF GLOBAL ECONOMIC RELATIONS.** (4 cr; prereq 3825 or 3835 or #) Duvall
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

- 3751f. FIELDWORK IN POLITICS.** (4 cr; prereq 1001) Backstrom, Eyestone
Field study of political organizations, leadership, and campaigns. Students arrange work assignments with candidates.
- 3765. POLITICAL SOCIALIZATION.** (4 cr; prereq 1001 or #) Sullivan
Theories of political socialization; development of political knowledge and evaluations by children and adolescents; role of family, educational system, mass media, and peer groups; impact of socialization patterns on political systems.
- 3766. POLITICAL PSYCHOLOGY.** (4 cr; prereq 1001 or #) Sullivan
Personality and political behavior; democratic and authoritarian personality; political style and political ideology.
- 3771. COMPARATIVE PUBLIC POLICY.** (4 cr; prereq 3051 or #; offered alt yrs) Wynia
Policymaking and administrative implementation in high and low income countries; content and impact of economic development and social welfare policies.
- 3773. POLITICAL DEVELOPMENT.** (4 cr; prereq 3051 or #; offered alt yrs) Benjamin, Holt, Turner, Wynia
Political problems of new nations; political consequences of breakdown of traditional society; problems of developing new institutional forms and procedures.
- 3799. ADVANCED SEMINAR.** (3 cr; prereq jr or sr, #) Staff
Advanced analysis with supervised research and writing in areas of politics and behavior.
- 5704 (formerly 5304). ORGANIZATIONAL THEORY AND BEHAVIOR.** (4 cr; prereq 1001) Walcott
Operation and significance of complex, formal organizations in the political system; public bureaucracy. Communication and influence processes; decision making and innovation; relation of organization to environment.
- 5737. POLITICAL PARTIES.** (4 cr; prereq 1001 or #) Aldrich, Sorauf
The American two-party system; party organizations and activists; party role in nominations, elections, and campaigns; party influence in legislatures and executives; decline of parties and their future.
- 5738. POLITICAL CAMPAIGNS AND ELECTIONS.** (4 cr; prereq 1001 or #) Backstrom
National, state, and local campaigns and elections; research in local political parties and campaigns.
- 5739. THE POLITICS OF ETHNIC COMMUNITIES.** (4 cr; prereq 6 cr in social science) Nimtz
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.
- 5741. POLITICAL BEHAVIOR OF WOMEN.** (4 cr; prereq 1001 or 3051 or #) Gray
Women as political actors. Mass political behavior, women's political movements, women in political parties and elective offices, the status of women in different societies.
- 5767. PUBLIC OPINION AND VOTING BEHAVIOR.** (5 cr; prereq 1001 or #) Flanigan, Shively
Major factors influencing electoral decisions; political attitude formation and change. Data analysis laboratory required.
- 5768. POLITICAL CULTURE: SOCIAL BASIS OF POLITICAL BEHAVIOR.** (5 cr; prereq 1001 or #) Flanigan, Shively
Social and environmental influences on political attitudes and political participation; the politics of mass society. Data analysis laboratory required.
- 5769. POLITICAL ELITES AND LEADERSHIP.** (4 cr; prereq 3051; offered alt yrs) Benjamin, Nimtz, Wynia
Comparative political leadership—political recruitment patterns, executive and legislative behavior, political power structures in industrial and nonindustrial states.
- 5772. COMPARATIVE POLITICAL PARTIES AND INTEREST GROUPS.** (4 cr; prereq 3051 or #; offered alt yrs) Kvavik, Nimtz
Cross-national study of political parties and interest groups; emphasis on party systems, pluralism, corporatism.
- 5774. COMPARATIVE POLITICAL PARTICIPATION.** (4 cr; prereq 1051 or #; offered alt yrs) Nimtz, Shively
Comparative study of the relationship of mass political behavior to governmental activity.

Major Requirements and Course Descriptions

AMERICAN GOVERNMENTAL SYSTEMS AND PROCESSES

- 3306. THE AMERICAN PRESIDENCY.** (4 or; prereq 1001 or #) Shaw, Simon, Walcott
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.
- 3307. THE AMERICAN BUREAUCRACY.** (4 or; prereq 1001 or #) Walcott
Structure of American bureaucracy; personnel, politics, and policy making; policy implementation; relationships with Congress and presidency; criticisms and proposals for reform.
- 3308. THE UNITED STATES CONGRESS.** (4 or; prereq 1001 or #) Backstrom, Eyestone, Shaw, Simon
Internal organization, committee system, party leadership, norms, recruitment; legislative policymaking; relationship with the president and bureaucracy; interest group, political party, and constituency influences on the congressional process.
- 3309. JUDICIAL PROCESS.** (4 or; prereq 1001 or #) Krislov, Olson, 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.
- 3310. TOPICS IN AMERICAN POLITICS.** (4 or per qtr; prereq 1001 or #) Staff
Topics specified in *Class Schedule*.
- 3321 (formerly 1031). ISSUES IN AMERICAN PUBLIC POLICY.** (4 or) Eyestone, Gray, staff
Major public policy issues in such areas as social welfare and education, and political forces molding policy choices and impact of such choices.
- 3331. MINNESOTA GOVERNMENT AND POLITICS.** (4 or; 1001 recommended) Backstrom
The Minnesota political system; demographic and cultural setting, political and governmental processes, contemporary policies.
- 3352w. FIELDWORK IN THE LEGISLATURE.** (4 or; prereq 1001) Backstrom
Field study of Minnesota Legislature; membership, leadership, influence, staffing, procedure, powers. Students arrange work assignments with legislators.
- 3353s. FIELDWORK IN LOCAL GOVERNMENT.** (4 or; prereq 1001) Backstrom
Field study of Minnesota municipal, county, and metropolitan government; powers, structure, official administration, programs. Students arrange work assignments with local officials.
- 3399. ADVANCED SEMINAR.** (8 or; prereq jr or sr, #) Staff
Advanced analysis with supervised research and writing in areas of American governmental systems and processes.
- 5303. THE AMERICAN DEMOCRACY.** (4 or; prereq 1001) Flanigan, Shaw, Sullivan
The American political system, its institutions and processes. Political decision making, influence, and elites. Ideals and reality of democracy in the United States.
- 5815. STATE GOVERNMENT AND POLITICS.** (4 or; prereq 1001 or #) Backstrom, Gray
Political institutions, political behavior, and public policies in American states; comparisons between states and between state and national political systems.
- 5321. AMERICAN ECONOMIC POLICY.** (4 or; prereq 1001 or #) Eyestone
Economic policymaking processes; major issues such as fiscal and monetary policy, subsidies, economic regulation, and direct controls; governmental impact on the private economic sector.
- 5322. AMERICAN SOCIAL POLICY.** (4 or; prereq 1001 or #) Eyestone, Gray
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.
- 5323. AMERICAN DEFENSE POLICY**
For description, see 5323 under International Relations subheading above.
- 5327. LOCAL GOVERNMENT AND POLITICS.** (4 or; prereq 1001 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.
- 5328. METROPOLITAN GOVERNMENT AND POLITICS.** (4 or; prereq 1001 or #) Nirtz, Scott
Development of the modern American metropolis with emphasis on central cities and suburbs; intergovernmental relationships in the metropolis; state and federal responses to metropolitan problems; politics of reforming metropolitan government.

PUBLIC LAW

- 3323. CIVIL LIBERTIES IN AMERICA.** (4 or, §5502; prereq 1001 or #) Krislov, Olson, Sorauf
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.

- 3561. COMPARATIVE LEGAL SYSTEMS.** (4 cr; prereq jr or #; offered alt yrs) Krislov, Olson
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.
- 3562. DELIVERING JUSTICE.** (4 cr) Krislov, Olson
Introduction to legal systems of societies in relation to their politics and culture. Normative aspects of legal systems in non-Western and Western law. Comparative study of legal processes and dispute resolutions.
- 3599. ADVANCED SEMINAR.** (3 cr; prereq jr or sr, #) Staff
Advanced analysis with supervised research and writing in areas of public law.
- 5501. PRINCIPLES OF AMERICAN CONSTITUTION I.** (5 cr; prereq 1001 or equiv) Krislov, Olson
Nature of constitutions, judicial review, organizations and powers of national government; national-state and interstate relations.
- 5502. PRINCIPLES OF AMERICAN CONSTITUTION II.** (5 cr, §3323; prereq 1001 or equiv) Krislov, Olson
Due process; civil rights and civil liberties.
- 5523. THE POLITICS OF THE REGULATORY PROCESS.** (4 cr; prereq 1001 or #) Krislov, Olson, Simon
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*, Lloyd H. Lofquist, N-218 Elliott Hall; *Assistant Chair*, Paul W. Fox, N-246 Elliott Hall; *Director of Undergraduate Studies*, Eugene Borgida, N-319 Elliott Hall; *Director of Graduate Studies*, John P. Campbell, N-494 Elliott Hall; *Director of Honors*, Gail B. Peterson, N-253 Elliott Hall

Regents' Professor: Meehl

Professors: Berscheid, Bouchard, Burkhardt, Butcher, Campbell, Dawis, Depue, Dunnette, Fox, Garnezy, Jenkins, Jones, LaBerge, Lofquist, Overmier, Roberts, Schletzer, Schofield, Snyder, Tellegen, Thompson, Viemeister, Weiss

Associate Professors: Betz, Borgida, Hollon, Kendall, Legge, Leon, Peterson

Assistant Professors: Brown, Cudeck, Heath

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, you must obtain informational materials in the Undergraduate Advising office, 105 Elliott Hall.

General Education—Courses recommended for nonmajors include 1001, 3011, 3031, 3051, 3061, 3101, 3124, 3201, 3604, 3607, 3617, and 5141.

B.A. MAJOR SEQUENCE

Required Preparatory Courses—1001, 1004-1005 (to be taken as soon as possible after 1001)

Major Requirements—At least 32 cr chosen as follows:

Two courses from 3011, 3031, 3051, 3061, 5011, 5012-5013, 5014, 5015, 5017, 5019, 5031, 5045, 5054, 5061, 5062, 5071, 5134, 5605, 5609

Two courses from 3014, 3101, 3124, 3201, 3206, 3604, 3607, 3617, 5141, 5202, 5206, 5501, 5701, 5702, 5703; CPsy 3303 or 5303, 5301

3801 (to be taken as soon as possible after 1001)

Major Requirements and Course Descriptions

Four elected 3xxx-5xxx psychology courses (a total of two from 3960, 3970, 3980 may be used)

Psychology majors, especially those considering graduate work, are urged to elect mathematics and natural, social, and physical science courses. Prospective graduate students should also take further work in statistics and computer programming. Those not planning graduate work in psychology may, with adviser consent, design programs to prepare for paraprofessional work in interviewing, personnel, mental health, counseling, or research technology. A limited number of child psychology courses may be completed through the Institute of Child Development (double psychology-child psychology majors are not permitted).

1001f,w,s. GENERAL PSYCHOLOGY. (5 cr)

Introduction to study of human behavior. Prerequisite for all advanced courses in psychology.

1001Hf,w. HONORS COURSE: GENERAL PSYCHOLOGY. (5 cr; prereq #) LaBerge

1004f,w-1005w,s,t. INTRODUCTORY LABORATORY PSYCHOLOGY. (4 cr per qtr; prereq soph, 1001 or ¶1001) Staff

Experiments with contemporary subject matter such as sensory psychology, psychophysics, perception, motivation, verbal behavior, animal and human learning, problem solving, and psychological measurement.

1011w,s. CAREER DECISION MAKING. (2 cr; cannot be applied toward any CLA degree) McGrath

Designed to help CLA students identify their interests, values, and skills with regard to career options. Effective job-seeking techniques. Individual and group projects on possible vocations.

3011f. INTRODUCTION TO PSYCHOLOGY OF LEARNING. (4 cr; prereq 1001, 1005 or Biol 1107 or #)

Basic methods. Fundamental concepts and principles governing the learning process.

3014w. INTRODUCTION TO APPLIED PSYCHOLOGY. (4 cr; prereq 1001) Brown

History and survey with emphasis on research issues and problems, and applications of laboratory research.

3031s. SENSATION AND PERCEPTION. (4 cr; prereq 1001, 1004) Burkhardt

Psychological, biological, and physical aspects of sensory experience in humans and animals. Emphasis on vision and hearing.

3051w. INTRODUCTION TO COGNITIVE PSYCHOLOGY. (4 cr; prereq 1001, 1005 or ¶1005) Legge

Research problems and theoretical concepts in study of cognitive factors in perception, memory, and concept formation.

3061s. INTRODUCTION TO PHYSIOLOGICAL PSYCHOLOGY. (4 cr, §5061; prereq 1001, 1005 or Biol 1009 or #)

Roberts

Neural mechanisms of motivation, emotion, sleep-wakefulness cycle, learning, and communication in animals and humans.

3101f. INTRODUCTION TO PERSONALITY. (4 cr, §5101; prereq 1001) Tellegen

Concepts of personality; personality theory; empirical research in the field of personality; personality assessment.

3124s. PSYCHOLOGY OF INDIVIDUAL DIFFERENCES. (4 cr; prereq 3801) Dunnette

Differential method in study of human behavior. Impact and importance of individual differences in modern society; instruments of measurement and behavior prediction in differential psychology; major determinants of individuality.

3201w. INTRODUCTION TO SOCIAL PSYCHOLOGY. (4 cr; prereq 1001) Snyder

Theories and research in social psychology. The effects upon individual attitudes, behavior of other persons, mass communications, group membership.

3206s. APPLIED SOCIAL PSYCHOLOGY. (4 cr; prereq 1001 and 3201) Heath

Overview of field. Applications of social psychological theories to such areas as jury selection, media, behavioral medicine, desegregation, advertising, victimology, juvenile delinquency, and energy conservation programs.

3604f,s. INTRODUCTION TO ABNORMAL PSYCHOLOGY. (4 cr, §5604; prereq 1001) Hollon

Abnormal psychology. Etiologies of behavioral disorders; available treatments.

3607f. SURVEY OF CLINICAL INTERVENTION METHODS. (4 cr; prereq 3604 or 5604) Hollon

Therapeutic procedures for dealing with abnormal behavior in children and adults. Focus on theory and philosophy of particular schools of therapy rather than specific methods of behavior change.

3617s. INTRODUCTION TO CLINICAL PSYCHOLOGY. (4 cr; prereq 3604, 3801 or 5604) Kendall

Historical developments and contemporary issues; relevant research and clinical trends in psychological assessment methods and prevention and intervention strategies.

3801f,s. INTRODUCTION TO MEASUREMENT AND STATISTICAL METHODS. (4 cr; prereq 1001 or equiv) Cudeck

Quantification in research problems in psychology. Descriptive and inferential statistics, hypothesis testing, nonparametric statistics. Examples from various areas of psychology.

- 3960f,w,s. UNDERGRADUATE SEMINAR.** (1-5 cr per qtr; prereq 1001, #) Staff
Current topics in psychology.
- 3970f,w,s. DIRECTED STUDIES.** (1-8 cr per qtr; prereq #, Δ)
Independent reading leading to written paper or oral or written examination.
- 3980f,w,s. DIRECTED RESEARCH.** (1-8 cr per qtr; prereq #, Δ)
Individual empirical research projects leading to written report.
- 5011f. THEORIES OF LEARNING AND COGNITION.** (4 cr; prereq 3011, except for students in honors sequence and grad students) LaBerge
Learning theories and contemporary theories of information processing and cognition.
- 5012w-5013s. PSYCHOLOGY OF LEARNING.** (4 cr per qtr; prereq 1001, 1005, 3011 or Biol 1107 and EBB 3111 or #, except for grad students) Overmier
Classical conditioning; instrumental learning. Evaluation of relevant theories.
- 5014w,s. PSYCHOLOGY OF HUMAN LEARNING AND MEMORY.** (4 cr; prereq 1005 or 3011 or 3051 or #, except for students in honors sequence and grad students) Fox
Processes and principles of human learning and memory; feedback, instruction and learning, individual differences in learning, cognitive processes in learning and retention, theories of human memory.
- 5015s. ADVANCED LEARNING AND COGNITIVE PROCESSING.** (4 cr; prereq 3011 or 3051 or 5014, except for students in honors sequence and grad students) LaBerge
Processes in human learning; verbal and perceptual learning. Memory, attention, and information processing.
- 5017f. ANALYSIS OF BEHAVIOR I.** (4 cr; prereq 3011, except for students in honors sequence and grad students) Thompson
Systematic formulation of topics based on a Skinnerian analysis. Scientific method.
- 5019w. ANALYSIS OF COMPLEX BEHAVIOR.** (3 cr; prereq 5017 or #) Thompson
Experimental analysis of complex operant behavior repertoires based on systematic formulation presented in 5017. Survey of classic literature in operant conditioning and recent research dealing with complex behavior repertoires.
- 5021s. MATHEMATICAL PSYCHOLOGY.** (4 cr; prereq 5861 or #) Viemeister
Mathematical models of signal detection and recognition, decision processes, information processing, learning.
- 5031s. PERCEPTION.** (4 cr; prereq 3051 or 3031 or #) Legge
Investigation in and data from study of problems of perception; psychophysical methods, form perception, space perception, constancy, spatially coordinated behavior and attention. Emphasis on visual perception.
- 5045s. THE PSYCHOLOGY OF MOTIVATION.** (4 cr; prereq 3011 or #, except for grad students)
Classical and contemporary research on and theory of motivation in animal and human behavior. Role of motivation in systematic accounts of behavior.
- 5054w. PSYCHOLOGY OF LANGUAGE.** (4 cr; prereq 3011, except for students in honors sequence and grad students) Jenkins
Theories and experimental evidence in past and present conceptions of psychology of language.
- 5061f. FUNDAMENTALS OF PHYSIOLOGICAL PSYCHOLOGY.** (4 cr, §3061; prereq 1001) Roberts
Physiological and neuroanatomical mechanisms underlying behavior of higher vertebrates. Sensory mechanisms, sleep, wakefulness, and attention.
- 5062s. NEUROPSYCHOLOGY OF MOTIVATION AND LEARNING.** (4 cr; prereq 5061 or #) Roberts
Brain mechanisms of aggression, fear, pain, hunger, thirst, reproductive behavior, learning, and discrimination processes.
- 5071s. ANIMAL PSYCHOLOGY.** (4 cr; prereq 3011 or 5012) Peterson
Historical, philosophical, and biological foundations; consciousness; motivation; learning; reasoning; judgment; abnormal behavior; social influences.
- 5101w. PERSONALITY.** (4 cr, §3101; prereq 5862 or 5862, honors candidate or grad student) Tellegen
Personality theories as alternative orienting viewpoints. Trait-oriented discussion of findings and conceptual and methodological problems of contemporary personality research.
- 5125w-5126s†. DIFFERENTIAL PSYCHOLOGY.** (4 cr per qtr; prereq 5862 or #, honors candidate or grad student) Bouchard, Dawis, Dunnette
Methodology. Quantitative studies of nature of psychological traits and influence of age, sex, heredity, and environment in causation of individual and group differences in ability and temperament.
- 5134f. INTRODUCTION TO BEHAVIORAL GENETICS.** (4 cr; prereq 3124 or 5126) Depue
Methodology for analyzing contribution of genetic and environmental factors to variance in normal and abnormal traits in humans and animals. Intelligence, neuroses, and psychoses. For all examples, independent variable will be genotype of an organism.

Major Requirements and Course Descriptions

- 5141w. PSYCHOLOGY OF WOMEN.** (4 cr; prereq 1001) Schletzer
Psychological and physical sex differences; developmental and environmental influences on dependency, aggression, achievement motivation, and achievement. Sex roles and sexuality during various life phases.
- 5201f. SOCIAL PSYCHOLOGY.** (4 cr; prereq 1001, 3201, psychology honors major or grad student or #) Berscheid
Classical and contemporary theories and research in social psychology with emphasis on social influence and group dynamics.
- 5202s. ATTITUDES AND SOCIAL BEHAVIOR.** (4 cr; prereq 1001, 3201 or #) Borgida
Attitude theory, measurement, and attitude change research in social psychology. The structure, function, and formation of attitudes; the relationship between attitudes and various social behaviors; basic principles of attitude change.
- 5206w. RESEARCH METHODS IN SOCIAL PSYCHOLOGY.** (4 or per qtr; prereq 1001, 3201, 3801 or grad student or #) Heath
Overview of randomized and quasi-experimental designs suitable for research in social psychology. Validity, operational, and ethical issues in social psychological research.
- 5501s. VOCATIONAL PSYCHOLOGY.** (4 cr; prereq 3801 or #) Dawis
Individual differences, analysis of the work personality and environment; vocational development and vocational choice; work adjustment; work motivation and performance; work satisfaction and satisfactoriness; psychological problems connected with work.
- 5604w. ABNORMAL PSYCHOLOGY.** (4 or, §3604; prereq honors major...# for grad students) Leon
Review of behavioral disorders. Etiology and treatment.
- 5701w. PERSONNEL AND INDUSTRIAL PSYCHOLOGY.** (4 or; prereq 1001, 3801 or equiv or #) Dunnette
Principles of individual differences and psychological measurement applied to problems of evaluating, recruiting, and selecting members of ongoing organizations. Job analysis, job behavior description, performance measurement, selection and placement strategies, minority group employment, and utility of organizational strategies in occupation selection and placement.
- 5702s. PSYCHOLOGY OF INDIVIDUAL BEHAVIOR IN ORGANIZATIONS.** (4 cr; prereq 5701 or 8 or in psychology or #) Campbell, Dunnette
Psychological research and methodology applied to the study of human behavior in ongoing organizations. Motivation, measurement of attitudes and job satisfaction, problem solving and decision making, effects of organizational structure and climate, problems of leadership, supervision, interpersonal relations.
- 5703f. PSYCHOLOGY OF ORGANIZATIONAL TRAINING AND DEVELOPMENT.** (4 cr; prereq 8 or in psychology or #) Dunnette
Theories, methods, and research findings regarding improving the performance of individuals, groups, and organizations; individual training and development; group work methods and problem solving strategies; methods of organizational development.
- 5751w,s. PSYCHOLOGY OF ADVERTISING.** (4 or, §Jour 5251; prereq 1001) Jones
Psychological principles, research techniques, and applications in advertising and selling. Consumer attitudes and behavior. Psychological mechanisms upon which effectiveness of advertisements and commercials depends.
- 5841w. REPRESENTATION OF STRUCTURE IN DATA.** (4 or; prereq 3801, Math 1211 or #)
Theory and methods of unidimensional and multidimensional scaling; related methods for discovering and representing structures underlying psychological data.
- 5861w. QUANTITATIVE METHODS IN PSYCHOLOGY.** (4 cr; prereq #) Viemeister
Elementary set theory, probability theory, matrix algebra, difference equations; construction and evaluation of behavior models.
- 5862f. PSYCHOLOGICAL MEASUREMENT: THEORY AND METHODS.** (4 or; prereq 3801, honors candidate or grad student) Weiss
Types of measurement (tests, scales, inventories) and their construction; theory and measurement of reliability and validity.
- 5865. MEASUREMENT OF LATENT TRAITS.** (4 cr; prereq 5862 or #) Weiss
Theory and methods for measurement of latent psychological variables using dichotomous 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.
- 5884s. METHODS FOR MULTIVARIATE COVARIATION ANALYSIS.** (4 or; prereq 5862 or #; offered 1982-83 and alt yrs) Weiss
Nonmathematical. Methods for analysis of matrices of interrelationships based on persons, variables, and occasions. Nonhierarchical and hierarchical methods of clustering. Factor analysis, including factor extraction, rotation, scoring, and comparison. Assumptions, limitations, interpretations, and applications.
- 5900f,w. HONORS SEMINAR: PSYCHOLOGY.** (1 or per qtr; S-N only; prereq psychology honors major or #) Fox
Contemporary issues in psychological research. Initiation of 5901 project. Advanced study and career opportunities in psychology. Special learning opportunities available to psychology honors majors.

5901f,w.s. HONORS PROJECT. (1-8 cr; prereq, sr, #)

Critical literature review or empirical study.

5960f,w.s. TOPICS IN PSYCHOLOGY. (1-5 or per qtr; prereq 1001, #)

Special classes or seminars. Topics listed in Psychology office.

Public Affairs (PA)

Hubert H. Humphrey Institute of Public Affairs

CLA students may take up to 16 credits of course work offered by other colleges. The credits may be applied toward CLA degrees, but may not be used to fulfill group distribution requirements. Descriptions of courses offered by the Hubert H. Humphrey Institute of Public Affairs can be found in the bulletin of that institute.

School of Public Health

CLA students may take up to 16 credits of course work offered by other colleges. The credits may be applied toward CLA degrees, but may not be used to fulfill group distribution requirements. Descriptions of courses offered by the School of Public Health can be found in the bulletin of that school. Public health courses that may be used for the CLA major in biometry are listed in this bulletin under the heading Biometry and may be applied to CLA degrees.

Religious Studies (ReIS)

Staff—*Chair of Executive Committee*, Bruce Lincoln, 220 Johnston Hall; *Director of Undergraduate Studies*, Caesar Farah, 160 Klaeber Court; *Director of Graduate Studies*, Gordon O'Brien, 204 Lind Hall

Adjunct Faculty—*Professors*: Altholz (History), Bachrach (History), Bagley (Social, Psychological, and Philosophical Foundations of Education), Barker (South Asian Studies), Bormann (Speech-Communication), Delattre (American Studies), Farah (Near and Middle Eastern Studies), Hopkins (Philosophy), Johnson (Sociology), Kraabel (Classics), Mather (East Asian Studies), O'Brien (English), Riedel (Music), Schneider (French and Italian), Southall (Afro-American and African Studies), Spencer (Anthropology), Stavrou (History), Tapp (Humanities, Religious Studies, South Asian Studies), Tracy (History)

Associate Professors: Alvi (South Asian Studies), Asher (Art History, South Asian Studies), Lincoln (Humanities and South Asian Studies), Malandra (South Asian Studies), Paradise (Near and Middle Eastern Studies), Ross (Student Affairs), Shaw (Political Science), Yates (Women's Studies), Zahavy (Near and Middle Eastern Studies)

Assistant Professor: Prell (Anthropology)

Religious studies is concerned both with understanding specific religious traditions within their cultural and historic contexts and, beyond that, with the nature of religious phenomena in general. It makes use of numerous methods: historic, sociological, linguistic, anthropological, and textual criticism. Students who major or minor in religious studies are expected to acquire common disciplinary perspectives and to specialize in an area of individual interest.

The Program in Religious Studies offers a limited number of courses, which are described below. A list of religious studies courses offered by other departments is published in the booklet *Religious Studies at the University of Minnesota*, available in 220 Johnston Hall.

Major Requirements and Course Descriptions

B.A. MAJOR SEQUENCE

Major Requirements—15 courses, 13 of them at the 3xxx-5xxx level and 9 of them from core courses distributed as follows:

- A. Phenomenological and comparative perspectives on religions: 1001 or 5001, 5890
- B. Philosophical perspectives on religions—one course
- C. Social sciences perspectives on religions—minimum of two courses representing at least two social science areas
- D. Literary and artistic perspectives on religions—minimum of two courses
- E. Area and historical studies—minimum of two courses representing at least two religious traditions

Lists of courses approved for inclusion in groups B, C, D, and E are available in 220 Johnston Hall.

Before admission to the program, you should consult the religious studies adviser, 220 Johnston Hall, for referral to faculty members in your area of interest. The degree program must have the adviser's approval.

MINOR SEQUENCE

Required Preparatory Courses—1001 or 5001

Minor Requirements—Four 3xxx-5xxx courses, including at least one in three of the following areas: philosophical perspectives on religions, social sciences perspectives on religions, literary and artistic perspectives on religions, area and historical studies.

- 1001. INTRODUCTION TO RELIGIOUS STUDIES.** (4 cr) Tapp
Individual and social religious behavior; methodologies for studying it; emergence of modern religious studies. Theistic Western religions (Judaism, Christianity, Islam) and nontheistic Buddhism.
- 1031. INTRODUCTION TO THE RELIGIONS OF SOUTH AND SOUTHEAST ASIA.** (4 cr, §SoAS 1504) Malandra
- 1032. RELIGIONS OF EAST ASIA.** (4 cr, §EAS 1032) Mather
Religious aspects of Confucianism, Taoism, Buddhism, and Shintoism as practiced in East Asia; Christian missions in East Asia.
- 1034. INTRODUCTION TO JUDAISM.** (4 cr, §JwSt 1034, §JwSt 3034) Zahavy
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.
- 1035. INTRODUCTION TO CHRISTIANITY.** (4 cr) Kraabel
The thought and institutions of Christianity with emphasis on the present day. Origins in Judaism: the New Testament. Continuing theological issues, leaders and opponents of the church, the piety of the average Christian. Religious pluralism: Christianity in 20th-century America.
- 1036. THE RELIGION OF ISLAM.** (4 cr, §MidE 1536) Farah
The rise of Islam. The role of Muhammad, Koran, traditions; fundamentals and observances of the faith; sectarian movements; the spread of Islam into Asia and Africa; Bahá'í and Black Muslim components; reformist movements and change.
- 3101f, 3102w, 3103s. RELIGIONS OF THE AMERICAN PEOPLE.** (4 cr per qtr) Ross
Religious perspective on American experience, age of discovery to the present. Religious traditions, Western and non-Western, examined developmentally, descriptively, and chronologically. 3101: Age of discovery to the federal period. 3102: Federal period to 1890. 3103: 1890 to present.
- 3970f,w,s. DIRECTED STUDIES.** (3-5 cr per qtr; prereq Δ)
Guided individual reading or study.
- 5001. APPROACHES TO THE STUDY OF RELIGION.** (4 cr)
Religious ideas and institutions; myths, rituals, cosmologies, and systems of salvation. Methods for the objective study of religion and its historical and sociocultural dimensions.
- 5890w. SEMINAR IN RELIGIOUS STUDIES.** (5 undergrad or per qtr, 3 grad cr per qtr; prereq sr major or #) Tapp
Conceptual and methodological issues in contemporary religious studies. Students test hypotheses that cross at least two historical periods and deal with two religious traditions.
- 5960. TOPICS IN RELIGIOUS STUDIES.** (4 cr per qtr; prereq #)
Topics specified in *Class Schedule*.
- 5970f,w,s. DIRECTED STUDIES.** (3-5 cr per qtr; prereq Δ)
Guided individual reading or study.

Reserve Officers' Training Corps (ROTC)

If you are a qualified male or female student, you may combine work toward a degree with participation in a two- or four-year Reserve Officers' Training Corps program in aerospace studies, military science, or naval science. You earn elective credits, and, if you complete a program, qualify for a commission as an officer in one of the services. ROTC curricula are designed to provide instruction and practice in leadership skills as well as military subjects. 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, 108 Armory; Naval Science, 203 Armory.

AEROSPACE STUDIES (Air)

Staff—Head, Col. Robert B. Patrick, USAF, 3 Armory

GENERAL MILITARY COURSE

1104f. EARLY HISTORY OF AIRPOWER. (2 cr)

The beginnings of human flight. Early military attitudes toward aviation; the development of employment concepts, tactics, and strategies. Early development of air doctrines.

1105w. ALLIED AIRPOWER IN WORLD WAR II AND THE BERLIN AIRLIFT. (2 cr)

Uses of airpower in World War II. Development of an independent Air Force. Cold war strategy. Berlin airlift.

1106s. MODERN EMPLOYMENT OF U.S. AIRPOWER. (2 cr)

Effects of airpower on tactics and strategy in the modern world. The role of airpower in Korea, Cuba, Southeast Asia. Airpower advances over the past quarter century.

1204f. U.S. AIR FORCE. (1 cr)

The doctrine, mission, and organization of the U.S. Air Force.

1205w. AIR FORCE COMBAT COMMANDS. (1 cr)

The mission, organization, and operation of the Strategic Air Command, Aerospace Defense Command, and Tactical Air Command; their contributions to U.S. strategic offensive, defensive, and general purpose forces.

1206s. U.S. SUPPORT FORCES. (1 cr)

Air Force support forces. Organizations that support the combat commands. Air Force interaction with the Army and Navy.

PROFESSIONAL OFFICER COURSE

3301f. MILITARY MANAGEMENT. (3 cr)

Management processes; the unique nature of Air Force management. Problem solving, decision making, performance appraisal, and communication skills. Lectures, discussions, student presentations, seminars, and experiential methods.

3302w. AIR FORCE LEADERSHIP COMMUNICATION. (3 cr [4 cr with lab], §Spch 3111)

Interdisciplinary study of theory and practice of leadership. Theoretical approaches to management. Interpersonal communication skills in leadership practice; small group dynamics. Experience in task-oriented small group communication. Application to Air Force leadership situations.

3303s. CONTEMPORARY PROBLEMS IN AIR FORCE MANAGEMENT. (3 cr)

Integration and application of management and leadership concepts to contemporary Air Force situations. Social problems and issues related to the all-volunteer, professional force. Command and staff functions, ethics, responsibilities. Lectures, discussions, student presentations, seminars, and experiential methods.

3401w. MILITARY IN SOCIETY. (3 cr)

Role and function of the professional officer in a democratic society. Civil-military relationships. Communication skills.

3402f. SEMINAR: FORMULATION AND IMPLEMENTATION OF U.S. DEFENSE POLICY. (1 cr; prereq #Pol 5323)

Principal requirements for maintaining adequate national security forces. Constraints affecting the formulation of U.S. defense policy. Impact of technological and international developments on strategic preparedness and the defense policymaking process.

Major Requirements and Course Descriptions

3404f. FLIGHT INSTRUCTION PROGRAM. (5 or; open only to AFROTC cadets; prereq Δ)

Twenty-five hours of flight instruction and practice. Federal aviation regulations, flight theory, aircraft instruments, meteorology, radio aids, navigation, and aircraft operation.

3413s. MILITARY LAW AND SERVICE ORIENTATION. (3 cr; prereq Δ)

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. Service orientation for newly commissioned officers.

MILITARY SCIENCE (Mil)

Staff—Head, Lt. Col. Phil K. Bomersheim, USA, 108 Armory

PREPROFESSIONAL DIVISION

Military Science I

1011. WORLD MILITARY HISTORY. (2 or, \S Hist 1951; prereq Δ , Leadership Laboratory)

Basic concepts of military history, including principles of war, military definitions, and relationship of geography, economics, and technology to military history; warfare through the Napoleonic age.

1012. WORLD MILITARY HISTORY. (2 cr, \S Hist 1952; prereq Δ , Leadership Laboratory)

Warfare through the ages; American military tradition from 1738 through 1918.

1013. WORLD MILITARY HISTORY. (2 cr, \S Hist 1953; prereq Δ , Leadership Laboratory)

Warfare through the ages; World War II; Korean War and Vietnam, modern military implications. Arab-Israeli war and Nato vs. Warsaw Pact.

Military Science II

1021. U.S. INTERNATIONAL PERSPECTIVES: AN ANALYSIS OF THE U.S. MILITARY ROLE. (2 or; prereq Δ , Leadership Laboratory)

Basic factors involved in a nation's capacity for developing power; geographical position, nature of population, social organization; the ideology, economy, and technological resources of a nation.

1022. U.S. INTERNATIONAL PERSPECTIVES: AN ANALYSIS OF THE U.S. MILITARY ROLE. (2 or; prereq Δ , Leadership Laboratory)

The international political system and its influence on national power; force as related to other types of influence; force as related to other instruments of policy.

1023. U.S. INTERNATIONAL PERSPECTIVES: AN ANALYSIS OF THE U.S. MILITARY ROLE. (2 or; prereq Δ , Leadership Laboratory)

Varying levels of military force available to implement policy and formulate strategy; role of the U.S. Army and Army offices.

Directed Studies

3970. DIRECTED STUDIES. (Cr ar; prereq #)

Guided study of courses students cannot fit into their schedules.

PROFESSIONAL DIVISION

Military Science III

3131. LEADERSHIP ASSESSMENT AND TRAINING. (3 or, 4 or with Assessment Laboratory; prereq Δ , Leadership Laboratory)

Leadership traits and principles; role-playing situations, methods and techniques of preparing and conducting briefings and instruction; emphasis on group effort and interpersonal relations. Assessment Laboratory involves participation in tasks to identify leadership strengths, with comprehensive feedback.

3132. LAND NAVIGATION AND MAP READING. (3 cr; prereq Δ , Leadership Laboratory)

Skills in reading and interpreting military maps and aerial photographs; basic land navigation techniques.

3133. SMALL-UNIT TACTICS. (3 cr; prereq Δ , Leadership Laboratory)

Small-unit operations in conventional and unconventional battlefield environments; employment in tactical situations.

Military Science IV

- 3141. MILITARY MANAGEMENT, ETHICS, AND PROFESSIONALISM.** (3 cr; prereq Δ , Leadership Laboratory)
Staff procedures in military organizations; staff writing, code of military ethics and professionalism; role-playing situations and written practical exercises.
- 3142. LEADERSHIP COMMUNICATIONS.** (3 cr; §Spch 3111; prereq Δ , Leadership Laboratory)
Precepts and practices of military leadership; management psychology, interpersonal relationships, group dynamics, individual differences.
- 3143. MILITARY LAW AND SERVICE ORIENTATION.** (3 cr; prereq Δ , Leadership Laboratory)
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. D. K. Menikheim, USN, 203 Armory

BASIC COURSE

All NROTC Students—First Year

- 0101f. INTRODUCTION TO NAVAL SCIENCE.** (No cr; S-N only; prereq #)
Instruction in the fundamentals of naval science.
- 1101w. NAVAL SHIPS SYSTEMS I.** (2 cr; prereq #)
Types, purposes, and structures of naval ships. Ship compartmentation, steam and fossil fuel propulsion systems, ship design, and ship stability characteristics.
- 1102s. NAVAL SHIPS SYSTEMS II.** (2 cr; prereq #)
Nonsteam and nuclear ship propulsion systems, auxiliary ship support systems, ship control, and sensors.

All NROTC Students—Second Year

- 1103f. PRINCIPLES OF NAVAL WEAPONS SYSTEMS.** (2 cr)
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.
- 1104w. SCIENCE AND TECHNOLOGY IN THE DESIGN, CONSTRUCTION, AND USE OF MODERN WEAPONS SYSTEMS.** (2 cr; prereq 1103)
Techniques and methods in fusing scientific principles and current technology to design and construct military weapons and integrated weapons systems. Includes study of weapon propulsion, guidance, launching, command, control, and communications, and survey of characteristics of several advanced weapons platforms.
- Hist 5021w. OCEANIC HISTORY.** (4 cr; prereq #)
Medieval and early modern maritime science and technology, resources, and motivation, East and West, and the process of expansion, to 1715.
- Hist 5022s. OCEANIC HISTORY.** (4 cr; prereq #)
European empires overseas, industrialization, and the transportation revolution on the oceans, West to East, to 1945.

ADVANCED COURSE

Navy Sequence—Third Year

- 3301s. ADVANCED NAVAL OPERATIONS.** (3 cr; prereq #)
International rules of the nautical road. Relative motion and ship maneuvering. Application of the maneuvering board in solving motion problems.
- 3303f. INLAND AND COASTAL NAVIGATION.** (3 cr; prereq #)
Piloting, dead reckoning, fixes, running fixes, tides, currents, and anchoring. Rules of the nautical road.
- 3304w. CELESTIAL AND ELECTRONIC NAVIGATION.** (4 cr; prereq trigonometry, #)
Navigation using celestial bodies. Modern electronic navigation systems.

Major Requirements and Course Descriptions

Navy Sequence—Fourth Year

3404f. PRINCIPLES OF NAVAL MANAGEMENT I. (2 cr; prereq #)

Management theory and its application to formal military organizations, national level to shipboard.

3405w. PRINCIPLES OF NAVAL MANAGEMENT II. (4 cr, §Spch 3111; prereq #)

Interdisciplinary study of the 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.

3406s. PRINCIPLES OF NAVAL MANAGEMENT III. (2 cr; prereq #)

Management at the shipboard level: divisional organization, Uniform Code of Military Justice, formal organization.

Marine Corps Sequence—Third Year

3352f. EVOLUTION OF ART OF WAR I. (2 cr; prereq #)

Principles of war. Evolution of warfare from 3500 B.C. through the French Revolution.

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.

3354s. EVOLUTION OF ART OF WAR III. (2 cr; prereq #)

Warfare from World War II through the Vietnam experience.

Marine Corps Sequence—Fourth Year

3452f. AMPHIBIOUS WARFARE I. (2 cr; prereq #)

Amphibious warfare techniques from Gallipoli through World War II operations in the Mediterranean.

3453w. AMPHIBIOUS WARFARE II. (2 cr; prereq #)

From the Pacific campaigns of World War II through the postwar amphibious trials.

3454s. AMPHIBIOUS WARFARE III. (2 cr; prereq #)

Post-World War II amphibious operations; present-day concepts of amphibious operational planning.

Russian and East European Studies

Staff—Chair, Thomas S. Noonan, 251 Elliott Hall; **Associate Chair,** Gary R. Jahn, 248 Elliott Hall; **Director of Undergraduate Studies,** Leonard A. Polakiewicz, 256 Elliott Hall

Regents' Professor: Turner (Political Science)

Professors: Godzich (Comparative Literature), Liberman (German), Noonan (History), Rath (History), Rudolph (History), Stavrou (History), Vecoli (IHRC), Weiss (German), Wright (History).

Associate Professors: R. Adams (Geography), Arnes (Slavic Languages), Donchenko (Slavic Languages), Jahn (Slavic Languages), Kulesov (Slavic Languages)

Assistant Professors: Beaven (Slavic Bibliographer, University Libraries), Caskey (Slavic Languages), Corten (Slavic Languages), Polakiewicz (Slavic Languages), Prokopov (Slavic Languages)

The Department of Russian and East European Studies offers study of the Russian, Polish, and Serbo-Croatian languages as well as the literature of the Slavic world. A major and a minor are offered in Russian language and literature. The department is developing a major in Russian area studies.

General Education—Courses recommended for general education are Russ 3401, 3402, 3403, 3501, 3502, 3503, 3601, 3602, 5201, 5202, 5203, and Slav 1501, 3701.

B.A. MAJOR SEQUENCE—RUSSIAN

Required Preparatory Courses—1101-1102-1103, 1104-1105-1106

Major Requirements—3101-3102-3103, 3104-3105-3106

One of the following sequences: 3401-3402-3403 or 3501-3502-3503

8 additional cr in 3xxx-5xxx Russian courses

For requirements for teaching licensure, see the *College of Education Bulletin*.

MINOR SEQUENCE—RUSSIAN

Required Preparatory Courses—1101-1102-1103

Minor Requirements—1104-1105-1106 or equiv

3101-3102

8 additional cr in 3xxx-5xxx Russian courses

RUSSIAN (Russ)

- 1101f-1102w-1103s. BEGINNING RUSSIAN.** (5 cr per qtr; five class meetings a wk)
Speaking, reading, and understanding Russian through acquisition of basic patterns of speech.
- 1104f-1105w-1106s. INTERMEDIATE RUSSIAN.** (5 cr per qtr; prereq 1103)
Expansion of experience in speaking, reading, and understanding Russian; reading contemporary texts.
- 1107f-1108w-1109s. INTENSIVE RUSSIAN.** (10 cr per qtr)
Concentrated approach to speaking, reading, and understanding Russian.
- 1112w-1113s. HONORS COURSE: BEGINNING RUSSIAN.** (5 cr per qtr; for students who have demonstrated high ability and achievement during 1st qtr; prereq Δ)
- 1114f-1115w-1116s. HONORS COURSE: INTERMEDIATE RUSSIAN.** (5 cr per qtr; prereq 1113 or #)
- 1304. INTRODUCTION TO LITERATURE: THE RUSSIAN EXPERIENCE.** (4 cr)
Russian literature prior to the Soviet period.
- 3031, 3032. SCIENTIFIC RUSSIAN.** (4 cr per qtr; prereq 3031 or Δ for 3032)
Study of Russian morphology, syntax, and scientific vocabulary to acquire reading competence in scientific Russian. Reading of texts in different scientific fields.
- 3101-3102-3103. THIRD-YEAR RUSSIAN.** (5 cr per qtr; prereq 1106)
Conversation, composition, grammar review, translation, and readings in appropriate literature.
- 3104f. INTRODUCTION TO LITERARY ANALYSIS.** (5 cr; prereq 3103)
Advanced composition and conversation. The structuralist approach to the study of literature; applied to reading and analyzing selected short stories and plays. Taught in Russian.
- 3105w. READING OF RUSSIAN POETRY AND NOVEL.** (5 cr; prereq 3104)
Appreciation of literary values through stylistic analysis and literary interpretation; analysis of humanistic elements. Taught in Russian.
- 3106s. THE CURRENT SOVIET SCENE.** (5 cr; prereq 3105)
Current Soviet values as reflected in literature, the press, and other media. Taught in Russian.
- 3116. HONORS COURSE: PROSEMINAR IN RUSSIAN LITERATURE.** (4 cr; prereq 3106, Δ)
- 3301. HUMAN IDEALS IN 19TH-CENTURY RUSSIAN LITERATURE.** (4 cr)
Human ideals expressed in selected works by masters of 19th-century Russian prose (Pushkin, Gogol, Turgenev, Dostoevsky, Tolstoy); the restrictions on their realization in the relevant social environment.
- 3401. RUSSIAN ROMANTICISM IN TRANSLATION.** (4 cr)
Russian literature of the romantic era, the "golden age" in poetry and a significant period in prose, presented in historical and critical context. Emphasis on selected works by Pushkin, Gogol, Lermontov, and selected poems by other romantics.
- 3402. RUSSIAN REALISM IN TRANSLATION.** (4 cr)
Realism in 19th-century Russian prose from early postromantic stages to development of modernism. Selected works of Turgenev, Dostoevsky, Tolstoy, Ostrovsky, Leskov, and Chekhov examined from stylistic, thematic, historical, and cultural perspectives.
- 3403. RUSSIAN MODERNISM IN TRANSLATION.** (4 cr)
Selected works by Solov'ev, Bely, Briusov, Sologub, Zamiatin, Blok, Maiakovsky, and Akhmatova, writers of the "silver age," 1900-1920; literary techniques, themes, ideas, and historical background.

Major Requirements and Course Descriptions

- 3501f, 3502w, 3503s. RUSSIAN CIVILIZATION AND CULTURE.** (4 or per qtr)
Aspects of Russian culture—land, peoples, languages, institutions, intellectual and artistic trends and achievements.
- 3970. DIRECTED STUDIES.** (3-5 or per qtr; prereq #, Δ)
Guided individual reading or study.
- 5201f, 5202w, 5203s. CONTEMPORARY RUSSIAN LITERATURE IN TRANSLATION.** (4 or per qtr)
5201: Evolution of Soviet Russian literature during the 1920s; Babel, Pilniak, Leonov, and Zamiatin. 5202: Soviet novel from the end of the 1920s to World War II; Zoshchenko, Ilf and Petrov, Sholokhov, and Bulgakov. 5203: Soviet Russian and Russian emigré literature since 1953; Brodsky, Granin, Maximov, Pasternak, and Trifonov.
- 5205. SOLZHENITSYN IN TRANSLATION.** (4 or)
Novels and short stories.
- 5301. RUSSIAN POETRY IN TRANSLATION: 19TH CENTURY.** (4 or; offered when feasible)
- 5401. DOSTOEVSKY IN TRANSLATION.** (4 or)
Novels.
- 5403. GOGOL IN TRANSLATION.** (4 or)
Earlier and major works.
- 5404. TOLSTOY IN TRANSLATION.** (4 or)
Novels, stories, and dramas.
- 5406. PUSHKIN IN TRANSLATION.** (4 or)
Pushkin's place in development of Russian literature.
- 5407. STORIES AND PLAYS OF ANTON CHEKHOV IN TRANSLATION.** (4 or)
Prose works and major plays. An intrinsic approach.
- 5409. THE 19TH-CENTURY RUSSIAN NOVEL IN TRANSLATION.** (4 or)
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.
- 5701f, 5702w. STRUCTURE OF MODERN RUSSIAN.** (4 or per qtr; prereq 1106 or #)
- 5704f, 5705w. HISTORY OF RUSSIAN LANGUAGE.** (4 or per qtr; prereq 1106 or equiv; offered when feasible)
Linguistic analysis of the historical development of the Russian language.
- 5970. DIRECTED STUDIES.** (1-3 or per qtr; prereq #)
Guided individual reading or study.

POLISH (Plsh)

- 1101f-1102w-1103s. BEGINNING POLISH.** (5 or per qtr)
Speaking, understanding, and reading basic Polish.
- 1104f-1105w-1106s. INTERMEDIATE POLISH.** (5 or per qtr; prereq 1103 or #)
Grammar review, advanced texts, practice in speaking.
- 3601f, 3602w. SURVEY OF POLISH LITERATURE IN TRANSLATION.** (4 or per qtr)
- 5970. DIRECTED STUDIES.** (1-4 or per qtr; prereq #)
Guided individual reading or study.

SERBO-CROATIAN (Serb)

- 1101f-1102w-1103s. BEGINNING SERBO-CROATIAN.** (5 or per qtr)
- 1104f-1105w-1106s. INTERMEDIATE SERBO-CROATIAN.** (5 or per qtr; prereq 1103 or #)
- 5970. DIRECTED STUDIES.** (1-4 or per qtr; prereq #)
Guided individual reading or study.

SLAVIC (Slav)

- 1501. THE SLAVIC HERITAGE.** (4 or)
Traditions and culture of the Slavic world and of Slavic ethnic groups in America.
- 3201f, 3202w. SOUTH SLAVIC LITERATURE.** (4 or per qtr; offered when feasible)

- 3501f, 3502w, 3503e. SOUTH SLAVIC CIVILIZATION AND CULTURE.** (4 or per qtr)
Cultural achievements of the South Slavs as reflected in arts and social thought. 3501: From appearance of the Slavs in the Balkans to 1389. 3502: From fall of Kossovo to World War I. 3503: From World War I to present.
- 3701. INTRODUCTORY SURVEY OF THE SLAVIC LANGUAGES.** (4 cr)
Salient aspects of Slavic languages in their evolution from unity to diversity. Aspects of contemporary diversity.
- 3900. TOPICS IN RUSSIAN AND EAST EUROPEAN STUDIES.** (4 or per qtr [max 12 cr])
Topics specified in the *Class Schedule*.
- 5701-5702. OLD CHURCH SLAVIC.** (4 or per qtr; prereq Ling 3005 or equiv; offered when feasible)
Introduction to Slavic linguistics.
- 5900. TOPICS IN RUSSIAN AND EAST EUROPEAN STUDIES.** (4 or per qtr [12 or max])
Topics specified in the *Class Schedule*.

SANSKRIT

See South Asian Studies.

Scandinavian

Staff—Chair, Göran Stockenström, 305a Folwell Hall; *Director of Undergraduate Studies,* K. Börje Vänämäki, 210a Folwell Hall; *Director of Graduate Studies,* K. Grimstad, 210b Folwell Hall

Professors: Firchow, Hasselmo, Liberman, Simpson, Stockenström

Associate Professors: Grimstad, Houe, Mishler

Assistant Professor: Vähämäki

The Department of Scandinavian teaches and conducts research in the language and literature of the Scandinavian countries, including Finland, in the context of relevant cultural-historical background and milieu. Majors and minors are offered with concentration in Danish, Finnish, Norwegian, and Swedish. In addition, there is an interdisciplinary Scandinavian area studies minor sponsored by the Center for Northwest European Language and Area Studies.

General Education—Courses appropriate for nonmajors are Scan 1504, 3501, 3503, 3505, 3601, 3602, 3604, 3605, 3606, 3607, 3613, 3614, 3615, 3618, 5404, 5421, 5501, 5502, 5602, 5611, 5613, 5614, 5615, 5616, 5617, 5631, 5632, 5704, 5711, and 5712.

B.A. MAJOR SEQUENCE—SCANDINAVIAN LANGUAGES

Required Preparatory Courses—Dan, Nor, or Swed 1101-1102-1103; 1104-1105

Major Requirements—Dan, Nor, or Swed 3101, 3670 (3 qtrs)

Minimum of 32 cr in 3xxx-5xxx courses, to include 5704, 5970 (4 cr for major project, to be taken fall quarter before graduation), and Hist 3273

At least 20 additional cr chosen with adviser approval

MINOR SEQUENCE—SCANDINAVIAN AREA STUDIES

Required Preparatory Courses—Dan, Fin, Nor, or Swed 1101-1102-1103

Minor Requirements—*Humanities Option:* One approved Scan course, one approved Arth course, one additional approved humanities course, and three additional approved courses (at least two of which are from social sciences)

Social Science Option: Geog 5173, Pol 5444, Hist 3273 or 5252, one additional approved social science course, and two additional approved humanities courses

Major Requirements and Course Descriptions

A list of approved courses is available from the Center for Northwest European Language and Area Studies, 210 Folwell Hall, 373-2560.

Programs must be approved by the center director of undergraduate studies. Up to 4 credits of 3xxx or 5xxx courses may be in directed study, and up to 4 credits may be taken S-N.

MINOR SEQUENCE—DANISH

Required Preparatory Courses—1101-1102-1103, 1104-1105

Minor Requirements—3101 and 12 cr of 3670

B.A. MAJOR SEQUENCE—FINNISH

Required Preparatory Courses—1101-1102-1103, 1104-1105

Major Requirements—3101, 3670 (3 qtrs)

Minimum of 32 cr in 3xxx-5xxx courses, to include Scan 3604, 3605, 5404, 5421, 5970 (4 cr for major project, to be taken fall quarter before graduation), and Hist 3273

At least 8 additional cr chosen with adviser approval

MINOR SEQUENCE—FINNISH

Required Preparatory Courses—1101-1102-1103, 1104-1105

Minor Requirements—3101 and 12 cr of 3670

MINOR SEQUENCE—NORWEGIAN

Required Preparatory Courses—1101-1102-1103, 1104-1105

Minor Requirements—3101 and 12 cr of 3670

MINOR SEQUENCE—SWEDISH

Required Preparatory Courses—1101-1102-1103, 1104-1105

Minor Requirements—3101 and 12 cr of 3670

SCANDINAVIAN (Scan)

- 1504. SCANDINAVIAN IMMIGRANT CULTURE AND ITS BACKGROUND.** (4 cr)
Cultural self-maintenance efforts of Scandinavian immigrants to the United States; immigrant literature. Readings in translation.
- 3001, 3002. SCANDINAVIAN LANGUAGES FOR READING I, II.** (4 cr per qtr; prereq 3001 or knowledge of one Scandinavian language for 3002)
Development of reading knowledge of Danish, Norwegian, and Swedish through comparative and contrastive study of English and Scandinavian grammar and basic vocabulary. Basic comprehension and translation exercises, graded interdisciplinary readings in all three languages.
- 3501. INTRODUCTION TO SCANDINAVIA.** (4 cr [no cr toward major])
Cultural, social, and political developments; major cultural figures. Readings in translation.
- 3503 (formerly 5503). SCANDINAVIAN FOLKLORE.** (4 cr) Grimstad
Literary and folkloristic investigation of Scandinavian ballad and folktale. Readings in translation for nonmajors.
- 3505. SCANDINAVIAN FICTION FROM 1890 TO PRESENT.** (4 cr) Simpson
Examined in context of breakdown of traditional forms and changing concepts of "reality."
- 3601. GREAT LITERARY WORKS OF SCANDINAVIA.** (4 cr [no cr toward major]) Houe
Major literary works from the Middle Ages to the present.

- 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.
- 3604. FINNISH LITERATURE IN TRANSLATION.** (4 cr) Vähämäki
Major literary works from the Middle Ages to the present.
- 3605. THE SCANDINAVIAN AND FINNISH SHORT STORY.** (4 cr) Vähämäki
Stories by important 19th- and 20th-century authors. Readings in English for nonmajors.
- 3606 (formerly 5601). 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.
- 3607. SCANDINAVIAN FILM, AN INTRODUCTION AND SURVEY.** (4 cr) Mishler
From origins to present; major filmmakers and trends; introduction to relevant theoretical and critical literature.
- 3612. PÄR LAGERKVIST.** (4 cr) Simpson
Novels, stories, plays, and poetry of Pär Lagerkvist. Readings in English for nonmajors.
- 3613. CHILDREN'S LITERATURE IN SCANDINAVIA.** (4 cr) Houe, Stockenström
Representative works with emphasis on different critical methods of interpretation.
- 3614. POPULAR FICTION AND CULTURE IN SCANDINAVIA.** (4 cr) Houe, Stockenström
Representative genres with emphasis on different critical methods of interpretation.
- 3615. THE FAMILY IN SCANDINAVIAN LITERATURE.** (4 cr) Houe, Stockenström
Representative texts dealing with family socialization from a historical perspective.
- 3618. SCANDINAVIAN DRAMA, 1870-1940.** (4 cr) Stockenström
Plays viewed in context of modern theatre with emphasis on different critical methods of interpretation.
- 3670. TOPICS IN SCANDINAVIAN LITERATURE.** (4 cr per qtr)
Topics announced before first class meetings. Readings in English for nonmajors. Meets with 5670.
- 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.
- 3970H. HONORS COURSE: DIRECTED STUDIES.** (1-5 cr per qtr [15 cr max]; prereq #, Δ)
For description, see 3970.
- 3980. DIRECTED INSTRUCTION.** (Cr ar; prereq #)
Use and extension of basic skills by instructing courses for which student has already received credit.
- 5201. SCANDINAVIAN LITERATURE FROM THE LATE MIDDLE AGES TO THE ENLIGHTENMENT.** (4 cr; prereq reading knowledge of a Scandinavian language; offered alt yrs)
From the 14th century to Bellman and Holberg.
- 5202. FROM ROMANTICISM TO THE MODERN BREAKTHROUGH.** (4 cr; prereq reading knowledge of a Scandinavian language; offered alt yrs)
Romantic and early realistic authors.
- 5404. HISTORY AND STRUCTURE OF FINNISH.** (4 cr) Vähämäki
History and structure (phonology and syntax) of modern Finnish. Readings in translation for nonmajors.
- 5421. FINNISH FOLKLORE: THE KALEVALA.** (4 cr; offered alt yrs) Vähämäki
The Finnish national epic from a folkloristic point of view. Readings in translation.
- 5501. SCANDINAVIAN MYTHOLOGY.** (4 cr) Grimstad
Scandinavian myths based on the Poetic Edda and the Prose Edda. Readings in translation.
- 5502. THE ICELANDIC SAGA.** (4 cr) Grimstad
The saga literature: its origins and development. Readings in translation.
- 5511. SKALDIC POETRY: ITS METHOD.** (4 cr; prereq reading knowledge of Old Icelandic; offered alt yrs) Grimstad
Representative skaldic poetry and its forms and method.
- 5512. THE POETIC EDDA.** (4 cr; prereq reading knowledge of Old Icelandic) Grimstad
Poems from the Poetic Edda (texts in Old Icelandic).
- 5602. FICTION AND FILM.** (4 cr) Stockenström
Film adaptations of classical Scandinavian literary texts by major directors.
- 5611. SCANDINAVIAN LITERATURE IN ITS EUROPEAN CONTEXT: REALISM.** (4 cr) Stockenström
The breakthrough of realism in Scandinavian literature, in its European context. Representative European literary texts from the 19th century—dramas, novels, and criticism—read in translation.
- 5613. CONTEMPORARY SCANDINAVIAN LITERATURE.** (4 cr) Mishler
Major trends after 1945. Readings in translation for nonmajors.

Major Requirements and Course Descriptions

- 5614. THE DRAMA OF IBSEN AND STRINDBERG.** (4 cr) Stockenström
The later plays viewed in context of modern art and theatre with emphasis on different methods of visualizing the landscape of the soul on stage.
- 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.
- 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 theatre. Readings in translation for nonmajors.
- 5617. SCANDINAVIAN LITERATURE IN ITS EUROPEAN CONTEXT: SYMBOLISM.** (4 cr) Stockenström
Symbolism in Scandinavian literature, in its European context. Representative European literary texts from late 19th and early 20th century—dramas, novels, and criticism—read in translation.
- 5618. MODERN SCANDINAVIAN DRAMA.** (4 cr) Stockenström
Scandinavian plays from the 20th century.
- 5619. SCANDINAVIAN POETRY SINCE 1890.** (4 cr; prereq reading knowledge of a Scandinavian language; offered alt yrs) Houe
Representative poets since 1890.
- 5631. 19TH-CENTURY SCANDINAVIAN NOVEL.** (4 cr) Simpson
Development from beginnings to end of 19th century. Readings in translation for nonmajors.
- 5632. 20TH-CENTURY SCANDINAVIAN NOVEL.** (4 cr) Simpson
Novels of Hamsun, Strindberg, Lagerkvist, others. Readings in translation for nonmajors.
- 5670. TOPICS IN SCANDINAVIAN LITERATURE.** (4 or per qtr)
For description, see 3670.
- 5701-5702. OLD NORSE LANGUAGE AND LITERATURE.** (4 or per qtr) Grimstad
Acquisition of reading knowledge of Old Icelandic; linguistic, philological, and literary study of Old Norse language and literature.
- 5703. OLD NORSE: SAGA READING AND ANALYSIS.** (4 cr; prereq 5702; offered alt yrs) Grimstad
(Continuation of 5702) Prose narrative in Old Norse; its literary content.
- 5704. HISTORY OF THE SCANDINAVIAN LANGUAGES.** (4 cr)
From early Middle Ages to the present; cultural history. Readings in translation for nonmajors.
- 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.
- 5712. SCANDINAVIAN HISTORICAL LINGUISTICS.** (4 cr; prereq introductory course in linguistics or #; offered alt yrs)
Internal history of Danish, Norwegian, and Swedish. Readings in translation for nonmajors.
- 5721-5722. MODERN ICELANDIC.** (1 or per qtr; prereq knowledge of Old Icelandic or #5701-5702)
Phonology and grammar; reading of texts.
- 5970. DIRECTED STUDIES.** (1-15 cr per qtr)
Guided individual reading and study of topics not covered in regular courses. Readings in literature in Scandinavian.

DANISH (Dan)

- 1101f-1102w-1103s. BEGINNING DANISH.** (5 or per qtr)
- 1104f-1105w. INTERMEDIATE DANISH.** (5/4 cr; prereq 1103 or equiv)
- 3101s. ADVANCED DANISH.** (4 cr; prereq 1105 or equiv)
Continued development of reading, writing, and speaking skills.
- 3670. READINGS IN DANISH LITERARY TEXTS.** (4 cr per qtr [max 28 cr]; prereq 3101 or equiv)
Use of diverse texts to develop reading, writing, and speaking skills.

FINNISH (Fin)

- 1101f-1102w-1103s. BEGINNING FINNISH.** (5 or per qtr)
- 1104f-1105w. INTERMEDIATE FINNISH.** (5/4 cr; prereq 1103 or equiv) Vähämäki
- 3101s. ADVANCED FINNISH.** (4 cr; prereq 1105) Vähämäki
Continued development of writing and speaking skills; problems and usage of Finnish grammar.
- 3670. READINGS: FINNISH TEXTS.** (4 cr per qtr [max 28 cr]; prereq 3101) Vähämäki
Use of diverse texts from 19th and 20th centuries to develop reading, writing, and speaking skills.

NORWEGIAN (Nor)

- 1101f-1102w-1103s. **BEGINNING NORWEGIAN.** (5 or per qtr)
 1104f-1105w. **INTERMEDIATE NORWEGIAN.** (5/4 or; prereq 1103 or equiv)
 3101s. **ADVANCED NORWEGIAN.** (4 cr; prereq 1105 or equiv)
 Continued development of reading, writing, and speaking skills.
 3670. **READINGS IN NORWEGIAN LITERARY TEXTS.** (4 or per qtr [max 28 or]; prereq 3101 or equiv)
 Use of diverse literary texts to develop reading, writing, and speaking skills.

SWEDISH (Swed)

- 1101f-1102w-1103s. **BEGINNING SWEDISH.** (5 or per qtr)
 1104f-1105w. **INTERMEDIATE SWEDISH.** (5/4 or; prereq 1103 or equiv) Grimstad
 3101s. **ADVANCED SWEDISH.** (4 or; prereq 1105 or equiv) Stockenström
 Continued development of reading, writing, and speaking skills.
 3670. **READINGS IN SWEDISH LITERARY TEXTS.** (4 or per qtr [max 28 or]; prereq 3101 or equiv)
 Use of diverse texts to develop reading, writing, and speaking skills.

SERBO-CROATIAN

See Russian and East European Studies.

Social Science (SSci)

Courses in social science are cross-disciplinary and sometimes experimental. For current offerings, see the *Class Schedule* or inquire in 203 Johnston Hall. Other cross-disciplinary courses are listed under the headings Literature and Fine Arts and Natural Science and Technology. A major program is not offered in social science.

3101. **AN INTRODUCTION TO MARXISM.** (4 or)
 Marxist philosophy; evolutionary and revolutionary processes of change; formation of class societies; capitalism, imperialism, paths to socialism; transition from socialism to communism.
 3251w-3252s. **METRO INTERN SEMINAR.** (3/2 or; prereq #)
 3251: Developing an understanding of social ethics, especially of the corporation's role in society. 3252: Specific issues facing society in which corporations are involved.
 3970. **DIRECTED STUDIES.** (1-5 or per qtr; prereq consultation with Office for Special Learning Opportunities, Δ)
 Guided individual reading or study.
 5402f-5403w. **ECOLOGY, TECHNOLOGY, AND SOCIETY.** (4 or per qtr)
 5402: Growth of technological systems and their impact on society, values, and nature. Features of and problems in transition to a sustainable society. Energy alternatives. Emerging life-support technologies and associated values. 5403: Military technology related to problems of life support, major dilemmas of economic growth and control of technology, ethical problems faced by engineers, factors in transition to a sustainable society.

Social Work (SW)

Staff—Director, Neil F. Bracht, 400 Ford Hall

Professors: Bracht, Cohn, Hollister, Hoshino, Sterne

Associate Professor: Wattenberg

Assistant Professors: Auclair, Austin, Battle, Belgum, Grossman, McClelland, Quam, A. Stewart, W. Stewart

Instructor: Korbek

Coordinators: Abramson, Battle, Guminga, Johnston, Sullivan

Two baccalaureate degrees are offered through the School of Social Work: the B.A. in social welfare and the B.S. in social work.

Major Requirements and Course Descriptions

The B.A. program is a broadly based liberal arts course of study with a core of social work courses. It emphasizes awareness of social needs and problems and the political implications of human service issues.

The B.S. program emphasizes skills necessary for beginning social work practice as well as broad studies in areas that relate to human service. A 480-hour fieldwork experience, under supervision, and a concurrent student-faculty field seminar are required. To be admitted you must meet academic and community service prerequisites. A limited number of places are available in the program. Admission is for fall quarter only.

Additional information may be obtained from the undergraduate adviser, 430 Ford Hall. Prospective majors, especially for the B.S., are urged to consult the adviser *early* in the sophomore year.

Note: Admission to B.S. program in social work has been temporarily suspended. No students will be admitted for fall 1982 or fall 1983. For information about admission after 1983, contact the undergraduate adviser.

B.A. MAJOR SEQUENCE

Required Preparatory Courses—1001; Psy 1001; CPsy 1301

One course each from any two of the following four categories: Soc 1001; Anth 1102; Econ 1001, 1014, 3001, 3002; Pol 1001, 1027, 1031, 1041, 1051

Major Requirements—3004, 3005, 3101, 3984

32 cr from the following areas (list of specific courses available at undergraduate adviser's office): one course in cross-cultural studies, one in organization theory; remaining cr from communication, urban and regional settings, social problems, social history, law and social policy, and human growth, development, and change

B.S. MAJOR SEQUENCE

Required Preparatory Courses—Same as for B.A. degree

Major Requirements—3031-3032-3033, 3989, 5101, 5201, 5401, 5414, 5601, 5984; Hist 5349; Psy 3604; one course in organization theory; one course in statistics; three 3xxx-5xxx courses approved by adviser

1001f,w,s. INTRODUCTION TO SOCIAL WELFARE AND COMMUNITY SERVICES. (5 cr)

History of American social services; rise of professional social work in response to human need. Social, political, and economic factors influencing public policy and services. Role of social workers with individuals, families, groups, and communities; values and ethics of professional helping role.

1002-1003-1004f,w,s. COMMUNITY EXPERIENCE IN SOCIAL WELFARE. (1 cr per qtr [3 cr max]; prereq 1001, #)

Directed volunteer experience in an approved agency providing social services.

3004f,w,s. SOCIAL WORK ISSUES AND HUMAN DEVELOPMENT THROUGH THE LIFE CYCLE. (4 cr, \$520; prereq jr or sr, 1001, CPsy 1301)

Normative development for social, psychological, biological, and cultural perspectives. Integration of theoretical concepts with practice issues.

3005f,w,s. SOCIAL WORK: THE ART OF HELPING PEOPLE. (4 cr, \$540; prereq 1001, 3004)

Function of values and knowledge in social work practice; Meaning of giving and receiving help; process of intervention; use of self in the professional relationship.

3006. SOCIAL WORK PRACTICE IN SELECTED SETTINGS. (4 cr; prereq 1001, 3004, 3005, BS major or #)

Social work practice theory in adaptations to specific target populations—children and youth, the emotionally ill, offenders, the aged, the disabled.

3020H. HONORS SEMINAR: SPECIAL TOPICS. (3 cr per qtr; prereq 1001, jr or sr honors candidate)

3031-3032-3033f,w,s. FIELD PRACTICE: SUPPORTING SEMINAR. (4 cr per qtr; for BS majors only; S-N only; prereq 3004, 3005, written consent of field coordinator)

Supervised practice in primary service roles in community service delivery systems; supporting seminar.

- 3101f,w,s. CURRENT SOCIAL POLICY PROBLEMS AND SOCIAL WELFARE.** (4 cr, §5111; prereq 1001)
Development and future course of U.S. social welfare system particularly since mid-1960s. Interplay of historical, economic, and political factors in shaping our contemporary social welfare system. Examination and evaluation of system's response to social problems (e.g., income inequality, discrimination, unemployment).
- 3102f,w,s. SOCIAL SERVICE PROGRAMS FOR CHILDREN AND ADULTS.** (4 cr; prereq 3101 or #)
Historical development, philosophies, and characteristics of programs for dependent or neglected children, the mentally retarded, the mentally ill, the physically handicapped, and juvenile and adult offenders.
- 3970f,w,s. DIRECTED STUDIES.** (1-15 cr per qtr; for majors only; prereq #)
Guided individual reading or study.
- 3984f,w,s. COMMUNITY ORGANIZATION/DEVELOPMENT PRACTICE.** (4 cr, §5984; prereq 1001)
Community processes, change, and organization. Community organization: theory and principles, stressing citizen participation, and value base. Comparison of three strategies for social work intervention at community level in terms of constituencies, influence on decision making, and suitability.
- 3989f,w,s. RESEARCH METHODS IN SOCIAL WORK.** (4 cr; for BS majors only or #)
The logic and methods of inquiry in human service fields and programs.
- 3990f,w,s. DIRECTED RESEARCH.** (Cr ar; prereq #)
- 5010f,w,s. SEMINAR: SPECIAL TOPICS.** (3 cr)
- 5111 (formerly 5101). CONTEMPORARY POLICY AND PROGRAMS IN SOCIAL WELFARE.** (3 cr for grads, 4 cr for undergrads, §3101; prereq grad standing or 12 cr in social sciences)
Concepts and principles of social policy for social welfare programs and services.
- 5102. THE CHANGING ROLES OF MEN AND WOMEN.** (3 cr; prereq WoSt 1005 or 1006 or equiv and jr or sr major in social work or grad student)
Changing relationships between men and women. Factors of race, ethnicity, and social class in changing roles in economic, social, and psychological dependencies; family and work; child rearing and custody issues; child support, work, welfare, poverty. Implications for social services and social welfare policies.
- 5211 (formerly 5201). ADVANCED THEORIES OF HUMAN GROWTH AND CHANGE.** (3 cr for grads, 4 cr for undergrads; prereq grad standing or 12 cr in social sciences)
Socio-psychobiological factors associated with individual and group development as applied to social work practice.
- 5401f. INTRODUCTION TO SOCIAL WORK PRACTICE.** (3 cr for grads, 4 cr for undergrads, §3005; prereq 1001, Psy 1001 and 3604, Soc 1001, jr or sr or selected grad students or #)
Nature, purpose, and function of the social work professional; knowledge and value base of practice. The social work interview and the problem-solving process.
- 5404. BEGINNING CHILD WELFARE PRACTICE.** (3 cr; prereq BS or MS major, 1001, 3004, 3005, 3101, 3102, #)
Exploration, organization, and application of knowledge about demands of child welfare practice. Analysis of and intervention in problems and cases; worker functioning.
- 5414. FUNDAMENTALS OF SOCIAL GROUP WORK.** (3 cr, §8414; prereq 3005, sr or grad major in social work)
Principles of social group work practice applicable to both task and treatment groups. Small group as a social process to achieve task and treatment goals. Sociophilosophic orientation, theoretical frames of reference, application of structure, task and process variables, use of member-to-member interactions, group goal setting, and professional relationships with groups, individual members, and systems external to small groups.
- 5601f,w,s. ETHNOCULTURAL CONCEPTS IN SOCIAL WORK PRACTICE.** (3 cr for grads, 4 cr for undergrads; prereq 1001)
Relation of ethnocultural concepts to development of social welfare policies and services and social work practice. Common principles and cross-ethnic issues; significant orientations toward welfare issues and practices among American Indian, Asian American, black, and Hispanic groups. Contributions of each to effective interpersonal and intragroup relationships within the social service delivery system.
- 5984w,s. COMMUNITY ORGANIZATION/DEVELOPMENT PRACTICE.** (4 cr, §3984; prereq 1001)
For description, see 3984. Assignments focus on application of concepts to critical incidents in community organization practice. Weekly exercises for review, comment, and grade.

Sociology (Soc)

Staff—Chair, David Cooperman, 1114a Social Sciences Building; *Director of Undergraduate Studies,* Bert Ellenbogen, 1160 Social Sciences Building; *Director of Graduate Studies,* Joel Nelson, 1135 Social Sciences Building; *Director of Honors,* Raymond Bradley, 1168 Social Sciences Building

Regents' Professor: Hill

Major Requirements and Course Descriptions

Professors: T. Anderson, Carter, J. Clark, Cooperman, Donohue, Ellenbogen, Finestone, Fulton, Johnson, Leik, Malmquist, Martindale, McTavish, Mortimer, Nelson, Reiss (on leave 1982-83), Reynolds, Simmons, Thornton, Ward

Associate Professors: R. Anderson, Fine, Galaskiewicz, Kennedy, Spitzer

Assistant Professors: Bradley, Delany, Fischer, Inverarity, Kruttschnitt, Patton (on leave, 1982-83)

Adjunct Faculty—Cantrell (Rural Sociology), S. Clark (College of Education), Litman (School of Public Health), Samaha (History), 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 designed for students interested in a more rigorous concentration in research methodologies. 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, 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, 1123 Social Sciences Building, 373-5476.

Directed Studies, Field Experience—Students in sociology are encouraged to plan a field experience. Credit may be earned by proposing a directed studies project developed from the experience. Obtain a copy of *Procedures and Policies for Directed Studies and Research in Sociology* at the Undergraduate Advising office and consult the Office of Special Learning Opportunities, 220 Johnston Hall, for information about arranging internships.

General Education—1001 and 1002 deal with a broad sociological analysis of American social life; 1960 involves intensive consideration of specific aspects of society. Courses at the 3xxx and 5xxx levels focus on more advanced study in substantive areas.

B.A. MAJOR SEQUENCE

Required Preparatory Course—1001

Major Requirements—General Option: 3201, 3401

3801, 3802, 3803 (should be taken as soon as possible)

5701 or 5703 or 5705 or 5711

16 additional cr in 3xxx-5xxx sociology courses; 3970, 3980, and 5970 may be included with instructor's approval

Major Requirements—Sociology of Law, Criminology, and Deviance Option: 3201 or 3401

3801 and either 3802 or 3803 (should be taken as soon as possible)

5701 or 5703 or 5705 or 5711

3101, 3102

Three courses chosen from 5101, 5102, 5104, 5105, 5107, 5108, 5111, 5114, 5125, 5135, 5141, 5142, 5147, 5148, 5161, 5162

At least one 3xxx or 5xxx course from another area in sociology (4 or 5 cr)

B.S. MAJOR SEQUENCE

Required Preparatory Course—1001

Major Requirements—3201, 3401

3801, 3802, 3803 (should be taken as soon as possible)

5701 or 5703 or 5705 or 5711

16 additional cr in 3xxx-5xxx sociology courses; 3970, 3980, and 5970 may be included with instructor's approval

A 6-8 cr research design project in sociology

27 cr in supportive field courses; areas that may be included are mathematics, symbolic logic, computer programming, linguistics, psychometrics, econometrics, philosophy of science. See the advising office for a list of approved courses.

MINOR SEQUENCE—GENERAL SOCIOLOGY

Required Preparatory Course—1001

Minor Requirements—3201, 3401, 3801; one theory course chosen from 5701, 5703, 5705, or 5711; 4 cr in a 3xxx or 5xxx sociology course

MINOR SEQUENCE—AGING

Required Preparatory Course—1001

Minor Requirements—3201 or 5201, 3401 or 5401, 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 the heading Criminology and Deviance

MINOR SEQUENCE—FAMILY

Required Preparatory Course—1001

Minor Requirements—3201 or 5201, 3401 or 5401, 3501, 5505, 5506

MINOR SEQUENCE—POLITICAL SOCIOLOGY

Required Preparatory Course—1001

Minor Requirements—3401 or 5401, 3405, 3801, 5311, 5755

MINOR SEQUENCE—RURAL SOCIOLOGY

Minor Requirements—3551, 5651, 5661, 5675; one theory course chosen from 5701, 5703, 5705, or 5711

MINOR SEQUENCE—SOCIAL ORGANIZATION

Required Preparatory Course—1001 or 1001H

Minor Requirements—3401 or 5401, 3405 or 5405, 5411; one theory course chosen from 5701, 5703, 5705, or 5711; one sociology course from approved list, available in advising office

Major Requirements and Course Descriptions

MINOR SEQUENCE—SOCIAL PSYCHOLOGY

Required Preparatory Course—1001

Minor Requirements—3201 or 5201, 3214, 5205, 5211 or 5215; one theory course chosen from 5701, 5703, 5705, or 5711

MINOR SEQUENCE—URBAN SOCIOLOGY

Required Preparatory Course—1001 or 1002

Minor Requirements—3401 or 5401, 3601, 5601, 5605; one theory course chosen from 5701, 5703, 5705, or 5711

GENERAL

1001f, w.s. 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.

1001H. HONORS COURSE: INTRODUCTION TO SOCIOLOGY. (4 cr) Bradley, Carter, Fine

For description, see 1001.

1002f, w.s. AMERICAN COMMUNITY. (4 cr) Cooperman, Kennedy, Martindale

Sociological analysis of modern American society. Distribution of population, urban-rural differences, social factors in business systems, occupational groups, determination of social status, minority group adjustment.

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.

3101 (formerly CJS 3101). INTRODUCTION TO AMERICAN CRIMINAL JUSTICE. (4 cr, §CJS 3101) Kruttschnitt, Ward

Components and dynamics as well as philosophical underpinnings of the criminal justice system.

3102 (formerly 3102, 3103). INTRODUCTION TO CRIMINAL BEHAVIOR AND SOCIAL CONTROL. (4 cr; prereq 3101) Kruttschnitt, Ward

Basic issues in criminology and the sociology of law and social control organizations.

5101. SOCIOLOGY OF LAW. (4 cr; prereq 3101, 3102 or #...5705 recommended) Inverarity

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.

5102. CRIMINOLOGY. (4 cr; prereq 3101, 3102 or #)

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.

5104 (formerly CJS 5113). COMMUNITY-BASED CORRECTIONS. (4 cr, §CJS 5113; prereq 3102 or #)

Theories behind and structures of diversion, probation, parole, and other community corrections programs that exist as alternatives to imprisonment.

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.

5107 (formerly CJS 5121). COMPARATIVE CRIMINOLOGY AND CRIMINAL JUSTICE SYSTEMS. (4 cr, §CJS 5121; prereq 3102 or #)

Theories of crime causation and operation of criminal justice agencies in other countries.

5108 (formerly CJS 5207). CURRENT ISSUES IN CRIME CONTROL. (4 cr; §CJS 5207; prereq 3102 or #)

Criminal justice policies examined from perspective of courts, legislature, community, and interest groups; impact of changes in policy on society and social control agencies.

- 5111. SOCIOLOGY OF DEVIANT BEHAVIOR.** (4 cr; prereq 3101, 3102 or #) Finestone
The nature of deviant behavior, the social process associated with the careers of deviants, and the relationship of deviancy to problems of social control.
- 5114 (formerly CJS 5114). THE SOCIAL CONTROL OF WOMEN OFFENDERS.** (4 cr; §CJS 5114; prereq 3102 or #) Kruttschnitt
Historical and current explanations for female criminality; current trends in women's participation in crime and treatment of women by legal system.
- 5125. POLICING IN AMERICAN SOCIETY.** (4 cr; prereq 3101, 3102 or #...5161, 5162 recommended) Clark, Sykes
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.
- 5135. WHITE COLLAR CRIME.** (4 cr; prereq 3101, 3102 or #...5161, 5162 recommended) Clark
White collar crime, broadly construed; roots in American society, responses offered by theoreticians and amateur and professional politicians.
- 5141. JUVENILE DELINQUENCY.** (4 cr; prereq 3101, 3102 or #...5161, 5162 recommended) Clark, Finestone
Advanced study of juvenile delinquency and societal response to it through regulatory agencies; special characteristics of juvenile justice institutions.
- 5142 (formerly CJS 5103). JUVENILE JUSTICE LAW AND ORGANIZATION.** (4 cr, §CJS 5103; prereq 3101, 3102 or #...5161, 5162 recommended)
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.
- 5147. SOCIOLOGY OF MENTAL ILLNESS AND HEALTH.** (4 cr; prereq 1001, 3102 or #) 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.
- 5148 (formerly CJS 5205). CRIMINAL PSYCHOPATHOLOGY.** (4 cr, §CJS 5205; prereq sr or grad student) Malmquist
Psychiatric and psychological aspects of antisocial and criminal behavior as related to issues faced in the courts and criminal justice system.
- 5161 (formerly CJS 5101). 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.
- 5162 (formerly CJS 5102). 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.

SOCIOLOGY AND RELIGION

- 5151. RELIGION AS A SOCIAL INSTITUTION.** (4 cr; prereq 8 or in social science or #) Johnson
Structure and function of religious organizations in various types of societies; nature of religious leadership, type of religious participation; relationship of religion to other social institutions.

SOCIAL PSYCHOLOGY

- 3201. PRINCIPLES OF SOCIAL PSYCHOLOGY.** (5 cr; prereq 1001) R Anderson, Fine, Spitzer
Ideas and findings related to social psychology; experience in developing empirically based knowledge in social science.
- 3201H. HONORS COURSE: PRINCIPLES OF SOCIAL PSYCHOLOGY.** (5 cr; prereq sociology honors student, 1001 or 1001H or #) R Anderson, Fine, Spitzer
For description, see 3201.
- 3214. UNDERSTANDING EVERYDAY LIFE.** (4 cr; prereq soph) Reynolds
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).
- 5201. INTRODUCTION TO SOCIAL PSYCHOLOGY.** (4 cr [no cr for sociology majors]; prereq 8 or in sociology, anthropology, psychology, political science or economics) Fine, Spitzer
Research and theory regarding relation of individual social groups. Socialization processes; effects of social interaction and isolation; individual behavior under conditions of social organization and disorganization; cultural influence and its limits.

Major Requirements and Course Descriptions

- 5206. SYMBOLIC INTERACTION.** (4 cr; prereq 3201 or 5201 or equiv or #) Finestone
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.
- 5211. SOCIAL PROCESSES IN SMALL GROUP SETTINGS.** (4 cr; prereq 3201 or 5201 or equiv or #) R Anderson, Reynolds
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. Laboratory arranged.
- 5215. SELF-CONCEPT IN THEORY AND RESEARCH.** (4 cr; prereq jr or sr or grad student, 16 or in social science and/or education or #) 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

- 3315 (formerly 5315). LATIN AMERICAN SOCIETIES IN TRANSITION.** (4 cr; prereq 8 or in sociology, economics, anthropology or political science or #) Ellenbogen
Relationship of population, technology, and organization structure to levels of modernization among Latin American nations. Differentiation, diffusion, innovation, and social conflict as precipitants of social change.
- 5361. SOCIAL MOVEMENTS IN A CHANGING SOCIETY.** (4 cr; prereq 3401 or 5401 or equiv or #)
Factors underlying social change in modern mass society. Recent research on social movements, reform and revolution, culture contact, impact of rapid technological change. Individual and social structures under rapid social change.
- 5311. SOCIOLOGY OF CONFLICT.** (4 cr; prereq 3401 or 5401 or equiv or #) Cooperman
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.

POPULAR CULTURE AND PUBLIC OPINION

- 3352. SOCIOLOGY OF CULTURAL FORMS.** (4 cr) Fine
Social development and usage of cultural forms, including art, music, theatre, popular arts, folk arts, and forms of social communication.
- 5351. SOCIOLOGY OF POPULAR CULTURE.** (4 cr; prereq 16 or in sociology or #) Fine
Social preconditions and social effects of popular culture. Popular vs. nonpopular culture; selected popular arts.
- 5355. OPINION AND COMMUNICATION: SOCIAL FACTORS.** (4 cr; prereq 16 or in sociology or #) R Carter
Opinion formation and change in relation to individual characteristics and social structure; flow of public communications through society; impact of communication on audiences.
- 5371. SOCIOLOGY OF SPORT.** (4 cr; prereq 1001, 3201 or #)
Sport within and among societies and nations; social organization—socioeconomic development, contemporary structure, personnel, fans; relationship to other institutions—economy, education, family, government, religion; social differentiation—status, ethnicity, sex, age; careers; ethical and social problems—honesty and violence.

SOCIAL ORGANIZATION AND SOCIAL STRUCTURE

- 3401. PRINCIPLES OF SOCIAL ORGANIZATION.** (5 cr; prereq 1001, 3801 or equiv) Bradley, Delany, Galaskiewicz, Mortimer
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.
- 3401H. HONORS COURSE: PRINCIPLES OF SOCIAL ORGANIZATION.** (5 cr; prereq sociology honors student, 1001 or 1001H or #) Bradley, Delany, Galaskiewicz, Mortimer
For description, see 3401.
- 3405. INEQUALITY: INTRODUCTION TO STRATIFICATION.** (4 cr; prereq 1001) T Anderson, Fulton, Nelson
Inequality—causes and consequences. Inequality in American society. Related concepts of class, class cultures, status aggregates; the social forms of inequality, their consequences for life changes and styles.

- 5401. SOCIAL ORGANIZATION.** (4 or [no cr for sociology majors]; prereq 8 cr in sociology, anthropology, psychology, political science or economics) Bradley, Galaskiewicz, Mortimer
Theories of social structure, social stratification, community structure, status groups, the nature of social power, social control processes, aspects of formal organizations, and rational actor models for decentralized social processes.
- 5405. SOCIAL STRATIFICATION AND MOBILITY.** (4 cr; prereq 3401 or 3405 or 5401 or any 3xxx sociology course or equiv or #...some statistics recommended) Fulton, Nelson
Form and content of hierarchical arrangements. Relationship of hierarchical arrangements to problems of social order and individual behavior.
- 5411. FORMAL ORGANIZATIONS.** (4 or; prereq 3401 or 5401 or equiv or 8 cr in sociology, anthropology, psychology, political science or economics or #) Delany
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.
- 5415. COMPARATIVE SOCIAL STRUCTURE.** (4 or; prereq 20 or in sociology, economics or political science or #) Cooperman, Patton
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.
- 5421. OCCUPATIONAL SOCIOLOGY.** (4 or; prereq 3201 or 3401 or 3405 or 5201 or 5401 or equiv or #) 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.
- 5441. WORK-FAMILY LINKAGES.** (4 or; prereq 8 or in sociology or #) 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.

FAMILY SOCIOLOGY

- 3501. THE FAMILY SYSTEM.** (4 cr; prereq 1001 or #) Johnson, 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.
- 3501H. HONORS COURSE: THE FAMILY SYSTEM.** (4 or; prereq 1001 or 1001H or #) Hill, Reiss
For description, see 3501.
- 3503. SEX, ROMANCE, AND RELATIONSHIPS.** (4 or; prereq 1001) Fischer
Sociological perspectives on sexual socialization; ideas of masculinity and femininity; history and functions of love and romance; characteristics of romantic relationships, intimacy, emotionality, sexuality, exclusivity; sexual deviance in relation to sexual norms.
- 5505. FAMILY DEVELOPMENT.** (5 cr; prereq 1001, 3201 or 5201 or equiv, CPsy 1301 or #) Hill
The natural history of families—how they form, function, and achieve distinctive identities. Developmental growth of children and parents in interaction in seven stages of the family life cycle, from engagement planning to family dissolution.
- 5506. NEW FORMS OF THE FAMILY.** (4 or; prereq 8 or in sociology or #) Reiss
Evolving courtship, marital, and family forms. New concepts of sexuality, masculinity-femininity, familial roles, legitimacy, communal living; perspective on the developing family system.
- 5511. COMPARATIVE FAMILY ORGANIZATION.** (4 cr; prereq 8 or in sociology or #) Hill, Reiss
Comparison of family systems in various parts of world. Reliance on sociological and anthropological research outside the Western world with comparisons to Western systems. Place of family in overall kinship systems and among other major institutions (economic, political, religious).
- 5524. SOCIOLOGY OF HUMAN SEXUALITY.** (4 cr; prereq 8 or in sociology or #) Reiss
Examination of human sexuality from a social perspective. How sexual preferences develop, trends in sexual relationships in various parts of our society, and social factors affecting sexual permissiveness.

DEMOGRAPHY

- 3551f.w. WORLD POPULATION PROBLEMS.** (4 cr) T Anderson, Kennedy
Population growth and natural resources, population dynamics, fertility and mortality in less developed nations, population forecasts, population policies to reduce fertility.

Major Requirements and Course Descriptions

- 5555. POPULATION THEORY.** (4 cr; prereq 3551 or #) T Anderson, Kennedy
What social science theory is; systematic evaluation of writings in population as theoretical works.
- 5561. DEMOGRAPHIC METHODS.** (4 cr, §PubH 5460; prereq 3551 or #) Kennedy
Demographic measures and concepts of fertility, mortality, and migration. Stable population methods, demographic estimates from incomplete data.

URBAN SOCIOLOGY

- 3601. URBAN COMMUNITY.** (4 cr; prereq 1001 or 1002) Bradley, Cooperman
Urban community patterns. Comparison of social interaction in neighborhood, city, and metropolis. Community studies. Urban power structures. Settlement patterns, organization of social life and urban problems.
- 3610. URBAN SOCIAL ORGANIZATION WORKSHOP.** (4 cr; prereq 3401)
Structure and process of urban social organization by means of a project focused fieldwork team linking theory to practice through organized field research.
- 5601. URBAN SOCIOLOGY.** (4 cr; prereq 3401 or 3405 or 5401 or equiv or #...some statistics recommended)
T Anderson, Bradley, Cooperman
Cities, urban ecology, urban institutions, and the urban way of life.
- 5605. URBANIZATION AND SOCIAL POLICY.** (4 cr; prereq 5601 or #) Bradley, Cooperman
"Problematic" contemporary changes in urban processes; responses and policies of public groups. Interrelationships of social, cultural, economic, political factors in development of urban problems. Models of urban systems and social policy formation. Social cost analysis and formation of policy alternatives.

RURAL SOCIOLOGY

- 1651. RURAL SOCIOLOGY.** (4 cr) Cantrell, Donohue
Factual data necessary to understand problems of rural social life.
- 3671 (formerly 5671). COMPARATIVE RURAL SOCIETIES: LATIN AMERICA.** (4 cr; prereq 8 cr in sociology, anthropology, economics or political science or #) Ellenbogen
Social and cultural change in Latin America. Demographic and ecological characteristics, institutional structure and its accompanying associations; linkages with outside and world views.
- 5651. RURAL SOCIAL INSTITUTIONS.** (4 cr; prereq any 3xxx sociology course or equiv or #) Donohue
Factors in the rural environment that condition the functioning of rural social institutions— family, school, church, local government, health, welfare.
- 5661. RURAL COMMUNITY ANALYSIS.** (4 cr; Intended for persons in rural community organization, rural teaching, extension work, and related fields; prereq any 3xxx sociology course or equiv or #) Donohue
Tools, techniques, and methods of making community field studies.
- 5675. WORLD FOOD SUPPLY PROBLEMS.** (4 cr, §AgEc 5790, §Agro 5200, §FScN 5643, §PIPa 5220, §LACS 5280; prereq major in agriculture, veterinary medicine, nutritional sciences, social science field or #...grad students by Δ only) Ellenbogen
Multidisciplinary approach to social, economic, and technical problems of feeding the world's growing population. Principles sought from the social and economic sciences. Principles from the plant, animal, and nutritional sciences and their application to food problems.

SOCIAL THEORY

- 5701f. ANALYTICAL SOCIAL THEORY.** (4 cr; prereq 8 cr in social science or #) Martindale
Major problems of sociological theory; main types: positivistic, rationalistic, idealistic; major theoretical concepts.
- 5703w. SOCIAL LIFE AND CULTURAL CHANGE.** (4 cr; prereq 8 cr in social science or #) Martindale
Theories of social change; methodological problems. Comparative social thought and structure of antiquity as basic data for analysis.
- 5705a. BACKGROUNDS OF MODERN SOCIAL THOUGHT.** (4 cr; prereq 8 cr in social science or #) Inverarity, Martindale
Major trends of social thought from Renaissance to 19th century; origins of sociology.
- 5711. ELEMENTS OF SOCIOLOGICAL ANALYSIS.** (4 cr; prereq 8 cr in social science or #) Inverarity, Reynolds
Premises upon which social theories are developed. Construction of social theory.

SOCIOLOGY OF POLITICAL AND LEGAL INSTITUTIONS

- 5755. SOCIAL STRUCTURE AND POLITICAL BEHAVIOR.** (4 cr; prereq 3401 or 5401 or equiv or #) Galaskiewicz
Structural and ideological conditions influencing the legitimization of political institutions; relationships to political participation, political apathy, and the rise of mass movements.

METHODOLOGY

- 3801f,w. SOCIOLOGICAL METHODS I: DESCRIPTIVE STATISTICS.** (5 cr; prereq basic algebra or Math 0009)
T Anderson, Delany, McTavish
Descriptive statistics in analysis of sociological data, measures of central tendency, deviation, correlation and regression graphs, simple treatment of three and four variables, probability.
- 3801Hf,w. HONORS COURSE: SOCIOLOGICAL METHODS I: DESCRIPTIVE STATISTICS.** (5 cr; prereq basic algebra or Math 0009, #) T Anderson, Leik, McTavish
For description, see 3801.
- 3802w,s. SOCIOLOGICAL METHODS II: STATISTICAL INFERENCE.** (5 cr; prereq 3801 or equiv or #) T Anderson, Leik, McTavish
Statistical inferences, probability, hypothesis tests, use of statistical reasoning in analysis of sociological data.
- 3802Hw,s. HONORS COURSE: SOCIOLOGICAL METHODS II: STATISTICAL INFERENCE.** (5 cr; prereq 3801H or equiv or #) T Anderson, Leik, McTavish
For description, see 3802.
- 3803f,s. SOCIOLOGICAL METHODS III: RESEARCH METHODS.** (5 cr; prereq 3801, 3802 or equiv or #) R Anderson, Bradley, Inverarity, McTavish
Data collection methods; advantages and limitations of major methods when applied to specific types of problems.
- 3803Hs. HONORS COURSE: SOCIOLOGY RESEARCH METHODS.** (5 cr; prereq 3802H or equiv or #) Inverarity, McTavish, Simmons
Major principles of research design and analysis focusing on participant observation and survey design and analysis. Practice in data collection and analysis.
- 3811f,w. COMPUTER USAGE FOR SOCIAL STATISTICS.** (1 cr; S-N only; #3801 recommended)
Elementary computer usage in social statistics applications. Use of statistical program packages for analysis of sociological data.
- 5801. COMPUTER METHODS IN SOCIAL RESEARCH.** (4 cr) R Anderson
Basic concepts of information processing for social science research; elementary computer programming; practice in the use of computers for data analysis in social science; problems of computer usage in sociology.
- 5821. EVALUATION RESEARCH.** (4 cr; prereq 3801, 3802, 3803 or #) Patton
Evaluation methodology, steps in conducting evaluations of education and social action programs; special problems in evaluation research; differences between evaluation research and basic research. Preparation of students to conduct evaluation research.

SOCIOLOGY OF HEALTH AND HEALTH CARE

- 5855f,s. SOCIOLOGY OF MEDICINE AND HEALTH CARE: AN INTRODUCTION TO MEDICAL SOCIOLOGY.** (4 cr, \$PubH 5790; prereq jr, sr or grad student) 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.

GERONTOLOGY AND THANATOLOGY

- 3937 (formerly 3957). SOCIAL GERONTOLOGY: ELDERS IN AMERICAN SOCIETY.** (4 cr; prereq 1001 or #) Fischer, Kennedy, McTavish
Situations and problems facing aging people in modern societies. Aspects of human aging from a sociological perspective.
- 5938 (formerly 5957). AGING AND THE LIFE COURSE.** (4 cr; prereq 3201, 3401 or 5201, 3937, 5401 or equiv or #) Fischer, McTavish
Theories of aging, age stratification, generational change; comparative study at organization and individual levels. Lecture and discussion.
- 5956. SOCIOLOGY OF DEATH.** (4 cr; prereq jr or sr, 8 cr in sociology or #) Fulton
Issues and problems that mortality presents in contemporary society.

OTHER AREAS

- 5951. MINORITY GROUP RELATIONS.** (4 cr; prereq 3201, 3401 or 5201, 5401 or equiv or #) 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.

Major Requirements and Course Descriptions

- 5952. YOUTH IN MODERN SOCIETY.** (4 cr, §SPFE 5125; prereq 1001 or equiv or #) S Clark
Youth in advanced societies; youth as a social entity; functions of youth in industrial societies; roles in family, education, politics and government, economy and work, welfare and religion; youth organizations, social movements and subcultures; empirical research and cross-cultural perspectives.
- 5953. SOCIOLOGY OF EDUCATION.** (4 cr, §SPFE 5190; prereq 1001 or equiv or #) S Clark
Advanced studies. School as socialization process, social structure of education, role of school in social change, other areas. Theory and empirical research.
- 5954. WOMEN AND MEN IN THE UNITED STATES TODAY.** (4 cr; prereq 3201 or 3401 or 3405 or 3503 or 5201 or 5401 or equiv or #)
Sociological analysis of position of women vis-à-vis men in United States; changes that have led to current situation; changes in society to adjust to sex role changes.
- 5958. SOCIOLOGY OF HIGHER EDUCATION.** (4 cr, §SPFE 5192; prereq 1001 or equiv or #) S Clark
Social aspects of higher education: socialization of students, comparative institutional organization, role structure, others. Theory and empirical research.

SPECIAL COURSES

- 1960. TOPICS IN SOCIOLOGY.** (4 cr per qtr; prereq 1001)
Special one-time offerings for freshmen and sophomores; topics specified in the *Class Schedule*.
- 3960. TOPICS IN SOCIOLOGY.** (4 cr per qtr; prereq 1001)
Special one-time offerings for juniors and seniors; topics specified in the *Class Schedule*.
- 3970f,w,s. DIRECTED STUDIES.** (1-15 cr per qtr; prereq #)
Guided individual reading or study.
- 3980f,w,s. DIRECTED INSTRUCTION.** (1-5 cr per qtr [8 cr max for degree]; prereq #)
Students assist in classes they have previously taken for credit, under faculty supervision.
- 3990. SOCIOLOGY HONORS PROJECT.** (4 or 8 cr per qtr [8 cr max]; prereq jr or sr sociology honors student, #)
Individual work on honors thesis under supervision of student's honors thesis adviser.
- 3991. JUNIOR HONORS SEMINAR.** (1-4 cr; prereq jr or sr sociology honors student and #) Bradley, Fine
Meetings with different faculty members discussing their areas of research interest. Initial organization of the students' honors thesis projects.
- 3996, 3997, 3998. HONORS THESIS SEMINAR.** (4 cr; prereq jr or sr sociology honors student) Bradley
Preparation and discussion of honors thesis.
- 5960. TOPICS IN SOCIOLOGY.** (4 cr per qtr)
Special one-time offerings for juniors, seniors, and graduate students; topics specified in the *Class Schedule*.
- 5970f,w,s. DIRECTED STUDIES.** (1-15 cr per qtr; prereq #)
Guided individual reading or study.

South Asian Studies

Staff—Chair, M. A. R. Barker, 194 Klaeber Court; **Associate Chair,** Iraj Bashiri, 158 Klaeber Court; **Director of Undergraduate Studies,** Paul Staneslow, 186 Klaeber Court

Professors: Barker, Kopf, Scholberg, Schwartzberg, Tapp

Associate Professors: Alvi, Asher, Bashiri, Junghare, Lelyveld, Lincoln, Malandra, Miranda, Munda

Assistant Professor: Staneslow

Programs of the Department of South Asian Studies focus on the languages, literatures, cultural traditions, and contemporary problems of Bangladesh, India, Pakistan, Turkey, and Iran. A brochure describing these programs may be obtained from the department office, 192 Klaeber Court.

Note: It is expected that after the 1982-83 academic year South Asian studies courses will be taught under a new organizational structure. Consult your college office for further information.

General Education—Courses under the heading South Asian Studies (SoAS), given in English translation, are suitable for nonmajors.

B.A. MAJOR SEQUENCE—SOUTH ASIAN STUDIES

Required Preparatory Courses—*Civilization and Contemporary Problems Options Only*: 1506, 3501, 3502, or equiv courses

Major Requirements—*Language and Literature Option*: 3 yrs of a South Asian language or demonstration of competence at corresponding level

12 cr in 3xxx-5xxx courses in South Asian literature (original language or translation), at least 8 of them in 5xxx courses (study of literature as part of the third year of a language course may not be included)

20 or more cr in courses on South Asia, at least 8 of them in 5xxx courses and at least one course from the social sciences

Civilization Option: 2 yrs of a South Asian language or demonstration of competence at corresponding level

8 cr in 3xxx-5xxx courses in South Asian literature (original language or translation), at least 4 of them in 5xxx courses

16 cr in 3xxx-5xxx humanistic studies courses on South Asia in at least two disciplines, at least 12 of them in 5xxx courses; 3501, 3502 may not be included

4 cr in a 3xxx or 5xxx social science course on South Asia

Contemporary Problems Option: 2 yrs of a South Asian language or demonstration of competence at corresponding level

20 cr in 3xxx-5xxx social science courses on South Asia in at least two disciplines, at least 16 of them in 5xxx courses

8 cr in 3xxx-5xxx humanistic studies courses on South Asia

B.A. MAJOR SEQUENCE—ARABIC LANGUAGE AND LITERATURE

Major Requirements—Arab 3011-3012-3013, 5011-5012-5013; MidE 3201-3202
9 additional cr in courses at 3xxx level or above.

ARABIC (Arab)

A Semitic language, Arabic is spoken by approximately 140 million Arabs in Saudi Arabia, Jordan, Lebanon, Syria, Iraq, Egypt, and parts of North Africa. Literary Arabic conforms to the classical standards of the Qur'an.

1101-1102-1103. BEGINNING ARABIC. (5 or per qtr)

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

1201-1202-1203. COLLOQUIAL ARABIC. (5 or per qtr)

Study of one modern dialect. Laboratory practice.

3011-3012-3013. INTERMEDIATE ARABIC. (4 or per qtr; prereq 1103 or #)

Review of grammar; analysis of cultural and literary texts; contemporary short stories (third quarter).

5011-5012-5013. ADVANCED LITERARY ARABIC AND COMPOSITION. (5 or per qtr; prereq 3013 or #)

Literary styles and genres in classical and modern writings. Compositions based on texts studied.

5014. STRUCTURE OF ARABIC. (4 or; prereq 2 yrs of Arabic or #)

Main structure of Arabic, classical and colloquial.

5121. READINGS IN ISLAMIC THEOLOGICAL AND PHILOSOPHICAL TEXTS. (4 or; prereq 5013 or #)

5211-5212. READINGS IN CLASSICAL ARABIC LITERATURE. (4 cr per qtr; prereq 5013 or #)

5231. ARABIC LITERATURE IN THE 19TH-20TH CENTURIES. (4 or; prereq 5013 or #)

5900. TOPICS: READINGS IN CLASSICAL ARABIC. (4 or per qtr [12 cr max]; prereq 5013 or #)

Reading and discussion of selected classical works in Arabic. Topics specified in *Class Schedule*.

Major Requirements and Course Descriptions

- 5970. DIRECTED READINGS.** (Cr ar; prereq 5013 or #)
Special problems for advanced students. Reading and periodic consultations.
- 5990. HONORS COURSE: DIRECTED RESEARCH.** (Cr ar; prereq 5970 or #)
Individual studies for honors at advanced level.

BENGLI (Ben)

Bengali, spoken by more than 147 million South Asians, is the national language of Bangladesh.

- 1101f-1102w-1103s. BEGINNING BENGLI.** (5 cr per qtr, §5101-5102-5103)
- 3031f-3032w-3033s. INTERMEDIATE BENGLI.** (5 cr per qtr, §5131-5132-5133; prereq 1103 or #)
- 3201. SURVEY OF BENGLI LITERATURE.** (4 cr; prereq 1102, 1103 or #)
Lecture, discussion, and reading of representative material.
- 5101f-5102w-5103s. BEGINNING BENGLI.** (5 cr per qtr, §1101-1102-1103)
- 5131f-5132w-5133s. INTERMEDIATE BENGLI.** (5 cr per qtr, §3031-3032-3033; prereq 1103 or 5103 or #)
- 5161f-5162w-5163s. ADVANCED BENGLI.** (4 cr per qtr; prereq 3033 or 5133 or #)
- 5201f-5202w-5203s. READING AND ANALYSIS OF BENGLI LITERARY TEXTS.** (4 cr per qtr; prereq 5163)
Major Bengali poets and novelists.
- 5970. DIRECTED STUDIES.** (Cr ar; prereq #) Staff
Guided individual reading or study.
- 5990. DIRECTED RESEARCH.** (Cr ar; prereq #) Staff

HINDI (Hndi)

Hindi and Urdu (see below) are spoken by approximately 265 million people in South Asia. Hindi is considered of pan-Indian significance.

- 1101f-1102w-1103s. BEGINNING HINDI.** (5 cr per qtr, §5101-5102-5103) Staneslow
- 3031f-3032w-3033s. INTERMEDIATE HINDI.** (5 cr per qtr, §5131-5132-5133; prereq 1103 or #) Staneslow
- 5101f-5102w-5103s. BEGINNING HINDI.** (5 cr per qtr, §1101-1102-1103) Staneslow
- 5131f-5132w-5133s. INTERMEDIATE HINDI.** (5 cr per qtr, §3031-3032-3033; prereq 1103 or 5103 or #) Staneslow
- 5161f-5162w-5163s. ADVANCED HINDI.** (4 cr per qtr; prereq 3033 or 5133 or #) Junghare, Munda, Staneslow
- 5201f-5202w-5203s. READING AND ANALYSIS OF HINDI LITERARY TEXTS.** (4 cr per qtr; prereq 5163) Munda, Junghare, Staneslow
Major Hindi writers.
- 5701-5702. STRUCTURE OF HINDI.** (4 cr per qtr; prereq 3031 or 5131 or #) Junghare, Munda, Staneslow
The history and structure of Hindi with attention to syntactic and semantic structure.
- 5710. TOPICS IN HINDI LANGUAGE AND LITERATURE.** (5 cr per qtr; prereq # for nonmajors) Junghare, Munda, Staneslow
Topics in the linguistic structure of Hindi or Hindi literature.
- 5970. DIRECTED STUDIES.** (Cr ar; prereq #) Staff
Guided individual reading or study.
- 5990. DIRECTED RESEARCH.** (Cr ar; prereq #) Staff

MARATHI (Mar)

Marathi is spoken by approximately 53 million people in India.

- 1101f-1102w-1103s. BEGINNING MARATHI.** (5 cr per qtr, §5101-5102-5103) Junghare
- 3031f-3032w-3033s. INTERMEDIATE MARATHI.** (5 cr per qtr, §5131-5132-5133; prereq 1103 or #) Junghare
- 5101f-5102w-5103s. BEGINNING MARATHI.** (5 cr per qtr, §1101-1102-1103) Junghare
- 5131f-5132w-5133s. INTERMEDIATE MARATHI.** (5 cr per qtr, §3031-3032-3033; prereq 1103 or 5103 or #) Junghare

- 5161f-5162w-5163s. **ADVANCED MARATHI.** (4 cr per qtr; prereq 3033 or 5133 or #) Junghare
- 5201f-5202w-5203s. **READING AND ANALYSIS OF MARATHI LITERARY TEXTS.** (4 cr per qtr; prereq 5163) Junghare
5970. **DIRECTED STUDIES.** (Cr ar; prereq #) Junghare
Guided individual reading or study.
5990. **DIRECTED RESEARCH.** (Cr ar; prereq #) Junghare

PERSIAN (Per)

Persian, the language of Iran, is spoken in western Afghanistan, Soviet Tadzhikistan, and to a degree in Pakistan. Classical Persian is used by Indian Muslims as a literary language.

- 1101-1102-1103. **BEGINNING PERSIAN.** (5 cr per qtr) Bashiri
Audiolingual course in spoken and written modern Persian.
- 3011-3012-3013. **INTERMEDIATE PERSIAN.** (4 cr per qtr; prereq 1103 or #) Bashiri
Grammar drills, reading, and discussion, in Persian, of graded texts in modern Persian.
5011. **STRUCTURE OF PERSIAN.** (4 cr; prereq 3013 or #) Bashiri
Phonology, morphology, and syntax; linguistic skills necessary for understanding modern standard Persian.
5900. **READINGS IN AN IRANIAN LANGUAGE.** (1-4 cr per qtr [12 cr max]; prereq 3013 or #)
Reading and discussion of selected premedieval and medieval Iranian texts. Topics specified in *Class Schedule*.
5970. **DIRECTED READINGS.** (Cr ar; prereq 3013 or #)
Special problems for advanced students. Readings and periodic consultations.
5990. **DIRECTED RESEARCH.** (4 cr per qtr [12 cr max]; prereq 3013 or #)
Application of modern analytical techniques to the study of medieval and modern Persian texts.

SANSKRIT (Skt)

Sanskrit, a major classical language, is the linguistic source of modern North Indian languages and a powerful influence on the South Indian languages.

- 1201f-1202w-1203s. **BEGINNING SANSKRIT.** (5 cr per qtr, \$5201-5202-5203) Malandra
- 5131f-5132w-5133s. **INTERMEDIATE SANSKRIT.** (5 cr per qtr; prereq 1203 or 5203) Malandra
- 5161f-5162w-5163s. **ADVANCED SANSKRIT.** (4 cr per qtr; prereq 5133) Munda
- 5201f-5202w-5203s. **BEGINNING SANSKRIT.** (5 cr per qtr, \$1201-1202-1203) Malandra
5320. **READINGS IN PHILOSOPHICAL TEXTS.** (4 cr per qtr; prereq 5133) Junghare, Malandra, Munda
Readings in representative text material.
5490. **STUDIES IN SANSKRIT LITERATURE.** (4 cr per qtr; prereq 5163 or #) Junghare, Malandra, Munda
5701. **VEDIC LITERATURE.** (4 cr; prereq 5133 or #) Junghare, Malandra, Munda
Readings in Vedic literature: the Samhitas, Brahmanas, and Upanishads; the Rigveda. Selections of readings vary.
5710. **TOPICS IN SANSKRIT LANGUAGE AND LITERATURE.** (5 cr per qtr) Junghare, Malandra, Munda
The linguistic structure of Sanskrit or Sanskrit literature. Topics vary from quarter to quarter.
5970. **DIRECTED STUDIES.** (Cr ar; prereq #) Staff
Guided individual reading or study.
5990. **DIRECTED RESEARCH.** (Cr ar; prereq #) Staff

SOUTH ASIAN STUDIES (SoAS)

These courses deal with aspects of the Indian civilization. They are taught in English.

1001. **INTRODUCTION TO SOUTH ASIAN LANGUAGES.** (4 cr, \$5001) Junghare
Language families in South Asia; distribution, literatures, special features. Historical and structural relationships.
- 1201f. **ANCIENT INDIAN LITERATURE IN TRANSLATION.** (4 cr, \$5201) Munda

Major Requirements and Course Descriptions

- 1202w. MODERN INDIAN LITERATURE IN TRANSLATION.** (4 or, §5202) Munda
- 1203s. COMPARATIVE INDIAN LITERATURE IN TRANSLATION.** (4 or, §5203) Munda
- 1504. INTRODUCTION TO THE RELIGIONS OF SOUTH AND SOUTHEAST ASIA.** (4 or, §RelS 1031) Malandra, Tapp
- 1506s. INTRODUCTION TO CONTEMPORARY SOUTH ASIA.** (5 or, §3506) Schwartzberg
Land, people, modern historical development, contemporary problems, global setting, and future outlook of South Asia.
- 3411. INTRODUCTION TO INDIAN PHILOSOPHY.** (4 or, §5411) Junghare
Major concepts; principal schools of Indian philosophy; traditional and contemporary views.
- 3501, 3502. THE HERITAGE OF INDIA.** (5 or per qtr, §Hum 3211, 3212) Lelyveld, Lincoln
Contemporary civilization in light of its development. Social, cultural, economic, and political life. Hindu, Muslim, and Buddhist contributions.
- 3506s. INTRODUCTION TO CONTEMPORARY SOUTH ASIA.** (5 or, §1506) Schwartzberg
- 3508. ISLAM: IRAN TO INDIA.** (4 or, §5508) Alvi
Islam as a faith; formation of Perso-Islamic civilizations; historical, religious, and cultural developments from the samanids to the revolution; Islam in South Asia; configuration of Indo-Islamic heritage; Sufi orders; syncretic and revivalist movements; challenges of modernity, contemporary Islam in India and Pakistan.
- 3511. GREAT IDEAS IN THE SHAPING OF MODERN SOUTH ASIA.** (4 or) Kopf
Impact of Western ideas and political dominance on South Asia; South Asia's response.
- 3555. WOMEN IN INDIA: ROLE AND REPRESSION.** (4 or) Junghare
Question of whether women in India are repressed, examined through literature of contemporary Indian women and against background of traditional Indian values and roles.
- 5001. INTRODUCTION TO SOUTH ASIAN LANGUAGES.** (4 or, §1001) Junghare
- 5011. INDO-ARYAN LINGUISTICS.** (4 or; prereq 5001 or #) Junghare, Miranda
Phonological, morphological, and syntactic developments: Indo-European, Old Indo-Aryan, Middle Indo-Aryan, Hindi, and other major modern Indo-Aryan languages.
- 5090. INSTRUCTION IN A SOUTH ASIAN LANGUAGE.** (5 or per qtr; prereq #) Staff
Instruction in a South Asian language not regularly offered.
- 5201f. ANCIENT INDIAN LITERATURE IN TRANSLATION.** (4 or, §1201) Munda
- 5202w. MODERN INDIAN LITERATURE IN TRANSLATION.** (4 or, §1202) Munda
- 5203e. COMPARATIVE INDIAN LITERATURE IN TRANSLATION.** (4 or, §1203) Munda
- 5411. INTRODUCTION TO INDIAN PHILOSOPHY.** (4 or, §3411) Junghare
- 5491. HISTORY OF BANGLADESH.** (4 or, §Hist 5491; prereq some course work in history of South Asia) Kopf
History of the linguistic and cultural unit Bengal from the 4th century B.C. to the creation of Bangladesh in 1972.
- 5508. ISLAM: IRAN TO INDIA.** (4 or, §3508) Alvi
For description, see 3508.
- 5511-5512. THE RELIGIONS OF INDIA.** (4 or per qtr) Malandra
Major religious traditions of India. Historical development of schools and sects. Contemporary situations.
- 5520. STUDIES IN THE RELIGIONS OF INDIA.** (Cr ar; prereq 5512 or #) Malandra
Topics in India's religious history.
- 5531-5532. CULTURAL HISTORY OF NORTH INDIA, 1000-1707.** (4 or per qtr; prereq course in Indian civilization, medieval Indian history or #)
India in the Muslim period. Developments in Indian Islam. Analysis of such syncretic movements as Sikhism.
- 5535. TRIBAL PEOPLES AND CULTURES OF SOUTH ASIA.** (6 or; 1203, 1504, 1506, 3501, 3506 or Anth 5261 recommended; offered when feasible) Munda
Major populations; social and political organization of tribal groups; social change and effects of contact with Hindu caste society; world view of tribal groups as expressed in literature and religious symbolism.
- 5710. SEMINAR IN SOUTH ASIAN LANGUAGES AND LITERATURES.** (Cr ar; prereq #) Staff
- 5970. DIRECTED STUDIES.** (Cr ar; prereq #) Staff
Guided individual reading or study.
- 5990. DIRECTED RESEARCH.** (Cr ar; prereq #) Staff

TURKISH (Turk)

Turkish, primarily the language of Turkey, is also spoken in its various dialects in Azerbaijan in Iran and in Central Asia.

1101-1102-1103. BEGINNING TURKISH. (5 or per qtr)
Vocabulary forms and syntax; intensive graded reading and speaking.

5970. DIRECTED READINGS. (Cr ar; prereq 1106 or #)
Special problems for advanced students.

URDU (Urdu)

The Urdu language is the form of Hindi that emerged primarily among the Muslims in India.

1101f-1102w-1103s. BEGINNING URDU. (5 or per qtr, \$5101-5102-5103) Barker

3031f-3032w-3033s. INTERMEDIATE URDU. (5 or per qtr, \$5131-5132-5133; prereq Hindi 1103 or #) Barker

5131f-5132w-5133s. INTERMEDIATE URDU. (5 or per qtr, \$3031-3032-3033; prereq Hindi 1108 or 5108 or #) Barker

5161f-5162w-5163s. ADVANCED URDU. (4 or per qtr; prereq 3033 or 5133 or #) Alvi, Barker

5201f-5202w-5203s. READINGS: URDU TEXTS. (4 or per qtr; prereq 5163 or #) Alvi, Barker

5970. DIRECTED STUDIES. (Cr ar; prereq #) Staff
Guided individual reading or study.

5990. DIRECTED RESEARCH. (Cr ar; prereq #) Staff

Spanish and Portuguese

Staff—Chair, Hernan Vidal, 34 Folwell Hall

Professors: Chejne, Hamilton, Madrid (on leave), Narvaez, Ramos, Sousa, Spadaccini, Vidal, Zahareas

Associate Professors: Jara, Jones, Mantini, Rodriguez, Sullivan

Instructor: Cuneo

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 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) theoretical linguistics and language variations and dialects, (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. Study programs in Spain, Mexico, and Costa Rica offer special learning opportunities.

Information about advising services, student participation in decision making, the Undergraduate Student Association, and cultural opportunities can be obtained at the department undergraduate office, 5d Folwell Hall, and is presented in a brochure available there.

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, which may be used to meet the Route II language requirement, include Span 1501, 1502, 1503, 3601, 3602, 3610, 3614, 3615, Port 3603, and SpPt 3610.

Major Requirements and Course Descriptions

B.A. MAJOR SEQUENCE—SPANISH

Required Preparatory Courses—1101-1102-1103-1104 or 1301-1302, 1105; or equiv

Major Requirements—Minimum of 49 cr, to include:

Four advanced language skills courses at the 3xxx level (minimum 13 cr)

3104 (4 cr)

One course each in Spanish literature or culture, Spanish-American literature or culture, and Hispanic linguistics (12 cr)

Five elective courses at the 3xxx or 5xxx level (20 cr)

Major project

Satisfactory score on Spanish proficiency examination

All major courses must be taken on A-N grading, and grades of C or better must be earned in all courses. No more than 18 credits in 3xxx-level language courses, no more than 8 credits of topic and figures courses, and no more than 8 credits in topics courses in Hispanic linguistics may be used to fulfill major requirements. Also not acceptable for major credit: credits earned through tutorial programs; 3980; courses taught in English. At least three major courses must be taken on the Twin Cities campus.

For requirements for teaching licensure, see the *College of Education Bulletin*.

B.A. MAJOR SEQUENCE—SPANISH-PORTUGUESE

Required Preparatory Courses—Span 1101-1102-1103-1104 or 1301-1302, 1105; or equiv

Port 1001-1002-1003-1004 or 1101-1102-1103-1104, 1005; or equiv

Major Requirements—Two B.A. "tracks" are available: one includes about two-thirds of the 3xxx-5xxx credits in Spanish courses and the remainder in Portuguese courses to achieve a Spanish emphasis, the other with reversed proportions to achieve a Portuguese emphasis.

22 cr, including one course in each of these groups: Port 3014, 5 cr from Span 3001—3005 series; Port 3501, 3502, Span 3501, 3502, 3512; Port 3211, 3212, 3213, Span 3910; Port 3721, Span 3021, 3730; Port 5110, 5210, Span 3940

30 cr in 3xxx-5xxx Portuguese or Spanish courses selected in consultation with the director of undergraduate studies

All major courses must be taken on A-N grading, and grades of C or better must be earned in all of the courses. At least three major courses must be taken on the Twin Cities campus. Not acceptable for major credit: SpPt 3980; more than 8 cr in Span 3730 or in 3910, 3940; credit received in community tutorial programs or in courses taught in English (36xx).

MINOR SEQUENCE—SPANISH

Required Preparatory Courses—1101-1102-1103-1104 or 1301-1302, 1105; or equiv

Major Requirements—Three advanced language skills courses at the 3xxx level (minimum 9 cr)

Three literature, culture, or linguistics courses at the 3xxx level (12 cr)

All minor courses must be taken on A-N grading, and grades of C or better must be earned in all courses. Only one directed studies or independent study course and only one topics course may be applied to the minor. Not acceptable for minor credit: SpPt 3980; credits earned through tutorial programs; and courses taught in English. At least two minor courses must be taken on the Twin Cities campus.

All courses for the minor program must be selected in consultation with the assigned departmental adviser.

MINOR SEQUENCE—PORTUGUESE

Required Preparatory Courses—1001-1002-1003-1004 or 1101-1102-1103-1104, 1105; or equiv

Minor Requirements—3014, 17 cr in 3xxx-5xxx Portuguese courses

All minor courses must be taken on A-N grading, and grades of C or better must be earned in all the courses. At least two minor courses must be taken on the Twin Cities campus. All courses must be selected in consultation with the assigned departmental adviser. Only one directed studies and one topics course may be applied to the minor. Not acceptable for minor credit: SpPt 3980; credit received in community tutorial programs or in courses taught in English (36xx).

SPANISH (Span)

1101-1102-1103. BEGINNING SPANISH: ORAL APPROACH. (5 cr per qtr, §Chic 1201-1202-1203; students with 1 yr high school Spanish may take 1102...those with 2 yrs may take 1103)

Speaking and understanding Spanish; pronunciation; writing and reading skills; grammar; cultural aspects of language and civilizations of Spain and Spanish America.

1104. INTERMEDIATE SPANISH, ORAL APPROACH: INTERPRETATION OF MODERN PROBLEMS. (4 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.

1105. INTERMEDIATE SPANISH, ORAL APPROACH: DISCUSSIONS OF MODERN LITERATURE AND THE PRESS. (4 cr; prereq 1104 or 4 yrs high school Spanish)

For description, see 1104.

1301-1302. INTENSIVE SPANISH. (10 cr per qtr; prereq personal interview, Δ)

Accelerated approach to understanding, speaking, reading, and writing Spanish. Audiovisual aids, small group activities, intensive laboratory work. For highly motivated students who desire maximum fluency in two quarters.

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.

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.

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.

3001. SPANISH PRONUNCIATION: STANDARD, COLLOQUIAL, DIALECTAL. (3 cr; prereq 1105 or #)

Contemporary standard Spanish pronunciation; listening and imitation exercises; progress recordings, private interviews. Local, regional, and social variants of the language in Spain and Spanish America.

3002. READING FOR SPEED AND COMPREHENSION. (3 cr; prereq 1105 or equiv)

Concentrated, individualized approach to sharpen reading skills, expand vocabulary, improve comprehension. Sight-reading drills, speed tests, word study, reading aloud. Variety of practical and literary materials at graded levels of difficulty.

3003. ADVANCED GRAMMAR WORKSHOP. (3 cr; prereq 1105 or equiv)

Difficult language structures, patterns, and usage. Directed study and practice to correct individual problem areas. Emphasis on accuracy in oral and written expression.

3004. WRITTEN COMMUNICATION: FORMAL AND INFORMAL. (4 cr; prereq 1105 or equiv)

Investigative reporting, expository writing, personal journals and letters, creative composition, research papers. Individual and class exercises based on model writings from periodicals, diaries, personal and business letters, literature of Hispanic world. Emphasis on clarity of expression and structure of composition.

3005. ORAL COMMUNICATION: SPEAKING AND LISTENING. (4 cr; prereq 1105 or equiv)

Dialogues, group discussions, simulated situational conversations, interviews, skits, debates based on themes from audio and video tape, records, speakers from Spain and Spanish America. Emphasis on fluency in speaking and understanding of oral expression.

3021. ADVANCED COMMUNICATION SKILLS. (5 cr; prereq 10 cr from 3001—3005 series or #)

Polishing of all areas of language skills to achieve maximum level of fluency and accuracy in Spanish.

Major Requirements and Course Descriptions

- 3104. THE ART OF READING LITERARY TEXTS.** (4 or, §SpPt 3104; prereq 3002 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.
- 3211. SPANISH LITERATURE: ASPECTS OF PROSE AND FICTION.** (4 or; prereq 3002)
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.
- 3212. SPANISH LITERATURE: ASPECTS OF POETRY.** (4 or; prereq 3002)
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.
- 3213. SPANISH LITERATURE: ASPECTS OF DRAMA.** (4 or; prereq 3002)
The theory and practice of drama as reflected in tragedy, comedy, historical plays, farce, and religious drama.
- 3251. SPANISH-AMERICAN LITERATURE: ASPECTS OF PROSE AND FICTION.** (4 or; prereq 3002)
Clusters of representative works. Trends, themes, and structures from colonial times to the present. Historical comprehension of Spanish-American society through prose fiction.
- 3252. SPANISH-AMERICAN LITERATURE: ASPECTS OF POETRY.** (4 or; prereq 3002)
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.
- 3253. SPANISH-AMERICAN LITERATURE: ASPECTS OF DRAMA.** (4 or; prereq 3002)
Spanish-American national drama from the 19th century to the present. Aesthetic trends and problems in relation to society.
- 3501. SPANISH CIVILIZATION: ROOTS OF MODERN SPAIN AND LATIN AMERICA.** (5 or; prereq 3002)
Spain and Latin America up to the early 19th century.
- 3502. SPANISH CIVILIZATION: MODERN SPAIN.** (5 or; prereq 3002)
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.
- 3512. SPANISH-AMERICAN CIVILIZATION: MODERN LATIN AMERICA.** (5 or; prereq 3002)
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.
- 3601. SPANISH AMERICA: REVOLUTION AND THE NEW LITERARY CONSCIOUSNESS.** (4 or)
Avant-garde movements in the fiction of the Latin American continent; correspondence to revolutionary trends in Spanish-speaking countries. Famous novels. Taught in English.
- 3602. THE PICARESQUE WAY OF LIFE IN SPAIN AND EUROPE: LITERATURE AND THE DELINQUENT.** (4 or)
The picaresque novel: Spanish origins (16th century), zenith (17th century), and evolution to the present day. Literary and sociological examination of picaresque novels; modern directions. Taught in English.
- 3610. TOPICS: SPANISH PENINSULAR LITERATURE IN TRANSLATION.** (4 or per qtr [12 or max])
Aspects of Hispanic literatures, focusing on groups of writers, universal themes, literary motifs, relationships between literature and other disciplines, or similar topics. Topics specified in *Class Schedule*. Taught in English.
- 3614. DON QUIJOTE: A STUDY OF LOST ILLUSIONS.** (4 or)
Study of the novel in many facets: the "madness" of its characters, the relation of their actions and attitudes to the theme of reality/illusion and to the society of their times. Taught in English.
- 3615. LITERATURE AND FILM.** (4 or)
Artistic techniques and social content in literature and cinema of Spanish- and Portuguese-speaking worlds. Taught in English.
- 3620. TOPICS: SPANISH-AMERICAN LITERATURE IN TRANSLATION.** (4 or per qtr [12 or max])
Latin American groups of writers, universal themes, literary motifs, relationships between literature and other disciplines. Topics specified in *Class Schedule*. Taught in English.
- 3701. STRUCTURE OF SPANISH AND PORTUGUESE.** (4 or; prereq 3002 or Port 3014)
The phonology, morphology, and syntax of modern Spanish and Portuguese.
- 3709. INTRODUCTION TO THE DESCRIPTION AND ANALYSIS OF MODERN SPANISH.** (4 or; prereq 10 or from 3001—3005 series or #)
History of linguistic studies in Hispanic world, ranging from structure of Spanish language to dialectology and historical studies. Structural approach to description and analysis of the modern language. Relationship of linguistic and literary theory in Hispanic intellectual community. Bibliography.
- 3721. ORIGINS AND HISTORY OF SPANISH AND PORTUGUESE.** (4 or, §Port 3721; prereq 3002 or Port 3014)
Principal stages in the growth and development of the languages and their role as expression of specific cultures. Concepts and methodology of Iberian historical linguistics.

- 3730. TOPICS IN HISPANIC LINGUISTICS.** (4 or per qtr [12 or max]; prereq 3002)
 Problems: regional and social dialects of Spain and Spanish America; translation; structuralism; stylistics; linguistics and literary analysis; the taboo; political terminology. Topics specified in the *Class Schedule*.
- 3910. TOPICS IN SPANISH PENINSULAR LITERATURE.** (4 cr per qtr [12 cr max]; prereq 3002)
 Focuses on a central theme related to important groups of writers, literary movements, trends, critical approaches, and methods. Topics specified in *Class Schedule*.
- 3920. TOPICS IN SPANISH-AMERICAN LITERATURE.** (4 cr per qtr [12 cr max]; prereq 3002)
 For description, see 3910.
- 3940. FIGURES IN SPANISH PENINSULAR LITERATURE.** (4 cr per qtr [12 cr max]; prereq 3002)
 One major writer or group of writers whose work has had an impact on thought, literature, or social problems. Figures specified in *Class Schedule*.
- 3950. FIGURES IN SPANISH AMERICAN LITERATURE.** (4 or per qtr [12 cr max]; prereq 3002)
 For description, see 3940.
- 3970. DIRECTED STUDIES.** (1-5 cr per qtr; prereq Δ)
 Guided individual reading or study.
- 5011. SPANISH STYLISTICS.** (4 cr; prereq 10 or from 3001—3005 series or #)
 Linguistic analysis of writing styles in standard and dialectal Spanish: descriptions, biographies, letters, articles for publication, dialogues, others.
- 5012. ADVANCED PROBLEMS IN THE SPANISH LANGUAGE.** (4 cr; prereq 10 or from 3001—3005 series or #)
 Problematic aspects of Spanish pronunciation, grammar, and idiomatic expressions for advanced speakers of Spanish as a second language. Polish acquired through supervised contact with beginning and intermediate students of the Spanish language. Also for students whose primary language is Spanish.
- 5015. METHODS OF TRANSLATION.** (4 cr; prereq 10 or 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.
- 5105. THE LITERATURE AND CULTURE OF MUSLIM SPAIN.** (4 cr; prereq three 3xxx or 5xxx Spanish or Portuguese literature courses)
 Major literary works of Arabic culture in the Iberian peninsula—epic, lyric, philosophical prose—examined in terms of historical interactions among Arabic, Christian, and Jewish traditions.
- 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.
- 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.
- 5108. THE SPAIN OF CERVANTES'S 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's major work during the period of imperial decadence, 17th century. Tradition of Erasmian folly, madness as anachronism and social satire.
- 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.
- 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.
- 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.
- 5272. THE GENERATION OF 1898.** (4 cr; prereq three 3xxx or 5xxx Spanish or Portuguese literature courses or Δ)
 Major figures between 1895 and 1903—Ganivet, Unamuno, Baroja, Azorín, Valle-Inclán, Machado, J. R. Jiménez, Maeztu, others. Crisis of restoration Spain (Costa); intellectual, artistic renovations. The break with 19th-century realism and with philosophical rationalism among *modernistas* and *noventayochistas*.

Major Requirements and Course Descriptions

- 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's *pícaros*, *Estebanillo González*—in relation to Spanish ambience, Western tradition, European novel, realism. Literary autobiography, episodic structure, themes of rogues, delinquency, sin, marginality, social criticism, moral preoccupations. Comparison to European counterparts.
- 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.
- 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.
- 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.
- 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.
- 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.
- 5701, 5702, 5703. HISTORY OF IBERO-ROMANCE.** (4 cr per qtr; prereq 10 cr from 3001—3005 series or #)
Contrastive study of origins and development of Ibero-Romance languages; emphasis on evolution of Spanish and Portuguese and development of Catalan.
- 5709. HISPANIC LINGUISTIC THOUGHT: 1100 TO THE PRESENT.** (4 cr)
Hispanic linguistic theory from the Middle Ages to the present.
- 5711, 5712, 5713. THE STRUCTURE OF MODERN SPANISH: PHONOLOGY, MORPHOLOGY, SYNTAX.** (4 cr per qtr; prereq 10 cr from 3001—3005 series or #)
Scientific approach to structure: syntax, phonology, word formation, dialectal differences. Useful for students who plan to teach Spanish and for those whose primary language is Spanish. 5711 (phonology): Theoretical and practical aspects of sound system of Spanish. Segmentals (vowels and consonants) and suprasegmentals (intonation, stress, and juncture). Dialectal differences. 5712 (morphology): Spanish affixes used to change meaning of words. Slight and radical changes in Spanish (modificative vs. transformative). New affixes and modern meanings; division between inflectional and derivational morphology. 5713 (syntax): Comparison and contrast of different types of grammars in terms of basic Spanish structure. Dialectal differences in Spanish syntax. Problems of English speakers with Spanish.
- 5714. THE STRUCTURE OF MODERN SPANISH: SEMANTICS.** (4 cr; prereq 5713)
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.
- 5721. INTRODUCTION TO ROMANCE PHILOLOGY.** (4 cr, \$Port 5721; prereq 3721 or Port 3721 or #)
Comparative view of the origins and development of Romance languages. Effects of language change on the Romance languages, examined individually and as a group; medieval texts surveyed in terms of time, place, and cultural setting.
- 5729. SPANISH DIALECTOLOGY: INTRODUCTION.** (4 cr; prereq 5711, 5712, 5713)
History, principles, and theories of dialectology as they relate to descriptive study of Spanish. Linguistic geography and delineation of national and social dialects.
- 5731. SPANISH DIALECTOLOGY: REGIONAL AND SOCIAL DIALECTS OF MODERN SPAIN.** (4 cr; prereq 5729 or #)
Major dialect areas of Spain; distinguishing phonological, morphological, lexical, and syntactic variations. Impact of recent cultural, political, and socioeconomic transformations on the language.
- 5732. SPANISH DIALECTOLOGY: REGIONAL AND SOCIAL DIALECTS OF MODERN SPANISH AMERICA.** (4 cr; prereq 5729 or #)
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.

- 5733. SPANISH DIALECTOLOGY: DESCRIPTIVE STUDY OF SPANISH SPOKEN IN THE UNITED STATES.** (4 cr; prereq 5729 or #)
Spanish-speaking communities in the United States (Puerto Rican, Dominican, Mexican-American, and Cuban). Phonological, lexical, and morphosyntactical characteristics. Problems of interference and transference. Bilingualism. Spanish language in an English-dominant society.
- 5910. TOPICS IN SPANISH PENINSULAR LITERATURE.** (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*.
- 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*.
- 5930. TOPICS IN IBERO-ROMANCE LINGUISTICS.** (4 cr per qtr [12 cr max]); prereq 10 cr from 3001—3005 series or Δ)
Problems in Hispanic linguistics; aspects of Luso-Brazilian language. A variety of linguistic approaches and methods. Topics specified in *Class Schedule*.
- 5940. FIGURES IN SPANISH PENINSULAR 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 may include Alfonso X, Cervantes, Quevedo, Larra, Unamuno, and Lorca. Figures specified in *Class Schedule*.
- 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*.
- 5970. DIRECTED STUDIES.** (1-5 cr per qtr [15 cr max]); for MA and PhD candidates; prereq #, Δ)
Guided individual reading or study.
- 5990. DIRECTED RESEARCH.** (1-5 cr per qtr; prereq Δ)

PORTUGUESE (Port)

- 1001-1002-1003. BEGINNING PORTUGUESE.** (5 cr per qtr; prereq 1001 or # for 1002 and 1002 or # for 1003)
Speaking and understanding Portuguese; pronunciation (Brazilian speech stressed); writing and reading skills; grammar; cultural aspects of language and civilizations of Portuguese-speaking world.
- 1004. INTERMEDIATE PORTUGUESE GRAMMAR AND COMPOSITION.** (5 cr; prereq 1003 or 1103)
Speaking and comprehension; development of reading and writing skills based on Portuguese-language materials.
- 1005. INTERMEDIATE PORTUGUESE.** (5 cr; prereq 1004 or 1104)
Speaking and comprehension; development of reading and writing skills grounded in materials that reflect the cultural diversity of the Portuguese-speaking world. Grammar review.
- 1101-1102. INTENSIVE PORTUGUESE.** (5 cr per unit; some previous training in a Romance language or # recommended)
Accelerated approach to materials of 1001-1002. For highly motivated students.
- 1103-1104. INTENSIVE PORTUGUESE.** (5 cr per unit; prereq 1102 or #)
Accelerated approach to materials of 1003 and 1004. For highly motivated students.
- 3014. CONVERSATION AND COMPOSITION.** (5 cr; prereq 1005 or equiv)
Speaking and writing skills. Cultural comparisons, current events. Grammar review. Writing workshops.
- 3211. READINGS IN RENAISSANCE AND MODERN PORTUGUESE LITERATURE.** (4 cr; prereq 1005, SpPt 3104 or Span 3104 or #)
Literary development against background of social history. Concentration on Renaissance and period since 1870. Key works such as a play by Gil Vicente or a novel by Eca de Queiroz.
- 3212. READINGS IN BRAZILIAN LITERATURE: ORIGINS THROUGH THE 19TH CENTURY.** (4 cr; prereq 1005, SpPt 3104 or Span 3104 or #)
Development of Brazilian literature. Romantic and realistic periods. Relationship between literature and social background.
- 3213. READINGS IN BRAZILIAN LITERATURE: 20TH CENTURY.** (4 cr; prereq 1005, SpPt 3104 or Span 3104 or #)
Modernism to contemporary period. Key works viewed within the social context of modern Brazil.
- 3501. LUSO-BRAZILIAN CIVILIZATION I.** (5 cr; prereq 1005)
Luso-Brazilian culture from origins to 1808. Social and cultural currents that lay the basis for the modern Portuguese-speaking world.
- 3502. LUSO-BRAZILIAN CIVILIZATION II.** (5 cr; prereq 1005)
Portuguese-language civilization from Napoleonic invasion to present. Social developments in Portugal and Brazil; their reflection in philosophy and the arts.
- 3603. MODERN AND CONTEMPORARY BRAZILIAN PROSE FICTION: ITS POLITICAL AND SOCIAL CONTENT.** (4 cr)
Novel and short story of Brazil as reflection of contemporary Brazilian society and as an innovative art form. Modern Brazilian fiction. Taught in English.

Major Requirements and Course Descriptions

- 3721. ORIGINS AND HISTORY OF SPANISH AND PORTUGUESE.** (4 cr, §Span 3721; prereq 3014 or Span 3002)
Principal stages in the growth and development of the Spanish and Portuguese languages and their role as expressions of specific cultures. Fundamental concepts and methodology of Iberian historical linguistics.
- 3730. TOPICS IN PORTUGUESE LANGUAGES AND LINGUISTICS.** (1-4 or per qtr [12 or max]; prereq 1005 or Δ)
Sample topics: introduction to Portuguese linguistics; Portuguese phonology, morphology, syntax, semantics; dialectology; stylistics; theory and practice of translation. Topics specified in *Class Schedule*.
- 3919. TOPICS IN LUSO-BRAZILIAN LITERATURE.** (4 or per qtr; prereq 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*.
- 3970. DIRECTED STUDIES.** (1-5 or per qtr; prereq Δ)
Guided individual reading or study.
- 5110. TOPICS IN PORTUGUESE LITERATURE.** (4 or per qtr [12 or 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*.
- 5210. TOPICS IN BRAZILIAN LITERATURE.** (4 or per qtr [12 or max]; prereq 3211 or 3212 or 3213 or equiv or three 3xxx or 5xxx Spanish literature courses, Δ)
For description, see 5110.
- 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.
- 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."
- 5523. LITERARY EXPRESSION IN PORTUGUESE AMERICA.** (4 cr; prereq three 3xxx Portuguese courses or Δ)
Analysis of key literary movements and figures from discovery to independence and imperial status, 1500-1807. Literature as a dimension of a sociocultural movement during which Brazil changed from supplier of raw materials to impicit hegemony as strongest economic entity in Lusophone world.
- 5524. LITERATURE DURING THE RISE OF THE BRAZILIAN BOURGEOISIE.** (4 cr; prereq three 3xxx Portuguese courses or Δ)
Analysis of key literary movements and figures from independence through monarchical and republican eras to current state. Literature as a dimension of a sociocultural movement in an era of changing strategies for creation and stabilization of an independent economic and cultural entity.
- 5525. LUSOPHONE AFRICA: STATE AND ACCULTURATED LITERATURE.** (4 cr; prereq three 3xxx Portuguese courses or Δ)
Analysis of key literary movements and figures from early documents through independence. Literature as a dimension of a sociocultural movement from colonial status through "autonomy" to forging of national entity. Combative literature and literature in a revolutionary society.
- 5721. INTRODUCTION TO ROMANCE PHILOLOGY.** (4 cr, §Span 5721; prereq 3721 or Span 3721 or #)
Origins and development of Romance languages. Effects of language change on the Romance languages, individually and as a group. Medieval texts surveyed in terms of time, place, and cultural setting.
- 5910. TOPICS IN LUSO-BRAZILIAN LITERATURE.** (4 cr; prereq Span 3104 or SpPt 3104 or Δ)
Important groups, movements, trends, methods, genres. Topics specified in *Class Schedule*.
- 5940. FIGURES IN LUSO-BRAZILIAN LITERATURE.** (4 cr; prereq Span 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*.
- 5970. DIRECTED STUDIES.** (1-5 or per qtr [15 or max]; for MA and PhD candidates; prereq #, Δ)
Guided individual reading or study.
- 5990. DIRECTED RESEARCH.** (1-5 or per qtr; prereq Δ)

SPANISH-PORTUGUESE (SpPt)

- 3104. THE ART OF READING LITERARY TEXTS.** (4 cr, §Span 3104; prereq #)
For description, see Span 3104. Sections including reading in Portuguese offered at regular intervals.
- 3605. POLITICS IN SPANISH AND LATIN AMERICAN LITERATURE.** (4 cr)
Civil wars in Spain; national liberation movements and political upheavals in Latin America. Taught in English.

- 3610. TOPICS IN SPANISH-PORTUGUESE CIVILIZATION AND CULTURE.** (4 cr)
Selected topics in Spanish-language and Portuguese-language civilizations and cultures. May be applied to Route II requirement for either Spanish or Portuguese. Sample topic: Iberian epic poetry, oral and learned. Topics specified in *Class Schedule*. Taught in English.
- 3601. HONORS SEMINAR.** (4 cr; prereq 20 or toward major incl 3104, deptI honors candidate or #)
Theory and practice of humanistic scholarship. Student works with a faculty member on a research paper or thesis.
- 3980. DIRECTED INSTRUCTION.** (1-4 or per qtr [8 or max]; S-N only; prereq #, Δ)
Undergraduates serve as teaching assistants in courses they have successfully completed for credit.
- 5021. MEDIEVAL SPANISH, PORTUGUESE, AND CATALAN TEXTUAL READINGS.** (4 cr; prereq Span 3721 or Port 3721 and three 3xxx or 5xxx Spanish or Portuguese literature courses or Δ)
Distinctive linguistic, literary, and cultural features of medieval Iberian languages; reading Spanish, Catalan, and Galician-Portuguese texts in the original.
- 5950. SELECTED TOPICS IN HISPANIC-LUSO-BRAZILIAN LITERARY INTERRELATIONSHIP.** (4 or per qtr; prereq reading knowledge of Spanish and Portuguese)
Common conceptions, background, and influences among peninsular Spanish, Spanish-American, Portuguese, and Brazilian literatures in essay, drama, poetry, and fiction.
- 5960. SELECTED COMPARATIVE PROBLEMS IN THE WORKS OF HISPANIC AND LUSO-BRAZILIAN AUTHORS.** (4 or per qtr; prereq reading knowledge of Spanish and Portuguese)
Common conceptions, background, and influences among major peninsular Spanish, Spanish-American, Portuguese, and Brazilian authors.

Speech-Communication (Spch)

Staff—Chair, Robert L. Scott, 317 Folwell Hall; **Director of Undergraduate Studies,** George L. Shapiro, 404a Folwell Hall; **Interim Advising Office,** 404 Folwell Hall

Professors: Bormann, Browne, Cashman, Goldstein, Howell, Jensen, Miller, Scott, Shapiro

Associate Professors: Bantz, Bart, Rarick, Sykes

Assistant Professors: Martin, Petronio

Speech-communication involves the study of the communicative dimensions of human experience, focusing particularly on interpersonal, rhetorical, and broadcast perspectives.

Cocurricular Activities—Any University student may participate in the forensic program offered by the department and in the operation of student radio station WMMR. Forensic activities include debate, the Freshman-Sophomore Oratorical Contest, and the Pillsbury Oratorical Contest. Majors are encouraged to participate in the social and educational activities of the Undergraduate Speech Association.

General Education—The department recommends as courses for nonmajors 1101, 1102, 1104, 3211, 3401, 3431, 3605, 3641, 5402, 5431, 5615, 5617.

B.A. MAJOR SEQUENCE

Required Preparatory Courses—1101, 1102

Major Requirements—Minimum of 36 3xxx-5xxx cr in speech-communication, to include: 3211, 3401, 3601 (may not include 3970, 3980, or X registrations)

The program must be planned in conference with and approved by a departmental major adviser.

MINOR SEQUENCE

Required Preparatory Courses—1101, 1102 or 1104

Minor Requirements—Minimum of 20 3xxx-5xxx cr in speech-communication
Two courses from 3211, 3401, 3601

Major Requirements and Course Descriptions

- 1101f,w,s,su. FUNDAMENTALS OF SPEECH-COMMUNICATION: ORAL COMMUNICATION.** (4 cr, §1441)
Oral communication processes and elements. Criticism of and response to oral discourse. Individual speaking.
- 1102f,w,s,su. FUNDAMENTALS OF SPEECH-COMMUNICATION: COMMUNICATION PROCESS.** (4 cr) Petronio
Intrapersonal, interpersonal, and group communication.
- 1104. FUNDAMENTALS OF SPEECH-COMMUNICATION: THE CREATIVE PROCESS AND THE MASS MEDIA.** (4 cr) Bart
Mass media structure and its effects on the creative process.
- 1110f,w. FRESHMAN DISCUSSION AND DEBATE.** (2 cr per qtr; open to fr who qualify for fr debate squad; prereq #)
- 1313. ANALYSIS OF ORAL ARGUMENT.** (4 cr)
Strategies for analyzing and evaluating arguments received aurally. Problems in listening and responding to argument.
- 1441. FUNDAMENTALS OF BUSINESS AND PROFESSIONAL COMMUNICATION.** (4 cr, §1101)
Communication in business and professional settings. Principles of and practice in speaking, listening, and conferring in groups.
- 3104. SURVEY OF BROADCAST PRODUCTION.** (4 cr, §3201)
Variables involved in writing and producing material for broadcast media. Lectures and creative exercises in professional-level radio and TV studios.
- 3110. CURRENT TOPICS IN SPEECH-COMMUNICATION.** (4 cr per qtr [may be repeated for cr with #]; prereq 3211, 3401, 3601 [whichever is relevant to the topic])
Current cases illustrating speech-communication theory and underlying issues.
- 3111w. LEADERSHIP COMMUNICATION.** (3 cr [4 cr with ROTC lab], §Air 3302) Cashman
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.
- 3191f,3192w,3193s. HONORS COURSE: TUTORIAL SEMINAR IN SPEECH.** (4 cr per qtr; prereq honors candidate in speech-communication, Δ, #)
- 3201f,w,s,su. INTRODUCTION TO BROADCASTING PRODUCTION.** (4 cr) Bart, staff
Practice and theory. Projects in performance and scripting; studio equipment and procedures.
- 3202. PRODUCING VIDEOTAPE IN THE FIELD.** (4 cr; prereq 3201)
The remote production process. Gathering video materials in field and integrating materials into studio products.
- 3203f,w,s. RADIO PRODUCTION.** (4 cr; prereq 3201)
Equipment and staff organization; program design and presentation. Organization, writing, production, direction, and performance of radio news, music, dramatic, and documentary programs.
- 3204f,w,s,su. STUDIO TELEVISION PRODUCTION.** (4 cr; prereq 3201)
The in-studio production process. Writing, producing, and directing in-studio video products.
- 3211. DETERMINANTS OF BROADCAST PROGRAMMING.** (4 cr) Bantz, Browne, Farick
Historical development and contemporary aspects of broadcast programming. How governmental, industrial, and public organizations influence program decisions. "Problem" areas of programming.
- 3401. THEORIES OF INTERPERSONAL COMMUNICATION.** (4 cr; prereq 1102 or #, Psy 1001) Sykes
Theories of interpersonal communication and their usefulness for particular purposes.
- 3431. THE ROLE OF PERSUASION IN THE MODERN WORLD.** (4 cr; soph standing recommended) Cashman, Howell
Persuasion in interpersonal, organizational, intracultural, and intercultural relationships. Contemporary persuasion, with occasional historical segments.
- 3441. COMMUNICATING IN ORGANIZATIONS.** (4 cr; prereq 1101 or 1102 or equiv)
Theory and practice of communicating in organizations. How communication creates, maintains, and changes organizational culture. Role of individual communicator in organizational culture.
- 3451. INTERCULTURAL COMMUNICATION: THEORY AND PRACTICE.** (4 cr; prereq planning an intercultural experience)
Theories of and factors influencing intercultural communication. Development of effective intercultural communication skills.
- 3452. COMMUNICATION AND THE INTERCULTURAL REENTRY.** (4 cr; prereq return from an intercultural experience)
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.
- 3601. APPROACHES TO PUBLIC DISCOURSE.** (4 cr; prereq 1101) Jensen, 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.

- 3605f,w,s,au. PUBLIC SPEAKING.** (4 cr; prereq 1101)
Public speeches: directed practice. Public speaking in contemporary life.
- 3615. ARGUMENTATION.** (4 cr; prereq 1101 or #) Jensen
Role of reasoned discourse in social and governmental affairs. Logical methods of persuasion.
- 3620f,w. INTERCOLLEGIATE DEBATE AND ORATORY.** (2 cr per qtr; prereq #)
For students interested in intercollegiate speech competition. Performance in speech activities.
- 3625. ETHICAL STANDARDS IN MODERN COMMUNICATION.** (4 cr; prereq 1101 or #) Jensen
Ethical issues in interpersonal communication, small group discussion, public speaking, and mass communication.
- 3641f,w,s,au. DISCUSSION AND CONFERENCE METHODS.** (4 cr; prereq 1101 or #)
Cooperative thinking in task-oriented groups. Planning, preparing for, participating in, and leading private and public meetings.
- 3970f,w,s,au. DIRECTED STUDIES.** (Cr ar [no cr for speech-communication majors]; prereq at least one speech-communication course, #, Δ)
Guided individual reading or study.
- 3980f,w,s,au. DIRECTED INSTRUCTION.** (1-4 cr per qtr [8 cr max...no cr for speech-communication majors]; S-N only; prereq #, Δ)
Supervised planning and teaching of undergraduate courses.
- 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.
- 5202s. ADVANCED TELEVISION PRODUCTION.** (4 cr; prereq 3204, #) Bart
Creative problems in production and direction. Each student produces and directs one major production.
- 5204. WRITING RADIO AND TELEVISION DRAMA.** (4 cr; prereq 3204, #) Browne
Physical, psychological, and sociological aspects of radio and television and their influence on the writer. Writing scripts for dramatic commercials, dramas, and documentaries.
- 5211. CONTEMPORARY PROBLEMS IN AMERICAN BROADCASTING.** (4 cr; prereq 3211 or equiv, #) Browne, Rarick
Problems affecting American commercial and educational broadcasting. Cable television, public access to broadcasting, violence on television, financing of public television.
- 5221. EDUCATIONAL TELEVISION PRODUCTION.** (4 cr; prereq 3204 or #) Goldstein
Television for instructional purposes; research literature used in production of educational materials; experimentation in preparing material.
- 5222. EDUCATIONAL TELEVISION PROGRAMMING AND ADMINISTRATION.** (4 cr; prereq 3211 or #) Goldstein
Television applied to educational needs; current practices; significant research findings; relative effectiveness of differing types of television utilization; impact of various modes of transmission on programming and administrative concepts.
- 5231. COMPARATIVE BROADCAST SYSTEMS.** (4 cr; prereq 3211 or #) Browne
Historical, sociological, and political aspects of systems of broadcasting throughout the world—American, Canadian, British, French, German, Soviet, others. Regulation, impact on political, social, and economic development.
- 5232. INTERNATIONAL BROADCASTING.** (4 cr) Browne
International broadcasting in the United States, Great Britain, the Soviet Union, Japan, and other countries. Theories of informing and persuading through direct broadcast and exchange of programs; regulatory agreements; spectrum control; social and legal implications of broadcasting via satellite.
- 5233. BROADCASTING AND NATIONAL DEVELOPMENT.** (4 cr) Browne
Use of radio and television 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.
- 5261. THE COMMUNICATIVE PROCESSES OF TELEVISION.** (4 cr; prereq 3211 or #) Bantz
Television as a system of communicative processes: the organizational processes of televised communicators, television content as a link between communicators and viewers, and how viewers use television.
- 5281. BROADCASTING AUDIENCE ANALYSIS AND PROGRAMMING.** (4 cr; prereq 3211)
Methods of measuring and analyzing radio and television audiences. Structure and appeals of program formats. Strategies in programming and scheduling. Critical perspectives on audience estimates.
- 5401. ADVANCED PROCESS OF INTERPERSONAL COMMUNICATION.** (4 cr)
Analysis of theories of interpersonal communication and their usefulness for particular purposes.
- 5402f,w,s. PROBLEMS IN INTERPERSONAL COMMUNICATION.** (4 cr; prereq 3401 or #) Shapiro
Factors contributing to misunderstanding, not understanding, disagreement, and cessation of contact in dyads.

Major Requirements and Course Descriptions

- 5403. THEORY CONSTRUCTION AND ANALYSIS IN COMMUNICATION.** (4 cr; prereq 3401 or #) Rarick, Sykes
Development of communication theory. Analysis of existing theory. Relationship of theory to research.
- 5404. LANGUAGE, CULTURE, AND EDUCATION.** (4 cr, §SeEd 5404; prereq 1102, 3401 or #) Piche
Psychological and social-psychological perspectives for study of language-communication; language variation (dialects, codes, registers); implications for program development and instructional practices.
- 5405. NONVERBAL COMMUNICATION: THEORY AND RESEARCH.** (4 cr) Sykes
Nonverbal interpersonal communication. Nonverbal categories: gesture, facial expression, posture, clothing, environment.
- 5406. FAMILY COMMUNICATION.** (4 cr; prereq 1102, 3401 for undergrads...5421 or equiv for grads)
Using a life cycle perspective, examines evolution of communicative patterns among members of a nuclear family at various stages of development.
- 5411f,w,s,su. SMALL GROUP COMMUNICATION.** (4 cr; A-N only; prereq 3641 or #) Bantz, Bormann, Cashman
Communication within the small, task-oriented group. Group cohesiveness, leadership, role structure, information processing, decision making.
- 5412. GROUP AND ORGANIZATIONAL COMMUNICATION.** (4 cr; S-N only; prereq 5411) Bormann
Intragroup and intergroup communication. Communication of small task-oriented groups in organizational context. Small group and organizational communication.
- 5414. AUTHORITY AND POWER IN TASK-ORIENTED COMMUNICATION.** (4 cr; S-N only; prereq 3641 or #)
Cashman, Howell, Shapiro
Authority and power in task-oriented groups. Tavistock-type small group, intergroup, and large group laboratory experiences. Verbal and nonverbal processes in and among groups that affect leadership and followership.
- 5421. QUANTITATIVE RESEARCH IN COMMUNICATION.** (4 cr; prereq 3401 or 5403 or #) Petronio
Experimental and descriptive research; design and procedures; individual projects.
- 5422. INTERVIEWING AND COMMUNICATION.** (4 cr; prereq 1101, 6 cr in social science 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.
- 5431. THE PROCESS OF PERSUASION.** (4 cr; prereq 1102, Psy 1001) Howell
Modern motivational communication. Social control through persuasive speech.
- 5441. COMMUNICATION IN HUMAN ORGANIZATIONS.** (4 cr; prereq 1102 or 3401, 3641 or 5411 or grad student)
Bantz, Shapiro
Communication in organizational settings. Organizational structure and dynamics and their effect upon the communication process. Individual projects.
- 5451. INTERCULTURAL SPEECH-COMMUNICATION.** (4 cr; prereq 3401, Anth 1002 or another course in cultural anthropology or #) Howell
Successful interpersonal communication across cultures. Linguistic and nonverbal variables. Emphasis on North Americans abroad, communication with host nationals.
- 5452w,s. WORKSHOP IN INTERCULTURAL COMMUNICATION.** (4 cr; S-N only; prereq 5451 or #) Howell
Small group training for foreign and U.S. students in communicating across cultures; group discussions, role playing, simulations, lectures as methods.
- 5602. CONTEMPORARY POLITICAL PERSUASION.** (4 cr; prereq 1101, 5431 or #) Scott
Contemporary political speech. Ideologies in political persuasion.
- 5611. CLASSICAL RHETORIC.** (4 cr; prereq 1101) Scott
Greek and Roman theories of speechmaking; historical and philosophical context and influence on education
- 5615. INTRODUCTION TO RHETORICAL CRITICISM.** (4 cr; prereq 1101...3601 recommended) Scott
Traditional and contemporary rhetorical theory; application to contemporary public address.
- 5616. PUBLIC ADDRESS IN BRITAIN AND THE COMMONWEALTH.** (4 cr; prereq 1101 or #) Jensen
British orators—works and historical settings. British rhetorical theory.
- 5617. HISTORY AND CRITICISM OF AMERICAN PUBLIC ADDRESS.** (4 cr; prereq 1101, Psy 1001) Bormann
History and criticism of religious and reform speech in the United States, 1620 to 1920.
- 5618. HISTORY AND CRITICISM OF AMERICAN PUBLIC ADDRESS.** (4 cr; prereq 1101, Psy 1001) Bormann
History and criticism of political speech in the United States from the Revolution to the present.
- 5970f,w,s,su. DIRECTED STUDIES.** (Cr ar; prereq 9 3xxx-5xxx speech-communication or, #, Δ)
Guided individual reading or study.

Statistics (Stat)

Staff—*Director, School of Statistics*, Seymour Geisser, 270 Vincent Hall; *Chair, Department of Applied Statistics*, R. Dennis Cook, 352f Classroom-Office Building; *Chair, Department of Theoretical Statistics*, Donald A. Berry, 270 Vincent Hall; *Director of Undergraduate Studies*, Robert J. Buehler, 257 Vincent Hall; *Director of Graduate Studies*, Bernard W. Lindgren, 258 Vincent Hall

Professors: Berry, Bingham, Buehler, Collier, Cook, Das Gupta, Eaton, Geisser, Hildreth, Hinkley, Larntz, Lindgren, Sudderth

Associate Professors: Lane, Martin, Weisberg

Assistant Professors: Brant, Chaloner, Lahiff

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 1231 or 1331 or 1621 (Stat 3091 or 1051 recommended)

Major Requirements—Math 3211 or 3611

Math 3142 or 3511

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 5022, 5101, 5201, 5211, 5301, 5302, 5401, 5421, 5601; IEOR 5030, 5040, 5550-5551, 5531; QA 5171; PubH 5452-5453-5454-5455; CSci 3101, 5101-5102; Math 5681-5682-5683

MINOR SEQUENCE

Minor Requirements—Minimum of 17 cr from 3091 and 5xxx courses

Course selections must be approved by the director of undergraduate studies.

1051f, w.s. INTRODUCTION TO IDEAS OF STATISTICS. (4 cr; prereq high school higher algebra)

Presentation and analysis of data. Probabilistic models for inference. Inference and decision procedures. Emphasis on concepts rather than computation.

3091f, w.s. INTRODUCTION TO PROBABILITY AND STATISTICS. (4 cr, §5121, §5131; prereq differential and integral calculus; one section designated primarily for IT majors)

Elementary probability and probability distributions, sampling and elements of statistical inference. Treatment more mathematical than that in 1051.

5021f, w. STATISTICAL ANALYSIS I. (5 cr; prereq college algebra or #)

Frequency distributions; descriptive statistics; elementary probability; binomial, Poisson, and normal distribution; estimation and testing; analysis of variance; multiple comparisons; linear regression.

5022w, s. STATISTICAL ANALYSIS II. (5 cr; prereq 5021 or #)

(Continuation of 5021) Multiple regression and correlation; multiway analysis of variance, variance components, covariance; elementary principles of design; basic nonparametric methods.

5071. STATISTICAL APPLICATION OF MATRIX ALGEBRA. (3 cr; prereq 5021, §Math 3142 or #)

Specific matrix operations with vector realizations, presuming no prior knowledge. Uses in analysis of variance and multivariate methods. Correlation structures, characteristic vectors, quadratic forms.

5101s. INTRODUCTION TO DECISION THEORY. (4 cr; prereq Econ 5111 or Math 1142 or 1211 or #)

Elements of probability; basic concepts in statistical decision theory; relationship to game theory and other types of decision problems; prediction and inference.

5121-5122w. THEORY OF STATISTICS. (4 cr per qtr, §5131-5132-5133; prereq Math 1231 or 1331 or 1621)

Univariate and multivariate distributions, law of large numbers, sampling, likelihood methods, estimation and hypothesis testing, regression and analysis of variance and covariance, confidence intervals, distribution-free methods.

Major Requirements and Course Descriptions

- 5131f-5132w-5133s. THEORY OF STATISTICS.** (4 cr per qtr, §5121-5122; prereq Math 3411 or 3211)
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.
- 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.
- 5211. THEORY OF SAMPLE SURVEYS.** (4 cr; prereq 5122 or 5133)
Mathematical treatment of survey sampling including stratified and multistage sampling, models for nonsampling errors.
- 5271, 5272. BAYESIAN DECISION MAKING.** (4 cr per qtr, §Econ 5271, 5272; prereq §5122 or §5132 for 5271...5122 or 5132, Econ 1002 for 5272...5271 recommended for 5272)
5271: Axioms for personal probability and utility. Elements of statistical decision theory. Bayesian analysis of linear models. 5272: Expected utility models for economic decisions made under conditions of uncertainty. Applications to portfolio selection, forward and future trading, betting, contingency markets, business planning.
- 5301f,s. DESIGNING EXPERIMENTS.** (4 cr; prereq 5022 or 5122 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.
- 5302f,s. APPLIED REGRESSION ANALYSIS.** (4 cr; prereq 5022 or 5122 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.
- 5401s. INTRODUCTION TO MULTIVARIATE METHODS.** (4 cr; prereq 5071 or 5022 or 5122 or #)
Bivariate and multivariate distributions. Inference 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.
- 5421. ANALYSIS OF CATEGORICAL DATA.** (4 cr; prereq 5022 or 5122 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.
- 5601w. NONPARAMETRIC METHODS.** (4 cr; prereq 5022 or 5122 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.
- 5900. TUTORIAL COURSE.** (Cr ar; prereq #)
Study in areas not covered by regular offerings. Directed study.
- 5911, 5912, 5913. TOPICS IN STATISTICS.** (3 cr per qtr [may be repeated for cr with Δ]; prereq 5122 or 5133, #)
Topics vary.

STUDIO ARTS

See Arts, Studio.

SUMERIAN

See Near and Middle Eastern Studies.

SWAHILI

See Afro-American and African Studies.

SWEDISH

See Scandinavian.

Institute of Technology

CLA students may take up to 16 credits of course work offered by other colleges. The credits may be applied toward CLA degrees, but may not be used to fulfill group distribution requirements. Descriptions of courses offered by the Institute of Technology can be found in the bulletin of that college. The basic physical sciences and mathematic departments, which are administratively housed in the Institute of Technology, are also part of the College of Liberal Arts; their courses are listed in this bulletin and may be applied to CLA degrees.

Theatre Arts (Th)

Staff—*Chair*, Wendell Josal, 208 Middlebrook Hall; *Director of Undergraduate Studies*, Virginia Fredricks, 232 Middlebrook Hall

Professor Emeritus: Graham

Professors: Adey (on leave 1982-83), Ballet, Fredricks, Josal, Moulton, Nolte, Thompson

Associate Professors: Balk, Berry, Brockman, Congdon, Crellin (on leave 1982-83), Gadberrry, McIntyre, Montgomery, Nash (on leave 1982-83)

Lecturer: Neely

Theatre arts is the study of the theory and practice of dramatic performance. Productions of the University Theatre provide a laboratory for courses. All University students are invited to participate in productions of the University Theatre.

General Education—Courses that may be of interest to nonmajors are 1101, 1301, 1321, 1405, 1504, 1804, 3171, 3172, 3801, 5131, 5171, 5172, 5173, 5181, 5182, 5186, 5802, 5803.

B.A. MAJOR SEQUENCE

Required Preparatory Courses—1101, 1321, 1504

Major Requirements—3171, 3172, 3513, 3515, 3801, 3708 or 3711 or 5711

12 cr in other 3xxx-5xxx courses chosen in consultation with adviser

The following order is recommended for completion of courses: 1101 and 1504 first; 1321 and 1xxx electives before 3xxx core courses; 3513 before 3515 and both of these plus 3801 before the requirement in stage direction.

Courses in art history, dramatic literature, humanities, music, psychology, and studio arts are recommended.

B.F.A. MAJOR SEQUENCE

Information about this degree program, which is offered only in acting, is available from the director of undergraduate studies.

MINOR SEQUENCE

Required Preparatory Courses—1101, 1321, 1504

Minor Requirements—8 cr chosen from 3513, 3515, 3711, 3801

8 additional cr in 3xxx-5xxx courses

1101f,w,s. INTRODUCTION TO THE THEATRE. (4 cr) Ballet
History and theory of plays and playwrights.

Major Requirements and Course Descriptions

- 1102. DRAMA AND MEDIA.** (4 cr) Neely, Nolte
Study of dramatic form in contrasting media: theatre, film, and television. Lectures and film showings. Choice of outside viewing experiences.
- 1301. BEGINNING ACTING FOR NON-THEATRE MAJORS.** (4 cr; prereq 1101 or #1101) Moulton
Background and techniques of the acting process as viewed and practiced in the theatre, in society, and in the student's own relationships.
- 1321f,w,s,su. BEGINNING ACTING: CREATIVE APPROACH.** (4 cr; prereq 1101, 1504, 3rd-qr fr or above) Berry, McIntyre, staff
Beginning Stanislavskian technique and improvisational exercises leading to elementary scene study.
- 1326f,w. BEGINNING ACTING: TECHNIQUE.** (4 cr; prereq 1321)
Fundamentals of body movement, rhythms, and acting technique. Individual and group performances.
- 1328. MIME AND THE MASK I.** (2 cr; prereq 1321) Berry
Corporeal actor training based on LeCoq methods; basic exercises, improvisation, and the neutral mask.
- 1405f,w,s. HONORS COURSE: INTRODUCTION TO THE THEATRE.** (2 cr; prereq 1101, #)
Enrichment course for students who have completed 1101 with outstanding records. Laboratory.
- 1502f,w,s,su. MAKEUP FOR THE ACTOR.** (2 cr; prereq 1504, clean shaven face)
Theory and practice in stage makeup.
- 1504f,w,s,su. 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. Laboratory.
- 1804. ORAL TRADITIONS, MYTH TO MODERN.** (4 cr) Congdon
Oral performance of mythic, folk, and modern literature. Oral interpretation of epic, lyric, and dramatic voices in literature.
- 3115. INTRODUCTION TO PLAYWRITING.** (4 cr, §5115; prereq 1101, 1321, 1504 or #) Nolte, staff
Techniques of playwriting; completion of original one-act play.
- 3171, 3172. HISTORY OF THEATRE.** (4 cr per qtr; prereq 1101, 1504) Gadberry
History of world theatre. Performance practices and conventions. 3171: Western theatre through Renaissance and Oriental theatre. 3172: Western theatre from Renaissance to present.
- 3311. BEGINNING VOICE PRODUCTION FOR THE THEATRE.** (4 cr; prereq 1321 or #1321, written permission) Nash
Exercises for actors to develop correct breathing, vocal placement, and clear diction. Performance and vocal analysis of prose, poetry, and drama.
- 3313. BEGINNING VOICE PRODUCTION FOR THE THEATRE.** (2 cr; prereq 3311, written permission)
Performance and vocal analysis of songs for music theatre.
- 3321. ADVANCED ACTING: CHARACTERIZATION.** (4 cr; prereq 1326)
Presentation of scenes from plays with emphasis on characterization.
- 3322. ADVANCED ACTING: PERIOD PLAYS AND STYLES.** (4 cr; prereq 3321, 3326)
Research and performance of scenes from period plays, using skills developed in 3321.
- 3326. THEATRE DANCE.** (2 cr; prereq 1326) Moulton
Dance techniques, practice and performance of dances in the theatre.
- 3328. MIME AND THE MASK II.** (2 cr; prereq 1321, 1328) Berry
Corporeal actor training based on LeCoq methods; exercises, improvisation in the neutral mask, expressive masks, and larval masks.
- 3412f,w,s. HONORS COURSE: TUTORIAL SEMINAR IN THEATRE ARTS.** (0-3 or [limited to 3 or for cum laude, magna cum laude...up to 3 add'l cr through X regis for summa cum laude]; prereq candidate for honors in theatre arts, Δ)
Independent reading and research in preparing honors thesis or creative project.
- 3513f,alt su. TECHNICAL THEATRE PRODUCTION I.** (4 cr; prereq 1504) Josal, Brockman
Theory and practice of design and execution of stage scenery and properties. Laboratory.
- 3515w,alt su. TECHNICAL THEATRE PRODUCTION II.** (4 cr; prereq 1504) Montgomery, Crellin
Theory and practice in design and execution of stage lighting and costuming. Laboratory.
- 3708. PLAY PRODUCTION IN THE SECONDARY SCHOOL.** (4 cr, §3711, §5711; prereq 1321)
Analysis and production of selected scenes.
- 3711f,w,s. STAGE DIRECTION.** (4 cr, §3708, §5711; prereq 1321, jr or sr)
Theory of direction: concept and analysis. Blocking and production of short scenes.
- 3801f,w,s,su. ORAL INTERPRETATION OF FICTION.** (4 cr; prereq 1504 or 1804 or Spch 1101) Congdon, Fredricks, Thompson
Selected short stories. Solo and group readings.

- 3950. TOPICS IN THEATRE.** (1-5 or per qtr [12 cr max]; prereq #, Δ)
Topics specified in *Class Schedule*.
- 3980f,w,s,au. DIRECTED INSTRUCTION.** (1-3 cr per qtr [8 cr max]; prereq completion of course in which teaching will be done, Δ)
- 5100. THEATRE PRACTICUM.** (1-6 cr per qtr; prereq Δ, #, written permission)
Individual creative projects in production of approved plays. Playwriting, directing, acting, design.
- 5110f,w,s,au. THEATRE PERFORMANCE.** (1 cr per qtr [9 cr max]; S-N only; prereq written permission after casting and/or assignment to a production) Adey
Participation in rehearsals and performances of a major University Theatre production. Credit awarded quarter performance takes place.
- 5115-5116-5117. PLAYWRITING.** (4 cr per qtr, §3115 for 5115; prereq 1321 or # for 5115...3115 or 5115 for 5116...5116 for 5117) Nolte
Students with established competence in the well-made play move to more experimental forms. 5115: One-act play. 5116-5117: Full-length play.
- 5131. CREATIVE DRAMA.** (4 cr; prereq 1101 or §1101 or elementary education major or #...1321 recommended)
Principles and methods of developing original dramatizations with children. Observation of children's classes in creative dramatics. Readings, projects, term papers.
- 5132. THEATRE FOR CHILDREN.** (4 cr; prereq 3708 or 3711 or 5711 or #)
Selection, direction, and production of plays for children's audiences, coordinated with current productions of the Young People's University Theatre.
- 5133. PRODUCING THEATRE FOR CHILDREN.** (4 cr; prereq 1321 or §1321, #)
Techniques and practice of performing for audiences of children. Must be cast in late fall auditions for the winter quarter production.
- 5171, 5172, 5173. HISTORY OF THEATRE.** (4 cr per qtr; prereq sr or grad student) Nolte
Theatre as a mirror of society. The aesthetics, philosophy, and techniques of theatre arts. 5171: Ancient, Eastern, and medieval theatre. 5172: From the Renaissance to Ibsen. 5173: Modern theatre from Ibsen to the present.
- 5177, 5178. THEATRE BACKGROUNDS.** (4 cr per qtr; prereq 1504, jr or sr or grad student) Gadberry
Selective examination of plays of the living theatre. Chronological, comparative study of development of theatrical elements in the drama from its origins to present. 5177: Through 18th century. 5178: 19th, 20th centuries.
- 5181. CONTEMPORARY BLACK THEATRE.** (4 cr; prereq 1504 or Afro 1025 or 3055 or AmSt 1101 or Engl 5175 or #)
Black consciousness manifested on the American stage. Black plays, playwrights, and the forces that brought them into being.
- 5182. BLACK MAN: AMERICAN THEATRE 1820-1959.** (4 cr; prereq 1504 or Afro 1025 or 3055 or AmSt 1101 or Eng 5175 or #)
Theatrical events in the Afro-American's evolution from white stereotypes to black self-definition; theatres, plays and players examined within the social, economic, and political fabric of their ages.
- 5186. AMERICAN THEATRE.** (4 cr; prereq sr or grad theatre major or #)
The theatre as an aspect of American culture, 1752 to present.
- 5311. INTERMEDIATE VOICE PRODUCTION FOR THE THEATRE.** (4 cr; mainly for BFA candidates and grad students)
History of voice production; physiology of the human voice; exercises to develop techniques of abdominal breathing, tonal placement, and clear articulation; phonetics; introduction to performance and vocal analysis of dramatic literature.
- 5312. INTERMEDIATE VOICE PRODUCTION FOR THE THEATRE.** (4 cr; mainly for BFA candidates and grad students)
Theories of theatre speech; phonetics and vocal techniques learned in 5311 applied to dramatic literature; vocal analysis of student performance.
- 5313. INTERMEDIATE VOICE PRODUCTION FOR THE THEATRE.** (4 cr; mainly for BFA candidates and grad students)
Theories of singing; phonetics and vocal techniques learned in 5311 applied to songs for music theatre; vocal analysis of student performance.
- 5314-5315. STAGE COMBAT.** (2 cr per qtr; prereq 1326 or grad student, #) Berry
History, techniques, and aesthetics of staging physical combat. 5314: Unarmed combat. 5315: Armed combat.
- 5321. PROBLEMS IN PROFESSIONAL ACTING.** (4 cr; prereq 3321 or grad student)
Exploration by students and a professional actor of acting techniques necessary for professional careers.
- 5323. ACTING FOR THE CAMERA.** (4 cr; prereq 3321 or grad student, written permission) Moore
Laboratory course. Differences between stage acting and acting for camera. Scenes enacted and played back on videotape for class criticism. Students operate cameras. Attendance mandatory.

Major Requirements and Course Descriptions

- 5334f-5335w-5336s. ACTING FOR MUSIC-THEATRE.** (4 cr per qtr; prereq 1326, 3313 or 8313 or music major, written permission) Balk
Philosophy and techniques of music and theatre applied to spoken and sung dramatic literature.
- 5510. DRAWING AND RENDERING FOR THEATRE DESIGNERS.** (2 cr per qtr; prereq 3513 or 3515 or grad student, #)
Drawing and rendering skills for presentation of scenic and costume designs.
- 5511. SCENOGRAPHIC TECHNIQUES.** (4 cr; prereq 5513, #) Brockman
Drafting skills for the theatre designer; interpretation of renderings for the stage.
- 5512. ADVANCED PROBLEMS IN COSTUMING.** (4 cr; prereq 3515 or #) Crellin
Theory and design of costumes. Projects. Laboratory.
- 5513. STAGECRAFT.** (4 cr; prereq 3513, #) Brockman
In-depth study and practical application of scenic materials, tools, and construction materials used in the theatre today. Laboratory.
- 5514. ADVANCED PROBLEMS IN SCENE DESIGN.** (4 cr; prereq 3513 or #) Josal
Theory and design of stage scenery. Reports and projects. Laboratory.
- 5516. ADVANCED PROBLEMS IN STAGE LIGHTING DESIGN.** (4 cr; prereq 3515, 3711 or #) Montgomery
Theory of stage lighting design. Drafting and development of the lighting plot. Laboratory.
- 5518. ADVANCED PROBLEMS IN STAGE PROPERTIES.** (4 cr; prereq 3513 or #) Josal
Theory and design of stage properties. Projects and reports. Laboratory.
- 5519. SOUND FOR THE THEATRE.** (2 cr; prereq 1504, #) Brockman
Theory and technique of producing and amplifying sound. Laboratory.
- 5520. COSTUMING CRAFTS AND TECHNIQUES.** (4 cr per qtr [8 cr max]; prereq 3515, 5512 or #) Crellin
Theory and practice in costuming in professional and repertory theatres. Laboratory.
- 5522. HISTORY OF COSTUME FOR THE STAGE.** (4 cr; prereq 3515) Crellin
The history of clothing and theatrical costume, research methods in costume history, and problems of and solutions for transforming historical research into stage costume.
- 5540. SCENE PAINTING TECHNIQUES.** (2-4 cr per qtr [12 cr max]; prereq 3513 or #) Brockman
Materials, layout, and painting techniques used in the theatre. Painting styles and texturing techniques.
- 5560. STAGE LIGHTING CRAFTS AND TECHNIQUES.** (4 cr [8 cr max]; prereq 3515 or #) Montgomery
The lighting technician's skills and crafts; wiring, splicing, dimmer functions, equipment from a practical standpoint. Laboratory.
- 5580. PROPERTIES CRAFTS AND TECHNIQUES.** (4 cr per qtr; prereq 3513, 5518 or #) Brockman
Theory and practice in creating stage properties for professional and repertory theatre. Laboratory.
- 5711. STAGE DIRECTION.** (4 cr, §3708, §3711; prereq 1321, sr or grad student)
For description, see 3711.
- 5712. STAGE DIRECTION.** (4 cr; prereq 3708 or 3711 or 5711 and 3513, 3515, 3801) Adey
Rehearsal theory and production problems. Direction of two one-act plays.
- 5716. STAGE MANAGEMENT FOR THE THEATRE.** (4 cr; prereq 3711 or §3711 or 5711 or §5711 and written permission) Montgomery
Stage management as a specialized area. Theories and techniques of rehearsal and performance, organization and management in educational, repertory, and regional theatres.
- 5718. THEATRE MANAGEMENT AND PROMOTION.** (4 cr; prereq 1504, sr or grad student or #) Neely
Theory and practice in ticket office procedures, house management, publicity and promotion; problems in college, community, children's, and professional theatres.
- 5720f,w,s. PLAYS IN PRODUCTION AND PERFORMANCE.** (2-4 cr per qtr [6 cr max for undergrads]; prereq 5712, written permission) Adey
Work on campus or with a community, high school, touring, or professional theatre group for experience in stage direction.
- 5728. THEATRE MANAGEMENT PROBLEMS: AUDIENCE AND FINANCIAL DEVELOPMENT.** (2 cr; prereq 5718) Neely
Practical analysis of audience and financial development problems in U.S. theatre. Concentration on various solutions.
- 5734-5735-5736. DIRECTING THE SINGER ACTOR.** (4 cr per qtr; prereq 5712, #; concurrent regis in 5334-5335-5336 not permitted) Balk
Directing and coaching the singer actor in use of language and in music and theatre performance.

- 5760f,w,s. ADVANCED STAGE MANAGEMENT.** (2-4 cr per qtr [6 cr max for undergrads]; prereq 5716, written permission) Montgomery
Practical experience in stage management for specific University Theatre productions; rehearsal and performance.
- 5802. ORAL INTERPRETATION OF POETRY.** (4 cr; prereq 1504, 3801 or grad student) Fredricks
Lyric poems. Solo and group readings.
- 5803. ORAL INTERPRETATION OF DRAMA.** (4 cr; prereq 1504, 3801 or grad student) Congdon
Plays. Solo and group readings.
- 5811. HISTORY OF ACTING AND INTERPRETATION.** (4 cr; prereq 3321 or 3322, 3801 or grad student; offered alt yrs)
Thompson
Major traditions of theatre and literary performance from ancient times to present.
- 5813. THEORIES OF ACTING AND INTERPRETATION.** (4 cr; prereq 3321 or 3322, 3801 or grad student; offered alt yrs) Fredricks, Berry
Aesthetic, literary, and psychological theories as they relate to acting and interpretation.
- 5823f,w,s. ORAL INTERPRETATION OF SHAKESPEARE.** (4 cr; prereq 1504, 3801 or grad student) Thompson
Trends in oral performance of Shakespeare's plays on the stage and by readers. Recording and criticism of Shakespearean theatre. Performance of selected scenes.
- 5950. TOPICS IN THEATRE.** (1-5 cr per qtr [12 cr max]; prereq #, Δ)
Topics specified in *Class Schedule*.
- 5970f,w,s,su. DIRECTED STUDIES.** (2-6 cr per qtr; prereq 9 cr in theatre, #, Δ)
Guided individual reading or study.

Theological Study Preparation

Staff—Chair, Richard B. Mather, 320 Folwell Hall

Adjunct Faculty—Professors: Altholz (History), Hopkins (Philosophy), Johnson (Sociology), Kraabel (Classics), Mather (East Asian Studies)

Associate Professor: Paradise (Middle Eastern Studies)

The pretheology major is one of a number of approaches to preparation for study at a seminary; majors such as history, sociology, classics, Hebrew, or philosophy are also acceptable to most seminaries. If you are interested in religious studies but not in entering a seminary, you should not select this program (see Religious Studies listing). You are urged to consult the adviser in 220 Johnston Hall if you are preparing for seminary training, whether you elect this program or not. Approval of one of the staff members listed above is needed to enter the major program.

If you are preparing to enter a particular seminary or graduate theology department, you should obtain a statement of specific requirements or recommendations from the seminary or department.

The current catalogs of most seminaries in the United States and Canada are on file in 220 Johnston Hall. The program adviser can help arrange visits to or interviews with staff members of nearby seminaries.

B.A. MAJOR SEQUENCE

Required Preparatory Courses—Phil 1001 or 1002; Psy 1001; Greek and/or Hebrew strongly recommended (depending on seminary selected)

Major Requirements—Phil 3002, 3003, 3004

3xxx and 5xxx courses (no more than 25 percent on S-N grading) selected as follows: two from studio arts, art history, music, or theatre arts; two in ancient history; one in medieval-Renaissance history, two in modern history; two English courses; two humanities, classics, foreign literature in translation, modern foreign language, Greek, Hebrew, or Latin courses; three anthropology, economics, geography, political science, sociology, speech-communication, or psychology courses

All courses for the major, whether required or not, must be completed with C or higher grades.

TURKISH

See South Asian Studies.

Urban Studies (UrbS)

Staff—Coordinator, Judith Martin, 527 Science Classroom Building

Adjunct Faculty—Professors: Adams (Geography and Public Affairs), Berman (History), Clemence (Architecture), Coen (Economics), Maki (Agricultural Economics), Modell (History), Raup (Agricultural Economics), Scott (Political Science), Shapiro (Speech-Communication), Zaidi (Industrial Relations)

Associate Professors: Galaskiewicz (Sociology), Ismach (Journalism), Sheppard (Geography), Wattenberg (Social Work)

Assistant Professors: Miller (Geography), Prell (Anthropology), Showalter (Architecture)

This cross-disciplinary major involves urban studies course work, fieldwork experiences, and introductory work in a number of disciplines that offer useful perspectives on contemporary urban and postindustrial society. Three degree options are offered. They focus on the conceptual and analytical frameworks and specialized skills necessary to enter the urban professions 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.

B.A. AND B.S. DEGREE PROGRAMS

You may choose one of three urban studies degree options, depending on your career plans. The general B.A. offers the opportunity to survey a variety of urban-related disciplines or to focus on a specific topic (e.g., housing, transportation, criminal justice) from the viewpoint of several disciplines. The B.A. preparatory to graduate school in one of the disciplines related to urban studies offers a degree of specialization in a particular area that complements the breadth of the urban studies major. The B.S. option emphasizes quantitative analysis skills and fieldwork or internship experience as preparation for work in urban planning or related areas.

Although you will develop an individual major program, there are certain required components: an introductory course (3 cr), one urban studies colloquium (2 cr), two workshops or approved advanced seminars (8 cr), quantitative skills courses (8 cr minimum), and approved urban studies electives (8 cr minimum). The B.S. and the general B.A. options require fieldwork or internship experience. The B.S. and B.A. preparatory to graduate study options require a core of courses in one of 13 disciplinary concentrations. The *Urban Studies Bulletin*, available from the department, contains a listing of required and recommended components for each of these degree options.

3101f, 3102w, 3103e. URBAN STUDIES COLLOQUIA. (2 cr per qtr; S-N only; prereq Δ) Staff
Introduction to urban problems and problem-solving techniques. Typically two or more colloquia are offered each quarter.

3104. INTRODUCTION TO URBAN STUDIES. (3 cr; A-N only; prereq #) Martin
Introduction to the field for urban studies sophomores and those considering an urban studies major. Lectures by adjunct faculty members; lectures and discussions with program coordinator to integrate the diverse aspects of urban studies.

3500f,w,s. WORKSHOPS. (4 cr per qtr; prereq jr or sr, #) Staff
Project focused workshops, usually with substantial field experience components. Typically two or more workshops offered each quarter.

- 3900f, w.s. INTERNSHIP.** (1-6 or per qtr [12 or max]; prereq jr or sr, Δ) Staff 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.
- 3950. HONORS SEMINAR.** (Cr ar; prereq approval of urban studies honors representative)
- 3970. DIRECTED STUDIES.** (2-6 cr; prereq Δ)
Guided individual reading or study.

URDU

See South Asian Studies.

Women's Studies (WoSt)

Staff—Chair, Janet D. Spector, 492 Ford Hall

Professors: Faunce (Psychology), Knudson (Quigley Center for International Studies), Southall (Afro-American and African Studies)

Associate Professors: Brooks (Afro-American and African Studies), Clark (Education and Sociology), Evans (History), Garner (English), Gohlke (English), Hinding (University Libraries), Joeres (German), Loeffler (Psychology), May (American Studies), McNaron (English), Spector (Anthropology), Ward (Journalism), Yates (Women's Studies)

Assistant Professors: Breen (Women's Studies), Chalmers (Women's Studies), Fiedler (Psychology), Fields (Women's Studies), Geiger (Women's Studies), Isaacman (Women's Studies), Knazan (Women's Studies), Maynes (History), Mucke (Continuing Education for Women), Prell (Anthropology), Scheman (Philosophy), Tarr (Women's Studies)

Instructors and Lecturers: Isaacs (Afro-American and African Studies), Truax (Minnesota Women's Center), Zita (Women's Studies)

The women's studies program attempts to meet the University community's need to study women and to develop feminist perspectives through nonsexist education and multidisciplinary approaches to knowledge about women.

Courses continue to be added to the program. The *Class Schedule* or the Women's Studies office can provide current information about new courses.

B.A. MAJOR SEQUENCES

Required Preparatory Courses—1005, 1006

Major Requirements—Sequence A—48 cr in adviser-approved courses, 24 of them in WoSt courses (including 8 cr in 3900)

Sequence B—48 cr in adviser-approved courses (including 8 cr in 3900)

Majors are required to take at least one course that focuses on American minority women.

Prospective majors should consult the *Women's Studies Handbook*. The handbook and a list of courses in other departments that may be included in major programs may be obtained from the Women's Studies office.

MINOR SEQUENCE

Required Preparatory Courses—1005 or 1006

Minor Requirements—Minimum of 20 3xxx-5xxx cr

A maximum of 8 credits in courses offered by other departments may be taken. Course selections must be approved by the women's studies adviser.

Major Requirements and Course Descriptions

- 1005, 1006. INTRODUCTION TO WOMEN'S STUDIES.** (4 cr per qtr)
Women's studies as a discipline; brief history of feminism; overview of issues related to the current and rapidly changing role and status of women.
- 1155. 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.
- 1977. THE PSYCHOLOGICAL ENVIRONMENT OF WOMEN.** (4 cr)
Behavioral and social science principles and theories that have unique applications to the development, growth, and behavior of women.
- 3001-3002. WOMEN: BIOLOGY AND BEHAVIOR.** (4 cr per qtr; prereq Biol 1009 or Phsl 1001 or #)
Biological aspects of being a woman. Critical analysis of assumptions concerning women's biology drawn from several disciplines. Designed for women and men.
- 3005. SEXUALITY AND SELF-IMAGE.** (4 cr; prereq 1005, 1006 or #)
Social attitudes toward sexuality and how they influence our sense of ourselves. Focus on art, pornography, rape, the economy, psychosexual development and the family.
- 3103. THE MODERN FEMINIST NOVEL.** (4 cr; prereq English composition or equiv)
Analysis of fiction written by women that addresses questions of women's identity and the diversity of women's experience.
- 3200. WOMEN AND WORK.** (4 cr per qtr [12 cr max])
The work that women do studied in its social, political, familial, and economic contexts. Topics may include women and economic structures, work and family, working-class women, women in the professions, women and development in the third world. Topics specified in *Class Schedule*.
- 3300. COMPARATIVE STUDY OF WOMEN.** (4 cr per qtr [8 cr max]); prereq introductory courses in one or two social sciences)
Comparative treatment of and theories about women from the points of view of social science disciplines. Research methods for asking questions about women.
- 3301. WOMEN: A SENSE OF IDENTITY.** (4 cr, §5301)
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.
- 3333. WOMEN IN LIBERATION STRUGGLES.** (4 cr)
Women's participation in processes of revolution and social transformation in China, Cuba, and Africa. Historical, ideological, and economic factors in the changing lives, roles, and consciousness of women involved in 20th-century revolutions.
- 3349. 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 the female experience.
- 3501. WOMEN AND LITERATURE.** (4 cr; prereq introductory work in literature)
Women writers and critics of literature about women. Usually limited to Western literature.
- 3502. WOMEN AND THE ARTS.** (4 cr; prereq introductory work in music, art, drama, dance, film or other arts)
Works of art by or about women. Focus may be on one or more of several forms of artistic expression.
- 3701. WOMAN'S LITERARY QUEST FOR SELF-REALIZATION.** (4 cr; prereq 5 cr in literature)
Woman's quest for self-fulfillment, explored through modern literature.
- 3705. 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.
- 3838. FEMINIST THOUGHT AND THEORY.** (4 cr; designed for nonmajors)
Introduces theoretical aspects of women's studies through a survey of feminist theories concerning gender differences; the family; production and reproduction; sex, ethnicity, and class; and the social construction of sexuality.
- 3900. SEMINAR.** (4 cr per qtr; prereq Δ)
Applies knowledge and methodology gained from courses and experience to topics of an interdisciplinary nature that focus on women.
- 3901. FEMINIST THEORIES.** (4 cr)
Representative feminist theories and their relations to political action. Intended primarily for nonmajors.
- 3910. TOPICS IN WOMEN'S STUDIES.** (4 cr per qtr [12 cr max])
Topics specified in *Class Schedule*.

- 3960. FIELD LEARNING IN WOMEN'S STUDIES.** (4 cr per qtr [8 cr max]; prereq 1005, 1006, one 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.
- 3970. DIRECTED STUDIES.** (1-15 cr per qtr; prereq #, Δ)
Independent study to pursue individual interests.
- 3980. DIRECTED INSTRUCTION.** (1-5 cr per qtr; prereq #, Δ)
Undergraduates serve as teaching assistants.
- 3990. DIRECTED RESEARCH.** (1-5 cr per qtr; prereq #, Δ)
- 5101. HISTORY OF FEMINISM.** (4 cr; prereq 1005, 1006)
Feminist thought and movements; feminists' acts since 1790, especially in the United States and Great Britain; other international references.
- 5102. CURRENT FEMINIST SCHOLARSHIP.** (4 cr; prereq 1005, 1006 or grad student or #)
Current scholarship dealing with the feminist intellectual revolution.
- 5123. WOMEN'S SPIRITUALITY.** (4 cr; prereq 1005, 1006 or grad student 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.
- 5301. WOMEN: A SENSE OF IDENTITY.** (4 cr, §3301)
For description, see 3301.
- 5303. ANTHROPOLOGY OF CONTEMPORARY FEMINIST ISSUES.** (4 cr; prereq 1005 or 1006, Anth 1102...Anth 3303 recommended)
Cross-cultural and evolutionary approaches to the study of contemporary feminist issues.
- 5311. 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.
- 5377. FEMINIST THERAPIES.** (4 cr)
Sexism in theoretical views of women and therapy; alternative emerging views of and alternative therapeutic approaches for women. Resources include feminist behavioral/social science research and literature; biographies, essays, and cases regarding women's lives; and community resource persons.
- 5404. FEMINIST CRITICISM OF CONCEPTS OF THE SELF.** (4 cr; prereq 12 cr in Women's Studies courses or substantial work in philosophy, religious studies, social sciences, psychology or #)
Traditional views, and feminist alternatives to them, concerning the self and related notions, such as human nature, individualism, and transcendence, as expressed in philosophy, religion, morality, politics, art, and psychology.
- 5910. TOPICS IN WOMEN'S STUDIES.** (4 cr per qtr [12 cr max]; prereq #)
Topics specified in *Class Schedule*.
- 5911. 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.
- 5970. DIRECTED STUDIES.** (1-5 cr per qtr [12 cr max]; prereq #, Δ)
Guided individual reading or study.

ZOOLOGY

Courses in zoology may be found in the listings of the Department of Ecology and Behavioral Biology and the Department of Genetics and Cell Biology.

III. CLA PREPARATION FOR DEGREE WORK IN OTHER COLLEGES

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 grade averages (usually C for undergraduate programs, B or higher for graduate). Other requirements vary; consultation with appropriate offices and examination of academic bulletins concerning such 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 may be obtained at the Williamson Hall information window, or by writing to the Office of Admissions and Records, 110 Williamson Hall, 231 Pillsbury Drive S.E., University of Minnesota, Minneapolis, Minnesota 55455.

School of Architecture and Landscape Architecture

The School of Architecture and Landscape Architecture offers two preprofessional degrees in architecture (the B.A. with a major in architecture through CLA, and the bachelor of environmental design or B.E.D. through the Institute of Technology), and two professional degrees in architecture (the bachelor of architecture or B.Arch. through IT, and the master of architecture or M.Arch. through the Graduate School). Information about the B.E.D. and B.Arch. programs is available in the *Institute of Technology Bulletin* and from the School of Architecture and Landscape Architecture, 110 Architecture Building, 89 Church Street S.E., University of Minnesota, Minneapolis, Minnesota 55455. Information about the M.Arch. program is available in the *Graduate School Bulletin* or from the school.

The professional degree bachelor of landscape architecture (B.L.A.) is offered jointly by the school through the Institute of Technology and by the Department of Horticultural Science and Landscape Architecture through the College of Agriculture. Information about the B.L.A. program is available in the *Institute of Technology Bulletin* and the *College of Agriculture Bulletin* as well as from the School of Architecture and Landscape Architecture and the Department of Horticultural Science and Landscape Architecture, 205 North Hall, 2005 Buford Avenue, University of Minnesota, St. Paul, Minnesota 55108.

To be considered for admission to the entry-level architectural design sequence (Arch 3081-3082-3083), you must have completed or be in the process of completing all required preparatory courses, a minimum of 45 credits, prior to application. You must apply by May 1 for admission the following September. (Use Form AR 110.) Admission decisions are based on academic record, college work completed, and a letter of intent; you also may submit evidence of graphic communication and artistic ability. To enroll in the design sequence, you must have completed all required courses.

If you wish to pursue the professional degree master of architecture, you should apply after the sophomore year in order to complete the distribution and language requirements required for the B.A. degree.

College of Biological Sciences

The College of Biological Sciences (CBS) is an upper division unit of the University, and you normally enter the college at the beginning of your junior year. CBS offers the B.S. degree with majors in biochemistry, biology, botany, and microbiology. If you have a special

interest in a related area of study (e.g., ecology, behavioral biology, genetics, cell and developmental biology, zoology), you may major in biology and include in your program a suitable selection of advanced courses in your area of interest. An individually designed program is also available. Irrespective of major, you must complete a common core sequence of courses in biology, the physical sciences, and mathematics.

As soon as you decide to major in a bioscience area, you should contact the college office, 223 Snyder Hall, 1475 Gortner Avenue, University of Minnesota, St. Paul, Minnesota 55108, for advice and counseling. Appointments may be made by calling 373-3648.

Specific requirements for admission include a minimum of 84 quarter credits with grades of A, B, C, or S, including 10 credits of analytical geometry and calculus (Math 1211-1221), 10 credits of general chemistry (Chem 1004-1005 or 1031-1032), and a course in general biology (Biol 1009).

You are strongly encouraged, especially if you are transferring from another institution, to complete the third quarter of the calculus sequence (Math 1231) required for graduation prior to your first quarter of enrollment in CBS.

(Bachelor of arts degrees in biology and microbiology may be earned in the College of Liberal Arts. See the listings for these programs in section II.)

School of Dentistry

The program in dentistry for the D.D.S. degree admits a beginning class once a year, in the fall. A B.S. degree is granted to students who have satisfactorily completed three years of pre dental liberal arts studies and two years of dental studies.

Admission—A minimum of 135 credits from an accredited college is required. The scholastic average necessary for consideration is C. Admission is on a competitive basis, however, and an average well above C is usually necessary to be selected.

Required Courses and Credits—(science courses must include laboratory instruction):

English—12 cr in basic English, in such areas as composition, literature, etymology, speech, or humanities (with emphasis on literature).

Mathematics—Background at least through college algebra as demonstrated by college validation or credit: Math 1111 or 1201. For graduate work beyond the D.D.S., additional credits in higher mathematics and the sciences are recommended.

General Chemistry—12 cr: Chem 1004-1005-1006 or 1004-1005 and 3100-3101.

Organic Chemistry—10 cr: Chem 3301-3302 and 3305-3306.

Biology—10 cr: two quarters of biology or one quarter each of biology and zoology—Biol 1009, 1106, or 3011.

Physics—10 cr. Calculus-based physics should be taken by students who plan advanced work in dentistry: Phys 1041-1042 or 1104-1105-1106.

Psychology—5 cr: Psy 1001.

Required courses must be completed by the end of the academic year prior to the fall of enrollment. Courses taken in the summer preceding fall admission are not acceptable.

Only under unusual circumstances will S credits be accepted in required courses. S credits in elective courses should not exceed 10 percent for three-year applicants (135 credits) and 15 percent for four-year applicants (180 credits). I (incomplete) grades are looked on with disfavor by the Admissions Committee. All I grades and any W (withdrawal) grade in excess of one per academic year must be explained in the application.

Admission Tests—The required Dental Admission Test (DAT) is given two times a year, usually in October and April. It is wise to take the test soon after required science

CLA Preparation for Degree Work in Other Colleges

courses are completed; it must be taken by October of the preceding academic year for enrollment the following fall. Although the test generally measures aptitudes rather than special knowledge, review of biology, general chemistry, and organic chemistry is advisable. Application forms for the DAT may be obtained from the Office of Admissions (240 Williamson Hall), the School of Dentistry, or 30 Johnston Hall.

Residence Requirements—First priority is given to Minnesota residents, second to residents of neighboring states that do not have dental schools, and third to other nonresidents who have acceptable reasons for attending the University School of Dentistry.

Further information about application procedures, admission, qualifications, and related matters may be obtained from the CLA Health Sciences advising office, 30 Johnston Hall; the School of Dentistry office, 15-106 Health Sciences Unit A; or the *School of Dentistry Bulletin*.

College of Education

If you plan to seek state of Minnesota teacher licensure upon graduation from the University of Minnesota, you must complete a B.S. program in the College of Education. You usually begin as a CLA freshman and transfer to the College of Education after one or two years of general education.

Admission—Admission to the College of Education after one or two years of pre-education studies requires at least a 2.00 average in college course work and at least a 2.50 in courses in the major field. Students who have met the freshman and sophomore requirements as specified in the *College of Education Bulletin* will be given preference.

Since 1974 the college has admitted most applicants who met admission criteria. Secondary teaching programs admit students for all quarters except in social studies, which admits for fall and spring quarters. Elementary education and physical education admit for fall and winter quarters; recreation, park, and leisure studies admits for fall and spring quarters; and music and music therapy admit each quarter.

If you want to enter the program in elementary education or recreation, park, and leisure studies, you must apply before the second week of the regular quarter preceding that in which admission is desired. Applications for other programs should be filed early in the regular quarter preceding that in which admission is desired.

Requirements in Drug Education and Physical Education—Minnesota law requires that candidates for licensure complete, before graduation, a course in drug education (PubH 3004) and three credits in appropriate physical education activity courses (you may complete this work before applying for transfer to the college).

One-Year Pre-Education Programs in CLA—If you are planning to enter a College of Education program in art education, business education, dance, distributive education, physical education, or recreation, park, and leisure studies, you normally spend one year in CLA. To transfer, you must complete 45 credits with 2.00 overall and 2.50 major-course grade point averages. If you are seeking an art, dance, industrial, music, or physical education major, you must meet special requirements; information about these requirements is available in the *College of Education Bulletin*.

Requirements for Transfer to Elementary Education—Course requirements for the two preparatory years before entering the elementary education curriculum are specifically outlined; prospective applicants should obtain information from the Education Career Development Office or from the college bulletin. A minimum grade point average of 2.00 is required for consideration, but few students with a grade point average below 2.50 are admitted. Only A-N credits are accepted, except in elective and minor courses. Students are admitted to this program only for fall and winter quarters.

Two-Year Pre-Education Programs in CLA—Most other College of Education programs require two years of CLA work—about 90 credits. You must meet substantially the English composition and distribution requirements for CLA B.A. degrees, and must present 15 credits in your proposed major field with a 2.50 average and sometimes 10 credits with a 2.00 average in a minor field (all graded on the A-N basis).

Information about education programs is available at the Education Career Development Office, 1425 University Avenue S.E., University of Minnesota, Minneapolis, Minnesota 55455.

School of Journalism and Mass Communication

A B.A. or its equivalent is the minimum requirement for admission to the master's and doctor's programs. If the undergraduate major is not in journalism, 12 to 16 credits of preparatory work are usually required. Selection of preparatory courses must be approved by an adviser. Acceptable professional experience may sometimes be applied toward prerequisite requirements.

Two types of master's degree programs are offered. The general M.A. program focuses on the scholarly study of mass communication and emphasizes research and analysis of the mass media and media systems. Students completing the general program are particularly suited for careers in communication policy or in research or teaching at the community college level; they may also wish to pursue further graduate study. The professional M.A. program provides preparation for careers in the print and broadcast media, advertising, photojournalism, and certain specialty areas such as science journalism and urban journalism. These degree programs combine general study in mass communication with skills courses in writing, editing, and other areas.

The doctoral program offers training for academic careers in communication education, research, or communication policy work. The program offers four fields of specialization: theory and methodology in mass communication; the history of mass communication; mass communication agencies as social institutions, which includes communication law; and international mass communication.

Additional information is available from the graduate studies secretary in the School of Journalism and Mass Communication, 111 Murphy Hall, 376-5211.

Law School

Requirements for Admission and for Degrees in Law—The Law School offers the professional degree *juris doctor* (J.D.), which qualifies graduates to take the bar examination and for admission to practice. The course of study requires three academic years in the Law School.

Admission to the Law School requires the B.A. 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. Applications for admission must be submitted by March 1 for the class entering the school the following August.

Information about admission requirements and the Law School program may be found in the *Law School Bulletin*. Prelaw scholastic records and the results of the Law School Admission Test given by the Educational Testing Service are among items considered in admission decisions. The test is given four times each year at the University and at test centers throughout the country. You must take the test by February of the year in which you apply for admission; taking it earlier, however, is strongly recommended. Information pamphlets and applications for the test may be obtained at the office of the Law School; the Student Counseling Bureau, 101 Eddy Hall; or the Law School Admission Council, Box 2000, Newtown, Pennsylvania 18940.

Library School

Minimum preparation for a professional career in library and information services is an M.A. degree. The prerequisite for admission to the M.A. program is a B.A. degree with broad academic preparation in the humanities, social sciences, and sciences and a strong concentration in at least one subject field. Inquire at the Library School office, 419 Walter Library, about preprofessional planning during the junior and senior years.

School of Management

The School of Management offers two programs for the bachelor of science degree: regular and accounting. If you are interested in admission to the college, you should obtain a premanagement information sheet from a college counseling office or from 225 Management and Economics Building.

The premanagement program combines liberal education course work with introductory course work in accounting, statistics, and economics. Because of the widening social responsibilities of business management, you are required to take courses outside of management.

To be considered for admission to the college, you must present a minimum of 90 credits from a recognized college or university. A 2.70 GPA is required to be considered for admission to the regular program and to the accounting program. You must complete the mathematics, economics, accounting, and statistics requirements before applying to the School of Management.

CLA students preparing to enter the college must meet these premanagement requirements:

English composition requirement.

Mathematics—10 cr minimum, including Math 1131 and calculus.

Math 1131 and 1142; or 1131 and 1211. If you have inadequate preparation, you may be required to take Math 0009 before taking 1111 or 1131. If you plan to go beyond elementary calculus, you should take 1211 and 1221 rather than 1142.

Group A (4 or 5 cr)—Consult the premanagement information sheet for a list of appropriate courses.

Group B (8 cr)—Courses chosen from the physical and/or biological sciences, including at least one acceptable intensive laboratory course. Consult the premanagement information sheet for a list of appropriate courses.

Group C (13 cr)—Psy 1001 plus 8 additional credits.

Group D (12 cr)—Acceptable courses in literary and artistic expression. Consult the premanagement information sheet for a list of appropriate courses.

Management and Related Areas (18 cr)—Acct 1024-1025; Econ 1001, 1002; QA 1050.

If you are planning to enter the accounting program—Comp 1027 is also required.
Electives to complete 90 credits.

Medical School

Students admitted to the Medical School must complete four-year degrees before they begin medical study. Prospective students should plan appropriate premedical programs.

Premedical Advising—Premedical advisers are available in the CLA Pre-Health Science advising office, 30 Johnston Hall, for aid in premedical program planning and guidance in application to medical schools. The Pre-Health Science Library, 30 Johnston

Hall, provides career information about medical and paramedical fields and admission information for all U.S. and Canadian medical schools. Information about tests required of applicants to the Minnesota schools is also available.

If you are interested in enrolling in the University Medical School, refer to the *Medical School Bulletin*. Each year, the monograph *Medical School Admission Requirements* is published by the Association of American Medical Colleges; it provides up-to-date information about U.S. medical school admission requirements.

Premedical Requirements—There is no prescribed premedical major—any recognized college major is acceptable. Natural science majors, contrary to common belief, have no advantage over liberal arts majors for admission; indeed, the Medical School believes that liberal arts studies contribute greatly to well-rounded professional preparation.

The Admissions Committee has approved the following courses to fulfill the premedical requirements for the Twin Cities campus Medical School: 12 cr of English (including composition and literature); mathematics through calculus (Math 1142 or 1211, 1221); Chem 1004-1005, 3100-3101, 3301, 3302 (25 cr); Biol 1009 plus 5 cr of biology, zoology, or genetics; Phys 1104-1105-1106 and 1107-1108-1109, or 1271-1281-1291 and 1275-1285-1295; at least 27 cr taken on A-N grading in humanities, social science, second language, or other liberal arts courses (humanities and literature recommended).

Premedical students with outstanding academic records in science and mathematics, especially those who contemplate careers in research or academic medicine, are strongly advised to elect work in these fields beyond the basic requirements. Reading knowledge of a second language, though not a requirement for admission, is recommended if you are interested in medical research or graduate medical training.

Application Procedures—Applications are *not* submitted to the Medical School directly; rather, they must be submitted to the American Medical College Application Service (AMCAS). Application forms for AMCAS may be obtained in 240 Williamson Hall or in the Pre-Health Science advising office. They must be filed before November 15 of the preceding academic year for enrollment the following fall; it is advisable to submit them as soon after June 15 as spring quarter grades are available. You must take the Medical College Admission Test (spring MCAT preferred), the Strong-Campbell Interest Inventory, and the Minnesota Multiphasic Personality Inventory. Information about registering for these tests is available in the Pre-Health Science advising office.

The Medical School will request further information from you after receiving the AMCAS application. Letters of evaluation will be requested, and you should plan for them early in your college program by selecting special programs, small classes, or other opportunities leading to direct and meaningful faculty contact.

Medical Schools in Minnesota—The University of Minnesota, Duluth, offers two years of rural-oriented medical education. If you complete the UMD program, you take two final years of training at the Twin Cities campus Medical School. The Mayo Medical School in Rochester is a four-year school. The three Minnesota medical schools give preference to residents of Minnesota for admission.

Division of Medical Technology

The four-year program in medical technology leads to the degree bachelor of science.

After completing 90 CLA credits, including all required courses, with satisfactory academic performance, you may apply for admission to the professional program.

The following courses or their equivalents are prerequisites for admission to the junior year: completion of writing practice requirement or exemption; Chem 1004-1005, 1006, 3100-3101, 3301, 3302, 3305, 3306; Biol 1009, 1106; Anat 1004; Math 1111 or 1201; Phys 1041-1042, 1045-1046; and MedT 1010, 1030, 1031, 1032. Electives should be limited to subjects that satisfy distribution requirements.

CLA Preparation for Degree Work in Other Colleges

The *Baccalaureate Programs in the Health Sciences Bulletin* contains a suggested program for the first two years of preprofessional study. You may also consult advisers in the Medical Technology office, 3-170 Jackson Hall (373-9670). Registration each quarter must be reviewed by an adviser.

Department of Mortuary Science

The four-year curriculum of the Department of Mortuary Science leads to a bachelor of science degree.

To be admitted to the program, you must have completed 90 quarter credits with grades of A, B, C, or S of liberal arts study at any accredited university, college, or junior college.

If you are a freshman or sophomore in CLA, you will be assigned a department adviser to assist in course selection, registration, and academic decisions. Registration must be approved by the adviser each quarter.

You should determine a core area of interest and select prerequisite courses in preparation for advanced courses. The department requires 15 3xxx-5xxx credits outside the major area.

Admission Requirements—The 90 credits required for admission must include work in the following courses or areas: completion of writing practice requirement, speech, 15 cr; accounting, 3 cr; introductory courses in biology, chemistry, human anatomy, microbiology, public health, 23 cr; psychology, sociology, anthropology, 16 cr; art, music, literature, theater arts, humanities, 9 cr.

If you plan to practice in a state other than Minnesota, you should request information about specific licensure requirements. Information is available at the department office, 114 Vincent Hall (373-3870), and in the *Baccalaureate Programs in the Health Sciences Bulletin*.

School of Nursing

A four-year curriculum leads to the B.S.N. degree; one year may be taken in CLA or any other accredited liberal arts college. The program, open to men and women, is designed to prepare students for entry-level positions in all fields of professional nursing.

Selection for admission is based on scores on the ACT examination and grade point average plus points allotted to previous experiences and characteristics reported on a personal information form. From this total score, applicants are selected according to ranking. Residents of Minnesota and states with tuition reciprocity agreements are given priority. Information about admission requirements may be obtained from the School of Nursing office, 5-140 Health Sciences Unit F (376-5562). A CLA adviser in 30 Johnston Hall is assigned to assist prenursing students with course selection, registration, and academic planning.

The 45-credit requirement for the first prenursing year must include: completion of writing practice requirement or equivalent or exemption, general chemistry (8 cr), general biology (4 cr), cultural anthropology (3 cr), and introductory sociology (3 cr). Remaining credits must be chosen from the liberal education distribution groups (since the School of Nursing program is heavy in course work in groups B and C, special attention to course work in groups A and D is recommended).

After admission as a sophomore, you continue taking general education courses and start courses in the nursing major. An approximate balance between the two areas is maintained.

Further information about admission is presented in the *Baccalaureate Programs in the Health Sciences Bulletin*.

Program in Occupational Therapy

The course in occupational therapy, requiring four years plus one quarter of study, leads to the B.S. degree.

Preparation for professional study in occupational therapy requires completion of 90 credits in a college of liberal arts in courses selected to meet the distribution requirements outlined in the *Baccalaureate Programs in the Health Sciences Bulletin*. You must complete these courses with a high C average to be eligible 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.

Freshman and sophomore students should see advisers in the CLA Pre-Health Sciences advising office, 30 Johnston Hall. For detailed information, see the program bulletin or call the program office, 271 Children's Rehabilitation Center (373-9024), for an appointment with a faculty member.

College of Pharmacy

The College of Pharmacy offers the doctor of pharmacy (Pharm.D.) degree program as the basic preparation for entry-level pharmacy practice. This program requires four years of professional study and is open to applicants who have completed two years of preprofessional study in a college of liberal arts. The program is also open to selected candidates who either have completed the second professional year of a B.S. in pharmacy degree program or hold a B.S. in pharmacy degree. Students admitted with such advanced standing complete the degree after approximately two years of study.

The goal of the Pharm.D. program is to prepare therapeutic consultants for work in clinical settings in which expertise in patient drug use is necessary. The traditional roles of the pharmacist in the drug delivery system also are taught.

The optional B.S. program requires three years of professional study, preceded by two years of preprofessional study in a college of liberal arts. This degree is the minimum requirement for eligibility for state licensure to practice pharmacy.

The two year preprofessional program, consisting of 90 credits, may be completed in the College of Liberal Arts. Information about specific course requirements can be obtained from the College of Pharmacy Office of Student Affairs, 5-110 Health Sciences Unit F, (373-7997), or from the CLA Pre-Health Sciences advising office, 30 Johnston Hall (373-2912).

Applications for admission to the College of Pharmacy are available from the Office of Admissions, 240 Williamson Hall. Applications, accompanied by an official transcript, should be filed between October 15 and April 15 of the academic year prior to the fall quarter of desired enrollment. All applicants must take the Pharmacy College Admission Test in November or February prior to the April 15 deadline. Information about this test is included in the application materials. The Admissions Committee reviews completed applications and notifies students of its decision as quickly as possible.

Program in Physical Therapy

The four-year course in physical therapy leads to the B.S. degree. The first two years are spent in the College of Liberal Arts. 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 grade point average of 2.50 in basic sciences. The last two years plus a summer term are spent in the Department of Physical Medicine and Rehabilitation. You must complete 600 hours of supervised clinical practice in physical therapy departments of affiliated hospitals.

CLA Preparation for Degree Work in Other Colleges

For information about admission, consult advisers in the Physical Therapy office, 271 Children's Rehabilitation Center, or in the CLA Pre-Health Sciences advising office, 30 Johnston Hall. Details about the program are available in the *Baccalaureate Programs in the Health Sciences Bulletin*.

Hubert H. Humphrey Institute of Public Affairs

Professional study in the Hubert H. Humphrey Institute of Public Affairs is offered at the graduate level. Two degrees are offered, the M.A. in public affairs and the master of planning (M.P.). The programs are designed to prepare students for public service work in government agencies or public institutions or for public affairs work in nonprofit or private firms. They consist of required courses in policy process, program analysis, process methods, and quantitative methods. Required for the M.A. in public affairs are two concentrations in subject areas or professional skill areas. Students in the M.P. program take the same required courses and complete two concentrations, one in planning and the other in an area of their choice. Both degree programs entail an arranged internship in an area of interest.

School of Social Work

A B.A. in social welfare or a B.S. in social work is desirable preparation for entry into the master of social work (M.S.W.) program (see Social Work in section II for baccalaureate program requirements), but is not an absolute requirement; a bachelor's degree in any field will be considered if you have completed 39 social science credits, preferably in at least three different subject areas. A course in statistics is required for admission to the graduate program. 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 presented in the *Graduate School Bulletin* and the *School of Social Work Bulletin*.

Theological Study Preparation

If you are preparing for seminary training, you may consult the pretheology adviser in 220 Johnston Hall. The CLA major program for pretheology students is described in section II of this bulletin. The adviser can assist in planning individual programs, either through the specialized major or through other patterns of study. The major in religious studies, designed for those with interest in a broad understanding of religious movements and values, may also serve pretheology students.

University College

University College provides flexibility in program planning to undergraduates whose needs are not met by standard program offerings at the University. UC houses two nontraditional degree programs on the Twin Cities campus.

The Inter-College Program enables students to develop individualized degree programs that include suitable amounts of work in two or more schools or colleges of the University. Programs may be thematic in organization or may represent two or more clearly defined areas of concentration that cross college lines. Programs must receive faculty approval and must include a minimum of 180 credits. They may lead to either a bachelor of arts or bachelor of science degree. Additional information is available in 213 Temporary North of Appleby.

University Without Walls serves self-directed students with clear educational goals who wish to make use of both University and community resources in developing and carrying out individualized B.A. or B.S. degree programs. Many UWW students are unable to participate in traditional degree programs because of job or family responsibilities, distance from campus, physical handicaps, or similar barriers; others cannot pursue their fields of interest through existing programs. To be admitted to UWW, students must present evidence of ability to plan and carry out a self-designed, self-directed program. Rather than earning credits, you receive written evaluations of your work on narrative transcripts describing the learning experiences. College-level learning experiences completed prior to admission may be evaluated for application toward the degree program. Additional information about the program is available in 201 Wesbrook Hall (373-3919). UWW serves west-central Minnesota through a branch located at the Morris Learning Center, 231 Community Services Building, University of Minnesota, Morris, Minnesota 56267 (589-2211).

University College also sponsors a variety of cross-college course work, cross-college independent study, faculty support programs, and student support programs. Information about current offerings may be obtained in 317 Walter Library (373-4638).

IV. GROUP DISTRIBUTION, WORLD STUDIES, AND ROUTE II COURSE LISTS

Courses Used to Meet Group Requirements

Listed below are courses approved for meeting CLA liberal education (group distribution) requirements described on pages 5-6. The list is updated annually and is available for consultation in college offices. Group designations are not assigned to directed studies, directed instruction, directed research, and topics courses.

These guidelines will aid in planning group distribution programs:

1. A maximum of 12 credits from any one department may be used to meet these requirements; but courses from one department may be used in different groups if so classified.
2. Distribution requirements (except the group B laboratory requirement) may be met by examination (consult your college office). College Level Examination Program (CLEP) tests may be used for partial fulfillment.
3. Courses approved for the world studies requirement that are also approved for group distribution requirements may be used to fulfill both requirements.
4. Honors courses or sections may be substituted for regular courses or sections unless otherwise specified.
5. Courses used to meet the English composition requirement and the B.A. second language requirement (including those used in Route II, part B) may not be used to meet distribution requirements.
6. Only if you transfer from General College to CLA may you use appropriate GC courses completed before transfer to meet group distribution requirements.
7. At least one group B course must include a laboratory that meets at least two hours a week. Courses accepted to meet this requirement are marked with asterisks (*).
8. Distribution requirements for the B.F.A., B.M., and B.I.S. programs differ from those for B.A. or B.S. programs. See section I or the Music, Studio Arts, Theatre Arts, or B.I.S. offices for information about requirements. In meeting these requirements, however, students may select courses only from the following lists.

Group A—LANGUAGE, LOGIC, MATHEMATICS, AND THE STUDY OF ARGUMENT

Study of formal languages and symbolic systems and their use in deduction, computation, information processing, and the study of natural language; analysis of argument as used in ordinary discourse and communication; theory, methods, and applications of logic, mathematics, statistics, computer science, linguistics, and rhetoric. (Requirement: 8 to 10 credits for B.A. and B.S.—normally two courses, at least one of which should deal specifically with a formal language or formal symbolic system. Courses that can be used to fulfill the formal language requirement are identified with an asterisk.)

CSci *3103; *3134

Engl 3851

Fren 3701

Geog 1501

Ling 3001

Math *1111; *1131; *1142; *1201; *1211-1221-1231;

*1311-1321-1331; *1511H-1521H-1531H; *1611-

1621

Phil *1001; 1005; *3201; *3202; 3231; 3631

Soc *3801; *3802

Span 3701

Spch 1313

Stat *1051; *3091

Group B—THE PHYSICAL AND BIOLOGICAL UNIVERSE

Observation, identification, description, experimental investigation, and theoretical explanation of natural phenomena; explorations and methods of the scientists of earth, space, matter, and life. (Requirement: 12 to 15 credits for B.A. and B.S.—three 4- or 5-credit courses, one to include a laboratory. Two of the courses must be chosen from the list of group B foundation courses, either as one two-quarter sequence in a particular science or as two one-quarter courses in different sciences. Courses in boldface are foundation courses. Laboratory courses are identified with an asterisk.)

Anth 3001; 3002	Geo *1001; *1002; 1005; 1013; *1111; 1601
Ast 1011; *1015; 1021H; *1025H	Geog 1401; *1425; 3431
BioC 1301; 1302 (if taken with 1303); *1303	MicB 1101
Biol 1008; *1009; 1101; *1103; 1105; *1106; 3112	Phsl *1001; 1002
Bot 1012	Phys 1001; *1005; 1041-1042 *1045-1046; 1061; *1065;
Chem *1001-1002†; *1003; *1004-1005†; *1006; 1008;	1071; *1075; 1104-1105-1106; *1107-1108-1109;
*1031-1032†; *3100-3101†; 3301	1271-1281-1291; *1275-1285-1295
EBB 3001; 3004	Psy 3031; 3061
GCB 3002 (if taken for four credits); 3022	

Group C—THE INDIVIDUAL AND SOCIETY

(Requirement: 16 to 20 credits for B.A. and B.S.—normally four courses—one in each of the three categories and a fourth in one of them.)

1. Individual and Institutional Behavior

Empirical study of individual and institutional behavior; empirical study of psychological, economic, social, cultural, geographical, and political phenomena.

Afro 1025; 3013; 3061; 3072; 3501	Ling 1005
Amin 1771; 3151	Mus 1602
Anth 1102; 3201	Pol 1001; 1025; 1026; 1054; 3051; 3321; 3562
Arch 3001-3002	Psy 1001; 1004-1005†; 3011; 3014; 3101; 3201; 3604
Chic 1107	SoAS 1506; 3506
CPsy 1301	Soc 1001; 1002; 1651; 3102; 3201; 3401
Econ 1001; 1002; 1004; 1005; 3001-3002; 3501; 3701;	UrbS 3104
3801	WoSt 1005; 1006; 1155; 1977; 3705
Geog 1301; 3101; 3331; 3371	
Jour 1001	

2. The Historical Perspective

Historical study of societies and cultures or major aspects thereof.

Afro 1021; 1441; 3421	HSci 1711; 1712; 1713; 1811; 1812; 1813; 3711; 3712;
Amin 3111; 3112	3713; 3811; 3812; 3813
ANEJ 3501; 3502; 3505	Hum 1001; 1002; 1003; 1004; 1111; 1113; 1115; 1117;
Anth 1101; 3301	3001; 3002; 3003; 3004; 3111; 3113; 3115; 3117;
ArtH 1002; 3577	3119; 3201; 3202; 3211; 3212; 3241
Chic 1105; 1106; 3441; 3442	LAS 3131
Chn 3201; 3202	MidE 3505; 3511; 3512; 3541; 3542; 3543
Cias 1001; 1002; 1003; 1004; 1005; 1006; 1011; 1022;	Scan 1504
1033; 1043; 1044; 1055; 1066	SoAS 3501; 3502; 3508
EAS 1063; 1461; 1462; 1463; 3201; 3202	WoSt 3349
Hist 1001; 1002; 1003; 1011; 1012; 1013; 1051; 1052;	
1053; 1101; 1151; 1152; 1301; 1302; 1401; 1402;	
1421; 1422; 1431; 1432; 1451; 1452; 1453; 1461;	
1462; 1463; 3001; 3002; 3003; 3011; 3012; 3013;	
3051; 3052; 3053; 3151; 3152; 3244; 3245; 3401;	
3402; 3421; 3422; 3431; 3432; 3451; 3452; 3453;	
3461; 3462; 3463; 3704; 3707	

3. Social and Philosophical Analysis

Analytical study of social, political, moral, philosophical, and religious thought.

AmIn 3211	Phil 1002; 1003; 1004; 1102; 1103; 1104; 3001; 3002; 3003; 3004; 3302; 3304
AmSt 1101; 1102; 1103	Pol 1041; 1061; 3061
Clas 1042; 3071; 3073	RelS 1001; 1031; 1032; 1034; 1035; 1036
EAS 1032	SoAS 1504; 3411
Hum 3611; 3612; 3613; 3625	SSci 3101
JwSt 1034; 3034	WoSt 3838
MidE 1536; 3555	

Group D—LITERARY AND ARTISTIC EXPRESSION

Study of literature, music, the visual arts, theatre, and film; analysis of significant works of literature and the other arts; and study of principles and techniques of criticism. (Requirement: 12 to 15 credits for B.A. and B.S.—normally three courses.)

Afro 1301; 3055; 3057; 3101; 3102; 3601	3251; 3252; 3355; 3356; 3357; 3411; 3412; 3413; 3631
AmIn 3116	Fren 3101; 3102; 3103; 3107
ANEJ 1001; 1002; 1003; 3251	Hum 1301; 3701; 3755
Arch 1021; 1022	Ital 3301; 3303; 3305
ArtH 1001; 1008; 1016; 3008; 3009; 3011; 3012; 3013; 3014; 3935	Jpn 3161; 3163; 3164
ArtS 1101; 1104; 1105; 1301; 1302; 1401; 1510; 1520; 1530 (1510, 1520, 1530 each may be taken only once to meet group D requirements) 1701; 1811	JwSt 3115
Chic 3213; 3507; 3508	MidE 3210; 3601; 3602
Chn 3161; 3162; 3163	Mus 1001; 1021; 1501; 1804; 3021
Clas 3082	Phil 3502
EAS 3013	Port 3211; 3212; 3213
Engl 1016; 1017; 1018; 1019; 1241; 1671; 3111; 3112; 3113; 3115; 3116; 3117; 3118; 3119; 3241; 3242;	Russ 1304; 3401; 3402; 3403
	Scan 3503; 3505; 3604; 3605; 3607; 3618
	Span 3104; 3211; 3212; 3213; 3615
	Th 1101; 1102; 1301; 1804; 3171; 3172
	WoSt 3103; 3501; 3502

Courses Used to Meet World Studies Requirement

Courses listed below may be used to fulfill the world studies requirement for the B.A. degree. Honors courses or sections and courses cross-listed in other departments may be substituted for courses listed below. The disciplinary or interdisciplinary courses deal with major aspects of the cultures of Asia, Africa, and Latin America and traditional American Indian cultures.

Afro 1021; 1441; 3011; 3013; 3055; 3057; 3253; 3301; 3501; 5301; 5701; 5800	3434; 3451; 3452; 3453; 3461; 3462; 3463; 3464; 3465; 3467; 3468; 3471; 3472; 3480; 3481; 3482; 3484; 3485; 3486; 3487; 3488; 3489; 5051; 5052; 5053; 5137; 5274; 5275; 5419; 5420; 5432; 5444; 5445; 5447; 5455; 5461; 5462; 5463; 5464; 5465; 5467; 5468; 5471; 5472; 5473; 5474; 5489; 5491; 5501; 5502; 5503; 5510; 5514; 5515; 5517; 5518; 5519; 5521; 5522; 5534; 5774-5775; 5901; 5902; 5903; 5930; 5931
AmIn 3026; 3036; 3111; 3112; 3116; 3151; 3152; 3211; 5048	Hum 3201; 3202; 3211; 3212; 3241; 3243
ANEJ 3101; 3501; 3502; 3505; 5501; 5502; 5505	Jpn 3161; 3163; 3164
Anth 1102; 3131; 3211; 3221; 3222; 3223; 3241; 3251; 3261; 3281; 3291; 3292; 3303; 3521; 3533; 5102; 5112; 5114; 5115; 5116; 5118; 5121; 5131; 5132; 5141; 5151; 5153; 5154; 5161; 5185; 5187	JwSt 3100; 3315
Arch 5057	LAS 3131; 5120
ArtH 1016; 1016H; 3013; 3014; 3015; 3142; 3909; 3935; 5725; 5765; 5766; 5767; 5769; 5775; 5776; 5777; 5911; 5915; 5916	MidE 1536; 3505; 3511-3512; 3541-3542-3543; 3544; 3545; 3555; 5501-5502-5503; 5505; 5521; 5523; 5525; 5970
Chic 1105; 3427	Mus 1804; 3709; 3807; 3808; 5665; 5704; 5705; 5804; 5811
Chn 3063; 3064; 3161; 3162; 3163; 3201; 3202	Pol 3773; 5446; 5448; 5453; 5454; 5455; 5457
CPsy 5310	Port 3212; 3213; 3501; 3502; 3603; 5210
EAS 1032; 1063; 1461; 1462; 1463; 3013; 3201; 3202; 3211; 3281; 3300; 3464; 3465; 3467; 3468; 3471; 3472; 3808	RelS 1031; 1032; 1034; 1036
Econ 5301; 5311; 5315; 5331; 5341	SoAS 1001; 1201; 1202; 1203; 1504; 1506; 3411; 3501; 3502; 3506; 3508; 3511; 3533; 5001; 5201; 5202; 5203; 5411; 5491; 5508; 5511-5512; 5520; 5531-5532; 5533; 5535; 5710
FoSt 1120/3120; 1240/3240	Soc 3315; 3551; 3671; 5675
Geog 3121; 3131; 3141; 3211; 3212; 3213; 3221; 5131; 5132; 5142; 5143; 5191; 5211; 5212; 5322	Span 1502; 1503; 3251; 3252; 3253; 3512; 3601; 3605; 3615
Hebr 3301; 3304; 3307	WoSt 1155; 3333; 5911
Hist 1051; 1401; 1402; 1403; 1431; 1432; 1433; 1451; 1451H; 1452; 1452H; 1453; 1453H; 1461; 1462; 1463; 3043; 3051; 3401; 3402; 3403; 3410; 3411; 3412; 3424; 3425; 3426; 3427; 3431; 3432; 3433;	

B.A. Second Language Requirement

The CLA second language requirement for the B.A. degree may be met by either of two "routes."

Route I: Complete through the fifth-quarter level (at least 23 credits) study in a language other than your native tongue, or pass a validation examination at that level. High school language study usually relates to the requirement as follows:

<i>High School Study</i>	<i>Additional College Study</i>
5 years	requirement satisfied
4 years	at least 3 cr in same language at higher level
3 years	at least 8 cr in same language at higher level
2 years	at least 13 cr in same language at higher level
1 year	at least 18 cr in same language at higher level

College language study that repeats high school study is counted instead of your high school work toward meeting the language requirement and cannot be used to fulfill group A distribution requirements.

Students with two or more years of high school Latin may satisfy the requirement by continuing Latin studies according to the schedule above or by completing 15 credits in another language (high school study in a second language counts toward the 15 credits needed to meet Route II requirement A below).

Route II: Complete at least 27 credits, as follows:

A. At least 15 credits in a second language or validation at that level. High school study usually relates to the requirement as follows:

<i>High School Study</i>	<i>Additional College Study</i>
3 years or more	none in college (validation not required)
2 years	5 cr in same language at higher level
1 year	10 cr in same language at higher level

B. 12 credits (7 if you have completed four years of high school study in one language) in courses concerned with a country or countries that use the language chosen. A list of courses that may be used appears below; it is frequently updated, and a current list is available in college offices. Courses elected for this purpose may not be used to satisfy group distribution requirements. (Study in a language beyond the 15-credit level may be used as part of this 12-credit requirement.)

ROUTE II COURSE LIST

Courses that may be used to meet the "cultures and societies" portion of Route II (requirement B) are listed below. If you are following Route II, you should check with your college office to learn of changes or additions to this list.

ARABIC	Anth 5281
MidE 1536, 3201, 3202, 3505, 3541, 3542, 3543, 3545,	ArtH 5711, 5765, 5766
5521	EAS 1032, 1461, 1462, 1463, 3211, 3300, 3464, 3465,
Anth 5251	3467, 3468, 3471
ArtH 3909	Geog 3211, 5211
Hist 1431, 1432, 1433, 3043, 3431, 3432, 3433, 3434	Hist 1461, 1462, 1463, 3461, 3462, 3463, 3464, 3465,
Pol 5457	3467, 3468, 5461, 5462, 5463, 5465, 5467, 5468
RelS 1036	Hum 3201, 3202
CHINESE	Pol 5454
Chn 1032, 3063, 3161, 3162, 3201, 3202	RelS 1032

Group Distribution, World Studies, and Route II Course Lists

DAKOTA

Amln 3036, 3111, 3112, 3242, 5214
Anth 3211
GC 1811, 1812, 1813
Hist 3871, 3872

DUTCH

Dtch 3610
Hist 3622

FRENCH

Fren 3599, 3601, 3602, 3606, 3607, 3625
Frit 3590, 3604, 3608, 5587
Arth 3303, 5357, 5441, 5442
Hist 3616, 3624, 3625, 5211, 5212, 5231
Phil 5034

GERMAN

Ger 3601, 3602, 3603, 3604, 3610, 3641, 5601, 5602,
5603
Arth 5443
Hist 3623, 3631, 3632, 3633, 3747, 3748
Phil 5055

GREEK

Clas 1001, 1011, 1019, 1022, 1033, 1042, 1043, 1061,
3007, 3015, 3070, 3071, 3081, 3082, 3083, 3088,
3122, 3145, 5002, 5003, 5004, 5005, 5006, 5007,
5017, 5020, 5080, 5081, 5082, 5083, 5085, 5086,
5101, 5110, 5122, 5145, 5400
Arth 3152, 5102, 5106, 5108
Hist 1052, 3052, 3515, 3767, 5061, 5151, 5276, 5131
Hum 1111, 3111
Phil 3001, 3002, 3005, 5004, 5008, 5012, 5020
Pol 5664
Spch 5611

MODERN GREEK

Clas 1001, 1002, 1003, 1042, 1061 3015
Hist 3767, 5131, 5274, 5275, 5276
Hum 3878

HEBREW

ANEJ 1501, 1502, 1503, 1504 (extension only), 3101,
3117, 3251, 3501, 3502, 3505
Hist 3607, 3755
Hum 3241, 3243
JwSt 1034, 3034, 3100, 3115, 3125, 3126, 3142, 3143,
3315, 3521, 5990
Pol 5457
RelS 1034

ITALIAN

Ital 3555, 5559, 5601, 5602, 5603, 5609
Frit 3604, 3608, 3590, 5587
Arth 5306, 5307, 5313, 5314
Hist 3621, 3754, 3755, 3756
Mus 5663

JAPANESE

Jpn 3163, 3164
Anth 5281
Arth 5712, 5767
EAS 1032, 1462, 1463, 3201, 3202, 3300, 3468, 3471,
3472
Geog 3211, 5211
Hist 1462, 1463, 3462, 3463, 3471, 3472, 5471, 5472,
5473
Pol 5453
RelS 1034

LATIN

Clas 1004, 1005, 1006, 1012, 1019, 1042, 1043, 1044,
1055, 1066, 3015, 3070, 3073, 3081, 3083, 3088,
3145, 5002, 5003, 5004, 5005, 5006, 5008, 5013,
5018, 5020, 5073, 5081, 5083, 5104, 5109, 5145,
5400
Arth 3162, 5104, 5105, 5107
Hist 1053, 3053, 3515, 5071, 5115, 5116
Hum 1113, 3113
Phil 3001, 3002, 5020, 5021
Pol 5664
Spch 5611

OJIBWAY

Amln 3026, 3111, 3112, 3242, 5214
Anth 3211
GC 1811, 1812, 1813
Hist 3871, 3872

PERSIAN

MidE 3505, 3511, 3512, 3555, 3601, 3602
Anth 5251
Arth 3909
Hist 5274, 5275
Pol 5457

POLISH

Pish 3601, 3602
Hist 3244, 3245
Slav 1501

PORTUGUESE

Port 3603
Econ 5311, 5341
Geog 3121, 5132
Hist 1401, 1402, 1403, 3401, 3402, 3403, 3410, 3411,
3412, 5420
LAS 3131, 5120
Mus 5704, 5705
Pol 5455
Soc 3315, 3671
Span 1501, 1502, 1503, 3601
SpPt 3605, 3610

SCANDINAVIAN (Danish, Finnish, Norwegian, Swedish)

Scan 1504, 3501, 3505, 3506, 3601, 3607, 3613, 3614,
3615, 3618, 5501, 5502, 5503, 5601, 5631
Arth 3654, 5641, 5644, 5645
Geog 5173
Hist 3271, 3272, 3273, 5252
Phil 5054
Pol 5444
Finnish only: Scan 3604, 3605, 5421

RUSSIAN

Russ 3301, 3501, 5401, 5404, 3502, 3503, 5201, 5202,
5203
Hist 3767, 5134, 5135, 5136, 5264, 5265, 5266, 5294,
5295
Pol 5443

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BUILDING ABBREVIATIONS AND BUILDING ACCESSIBILITY INFORMATION

MINNEAPOLIS

West Bank

AndH, Anderson Hall ♿ *

ArtB, Art Building (2020 Washington Ave S) ◻

BlegH, Blegen Hall ♿ * L

Law, Law Building ♿ * L

MdbH, Middlebrook Hall ♿ * L

Mgmt/Econ, Management/Economics Building
(formerly Business Administration) ♿ * L

OMWL, O. Meredith Wilson Library ♿ * L

RarigC, Rarig Center ♿ * L

SocSci, Social Sciences Building ♿ *

WBU, West Bank Union

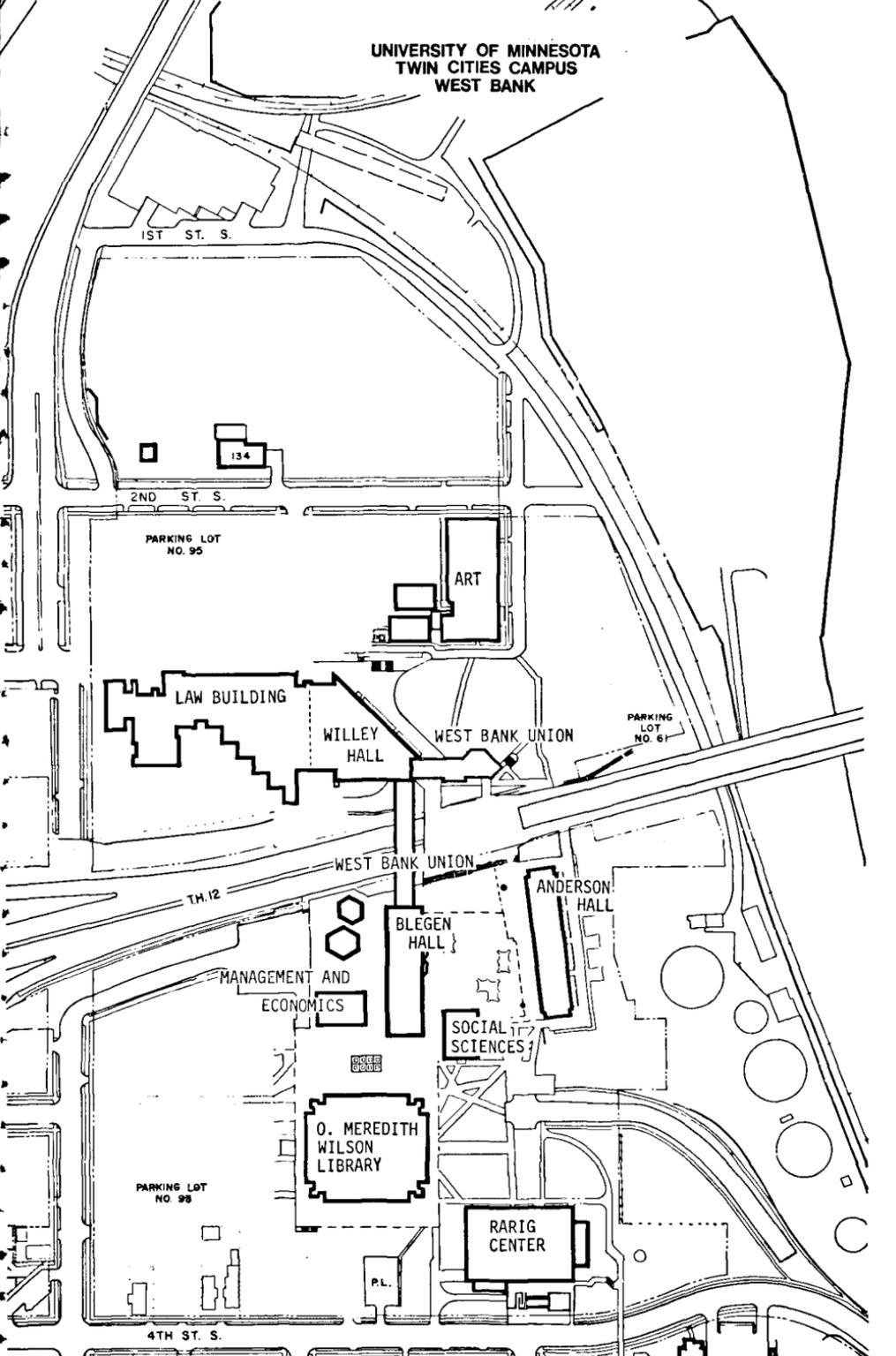
WilleyH, Willey Hall ♿ * L

CODES:

- ♿ = accessible building
- ◻ = partially accessible
- = inaccessible building
- * = elevator
- L = adapted lavatory

For a map, *Guide for the Handicapped*, and further information, contact Physical Planning at 373-5765 or Rehabilitation Services at 376-3143.

UNIVERSITY OF MINNESOTA
TWIN CITIES CAMPUS
WEST BANK



BUILDING ABBREVIATIONS AND BUILDING ACCESSIBILITY INFORMATION

MINNEAPOLIS

East Bank

- AkerH, Akerman Hall ☐
 AmundH, Amundson Hall ☐ * L
 ApH, Appleby Hall ■ *
 Arch, Architecture ☐ * L
 Armory ☐
 BellMus, Museum of Natural History ☐ * L
 BFAB, Bierman Field Athletic Building ☐ * L
 Botany ■
 BoynHS, Boynton Health Service ☐ * L
 BuH, Burton Hall ☐ * L
 CenH, Centennial Hall ☐
 ChDev, Child Development ☐
 ChRC, Children's Rehabilitation Center ☐ * L
 CMU, Coffman Memorial Union ☐ * L
 CookeH, Cooke Hall ■
 DiehlH, Diehl Hall ☐ *
 DVCCRC, Dwan Variety Club Cardiovascular
 Research Center ☐ * L
 EddyH, Eddy Hall ■
 EdHAn, Eddy Hall Annex
 ElectE, Electrical Engineering ☐ *
 EltH, Elliott Hall ☐ * L
 ExpE, Experimental Engineering ■
 FieldHse, University Field House ☐
 FolH, Folwell Hall ☐ * L
 FordH, Ford Hall ☐ * L
 FraserH, Fraser Hall ■ *
 FronH, Frontier Hall ☐ *
 HL, St. Anthony Falls Hydraulic Laboratory (Hen-
 nepin Island)
 HolB, Holman Bldg ☐
 HSUnitA, Health Sciences Unit A ☐ * L
 HSUnitF, Health Sciences Unit F ☐ * L
 Jach, Jackson Hall ☐ *
 JOAd, Jackson-Owre Addition ☐ *
 JohH, Johnston Hall ☐ * L
 JonesH, Jones Hall ■
 KlaCt, Klaeber Court ☐
 KolH, Kolthoff Hall ☐ * L
 LindH, Lind Hall ☐
 LyonL, Lyon Laboratories ☐
- Mayo, Mayo Memorial ☐ * L
 MechE, Mechanical Engineering ☐ * L
 MinMet, Mines and Metallurgy ☐ *
 MlrdH, Millard Hall ☐ *
 MMA, Mayo Memorial Auditorium ☐
 MorH, Morrill Hall ☐ * L
 MRRC, Mineral Resources Research Center ■
 MurH, Murphy Hall ■
 MusEd, Music Education ■
 NichH, Nicholson Hall ☐ * L
 NMA, Northrop Memorial Auditorium ☐
 NorrisH, Norris Hall ☐ L
 OwreH, Owre Hall ☐ * L
 PeikG, Peik Gym ☐
 PeikH, Peik Hall ☐ *
 Phys, Tate Laboratory of Physics ☐ *
 PiH, Pioneer Hall ☐
 PillsH, Pillsbury Hall ■
 PtH, Pattee ☐
 PWB, Phillips Wangensteen Building ☐ * L
 SaH, Sanford Hall ■
 SciCB, Science Classroom Building ☐ *
 ScottH, Scott Hall ■
 ShepLab, Shepherd Laboratories (Space Science
 Center) ☐ *
 ShevH, Shevlin Hall ■
 SmithH, Smith Hall ☐ *
 Stad, Stadium ☐ L
 TerH, Territorial Hall ■
 TNA, Temporary, North of Appleby ■
 TNCE, Temporary, North Court of Engineering ■
 VFWCRC, VFW Cancer Research Center ☐
 VinH, Vincent Hall ☐ *
 WaLib, Walter Library ☐ * L
 WesH, Westbrook Hall ■
 WmsA, Williams Arena ☐ L
 WmsonH, Williamson Hall ☐ * L
 WullH, Wulling Hall ☐ *
 Zoology ☐ * L

CODES:

- ☐ = accessible building
 ☐ = partially accessible
 ■ = inaccessible building
 * = elevator
 L = adapted lavatory

For a map, *Guide for the Handicapped*, and further information, contact Physical Planning at 373-5765 or Rehabilitation Services at 376-3143.

**College of Liberal Arts Office,
Johnston Hall**

**UNIVERSITY OF MINNESOTA
TWIN CITIES CAMPUS
EAST BANK**





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and Mass Communication

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Section I—General Information 2
 Section II—Programs of Study 7
 Section III—Course Descriptions 12

This bulletin describes School of Journalism and Mass Communication (SJMC) emphases, courses, procedures, requirements, and learning opportunities. Its information is up-to-date as it is published; advisers and staff members in the SJMC main office can provide information about changes since publication. The telephone number of the school's main office is (612) 373-3565, and the address is 111 Murphy Hall, 206 Church Street S.E., University of Minnesota, Minneapolis, Minnesota 55455. The director of undergraduate studies is Walter Brovald, 36 Murphy Hall, (612) 376-3492.

Other Sources of Information

The quarterly *Class Schedule* lists courses and their instructors, hours, rooms, and prerequisites, as well as registration instructions, final exam schedules, and other valuable information.

The "Official Daily Bulletin," a *Minnesota Daily* column, publishes announcements about courses, study opportunities, meetings, and activities.

The *General Information Bulletin*, *College of Liberal Arts Bulletin*, *Graduate School Bulletin*, and other college bulletins are available at the information booth in Williamson Hall. The *Field Experience Catalog*, a guide to opportunities outside the classroom, is available for review in 201a Westbrook Hall.

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, creed, color, sex, national origin, or handicap. In adhering to this policy, the University abides by the requirements of Title IX of the Education Amendments of 1972, by Sections 503 and 504 of the Rehabilitation Act of 1973, and by other applicable statutes and regulations relating to equality of opportunity.

Inquiries regarding compliance may be directed to Lillian H. Williams, Director, Office of Equal Opportunity and Affirmative Action, 419 Morrill Hall, 100 Church Street S.E., University of Minnesota, Minneapolis, Minnesota 55455, (612) 373-7969, or to the Director of the Office of Civil Rights, Department of Education, Washington, D.C. 20202, or to the Director of the Office of Federal Contract Compliance Programs, Department of Labor, Washington, D.C. 20210.

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. The policy also permits students to review their educational records and to challenge the contents of those records.

Some student information—name, address, telephone number, dates of attendance, college and class, major, adviser, and degrees earned—is considered public or directory information. To prevent release of such information outside the University while in attendance at the University, a student must notify the records office on his or her campus.

Students are notified annually of their right to review their educational records. The regents' policy, including a directory of student records, is available for review at the information booth in Williamson Hall, Minneapolis, and at records offices on other campuses of the University. Questions may be directed to the Office of the Coordinator of Student Support Services, 260E Williamson Hall, (612) 373-2106.

School of Journalism and Mass Communication

I. GENERAL INFORMATION

Philosophy and Purpose

Instruction in journalism at the University of Minnesota dates back more than 60 years. Today the School of Journalism and Mass Communication (SJMC) is dedicated to meeting contemporary needs in the field at a time of rapid change. It is a small and closely knit professional school. With the Pulitzer School of Journalism at Columbia University, it has been rated first nationally in reputation among all journalism schools in the United States.

As an academic discipline, journalism is concerned with the theories and practice of the mass communication media in the context of their historical development and contemporary problems, and with the development of skills and techniques requisite for the successful practice of the craft of written, oral, and visual mass communication.

Few professional fields offer greater challenges than does mass communication. It is intimately related to all areas of human endeavor. As human knowledge increases, and the need for its widest and fastest possible dissemination continues to grow, the opportunities for professional communicators grow too. The school has nearly 5,000 graduates, many of whom have achieved distinction in newspaper, broadcasting, advertising, magazine, photography, and public relations fields; in government and public service; and in journalism education and research.

A well-prepared journalist today must have a broad knowledge of the world—a knowledge of history, economics, the arts, literature and language, and the social as well as natural sciences. To gain this knowledge, the journalism student at Minnesota draws upon the distinguished resources of the University's liberal arts program. SJMC students meet the requirements of and receive their degrees from the College of Liberal Arts.

The School of Journalism and Mass Communication offers an undergraduate program leading to the bachelor of arts degree and, through the Graduate School, graduate programs leading to the master of arts degree and the doctor of philosophy degree. These programs are discussed separately in section II.

Accreditation

The University of Minnesota School of Journalism and Mass Communication is one of 80 members of the American Association of Schools and Departments of Journalism. The school's news-editorial, advertising, broadcast, and photographic communication programs are accredited by the American Council on Education for Journalism (ACEJ). The ACEJ is a joint professional/educator body authorized by the Council on Postsecondary Accreditation to evaluate and accredit journalism programs in the United States.

Undergraduate Admission

Since the school is part of the College of Liberal Arts (CLA), undergraduate students must first apply for admission to CLA at the Office of Admissions, 240 Williamson Hall, 231 Pillsbury Drive S.E., University of Minnesota, Minneapolis, Minnesota 55455.

Students who declare during the first year an intention to major in journalism are assigned to a CLA adviser familiar with the requirements of the School of Journalism and Mass Communication. Even while beginning pre-major course work in journalism, students are encouraged to complete CLA requirements for the bachelor of arts degree, including freshman composition, foreign language, and distribution courses.

When the student has earned approximately 39 credits, he or she is referred by CLA to the SJMC's director of undergraduate studies for enrollment as a pre-journalism major. During their initial meeting, they will discuss the student's overall academic goals, program, and choice of emphasis within the School of Journalism and Mass Communication.

New advanced standing (transfer) students entering with 39 credits or more are assigned directly to the SJMC's director of undergraduate studies for evaluation of journalism course work presented for transfer (if any) and for enrollment as a pre-journalism major.

Special Opportunities

Agricultural Journalism—A program in agricultural journalism is offered jointly by the Department of Agricultural Journalism on the St. Paul campus and the School of Journalism and Mass Communication. It is intended for those who wish to prepare for any branch of journalism that deals with agriculture or with industries closely related to agriculture. Consult the *College of Agriculture Bulletin* for detailed information.

Honors—Honors activities in the School of Journalism and Mass Communication include a spring honors seminar on a topic determined in consultation with a committee of honors students. Occasional colloquiums feature speakers on topics of special interest. SJMC faculty members also occasionally offer honors courses or seminars through the CLA Honors Division, and details about these offerings may be obtained at the Honors office, 115 Johnston Hall.

General Education—Journalism preparatory courses, core courses, and 3201 are open to nonmajors with or without minimal prerequisites. The enrichment courses (Group II) are also open to nonmajors.

Summer Session—The School of Journalism and Mass Communication's summer session program includes a representative offering of undergraduate and graduate courses most in demand. The SJMC also sponsors special workshops for secondary school journalism teachers and publication advisers, for minority students with an interest in mass communication, and for high school newspaper and yearbook staff members. Interested students should refer to the *Summer Session Bulletin* for details.

Continuing Education—The SJMC offers journalism study through correspondence and evening classes as part of the programs of the division of Continuing Education and Extension. Some of these courses may be taken for graduate credit. Consult the *Extension Classes Bulletin* and the *Extension Independent Study Bulletin* for further information.

Facilities and Services

The school's facilities include newswriting, editing, and advertising laboratories; a radio and television studio and laboratories; photo and film laboratories; a graphic arts laboratory; general purpose classrooms; and communication research facilities. Murphy Hall, one of the nation's first buildings designed solely for journalism education, contains the Eric Sevareid mass communication library and reading room, and an adjoining study-lounge for the Thomas Heggen (of *Mister Roberts* fame) memorial collection of books related to the mass media.

Murphy Hall contains the editorial offices of the *Minnesota Daily*, one of the nation's largest college newspapers. Elsewhere on campus are the offices of the Minnesota High School Press Association, National Scholastic Press, and Associated Collegiate Press, which serve hundreds of high school and college newspapers, yearbooks, and magazines throughout the country.

Besides work on student publications, students have opportunities to gain practical experience at the University's radio stations KUOM and WMMR and at the University's television facilities.

The School's Setting

The Twin Cities area is an excellent location for students to learn through observation and practical experience, providing a "laboratory" that includes federal government offices; the state capitol; numerous state agencies; the Federal Reserve Bank; social service organizations; major league sports teams; music and theatre organizations; and major industries. There are also a large number of communication agencies, including the Minnesota Newspaper Association; Northwest Daily Press Association; three metropolitan daily newspapers; scores of suburban, community, and specialized publications; regional bureaus of the Associated Press and United Press International; more than 30 radio stations; six television stations; nationally known advertising and public relations agencies; numerous trade, religious, and farm magazines; and leading printing and engraving plants. Field trips are frequently arranged in appropriate classes.

The School of Journalism and Mass Communication also maintains a close liaison with working professionals through the Minnesota Journalism Center, which offers conferences, workshops, short courses, and clinics for professionals throughout the Upper Midwest. Other annual offerings and events include the Minnesota Press Women's Short Course for community newspaper personnel, the Northwest Broadcast News Association Conference, and workshops for industrial editors, advertisers, high school journalists, and teachers.

Students have the opportunity to meet distinguished journalists through editor-in-residence programs and guest lectures by leading editors, reporters, photojournalists, broadcast journalists, news analysts, and advertising and public relations executives.

Professional Organizations

The principal national honorary and professional societies for student journalists are represented by Minnesota chapters. These are: Alpha Delta Sigma (advertising); Kappa Tau Alpha (honorary scholastic); the Society of Professional Journalists—Sigma Delta Chi (professional news-editorial); and Women in Communication. Other organizations include the Journalism Graduate Students Club, the Foreign Journalism Students Club, and student chapters of the Public Relations Society of America, National Press Photographers Association, and Radio and TV Guild. In addition, faculty members and students share activities with Minneapolis and St. Paul professional societies in advertising, broadcasting, photographic communication, business journalism, public relations, newspaper publishing, and other areas. The Minnesota Press Club has a dinner for graduating seniors each spring.

Placement Service

The school maintains a placement service to assist graduates and alumni in finding suitable positions and to help students find part-time and summer jobs. Journalism students may also use the College of Liberal Arts placement office.

Alumni Association

The Journalism Alumni Association, which is national in scope, holds annual meetings in the Twin Cities as well as in several major cities. At the annual spring meeting it recognizes distinguished service by alumni in mass communication. An alumni newsletter, the *Murphy Reporter*, is published regularly.

Student Financial Aid

Many journalism students at the University of Minnesota earn part of their expenses, and some are entirely self-supporting. There are four principal sources of student income and financial aid:

Student Employment—The University maintains a student employment service (6 Morrill Hall) for on- and off-campus part-time jobs. The jobs vary considerably in nature, hours, and wages.

Of special interest to students in the school is the availability of part-time jobs during the school year in the offices of newspapers, radio and television stations, advertising agencies, publishing companies, and other enterprises where preprofessional experience may be gained. A few internships providing on-the-job training are available to both news-editorial and advertising students. Staff members of the University's student publications receive salaries. There are also opportunities for summer internships in the various journalism fields. All of these are listed with the SJMC Placement Service.

Student Loans—The University's Office of Student Financial Aid offers a variety of loan programs to meet students' financial needs. For information, contact the Office of Student Financial Aid, 210 Fraser Hall, 106 Pleasant St. S.E., University of Minnesota, Minneapolis, Minnesota 55455.

In addition, the *John P. Coughlin* and *Milton B. Kihlstrum Memorial Loan Funds* make available to journalism students low-interest loans which are repayable within approximately two years after graduation.

Scholarships and Fellowships—Inquiry about all-University scholarships should be made to the Office of Student Financial Aid.

More than 40 scholarships and fellowships, totaling over \$50,000, are available solely to undergraduate and graduate students majoring in journalism and mass communication. Most are awarded to students who have demonstrated capability during a period of registration at the University. Applications should generally be submitted to the School of Journalism and Mass Communication by February 15 for the following academic year.

Two scholarships are earmarked for entering freshmen who plan to major in journalism: the *Journalism Alumni Association Scholarship* and the *School Publications Scholarship*. Applications for both scholarships, which are for use during the sophomore year, should be addressed to the chair of the Scholarships and Internships Committee, 111 Murphy Hall. In addition, the *WCCO Scholarship Program for Minority Students in Broadcasting* is available for undergraduate and graduate minority students in broadcast journalism. Annual awards vary from \$2,500 to \$2,700. Students in this program also complete a supervised internship at WCCO AM or FM Radio or at WCCO TV in Minneapolis during their last quarter of study. Further information may be obtained from the coordinator of the WCCO Scholarship Program, 111 Murphy Hall.

Graduate Assistantships—In addition to scholarship and fellowship awards, graduate students may seek positions as teaching and research assistants. These positions involve appointment to the staff of the school and require part-time service. Applications for the positions should be submitted to the director of graduate studies, School of Journalism and Mass Communication, by February 1 for appointments for the following academic year; applications received at other times will be considered for existing vacancies. Information regarding assistantships is offered in the *Graduate School Bulletin*.



II. PROGRAMS OF STUDY

Baccalaureate Degree

The School of Journalism and Mass Communication offers a Bachelor of Arts (B.A.) program with two emphases—professional and mass communication—from which a student may choose, as well as a minor sequence in mass communication.

B.A. Major Sequence—Professional Emphasis

This program seeks to prepare students for a variety of careers in journalism, including media management, news-editorial, advertising, magazine writing and editing, broadcasting, public relations, and photocommunication. It is based on a broad liberal arts foundation, knowledge of the social and professional responsibilities of communicators, and beginning competence in journalistic skills. About three-fourths of the course work for the degree is completed in the social sciences, humanities, and other liberal education areas, with the remainder in journalism, where many of the courses also have a liberal arts focus.

Admission—The School of Journalism and Mass Communication admits a limited number of undergraduate professional emphasis students annually. A student should apply after completing, with a 2.50 grade point average, the required preparatory courses; taking the College Entrance Examination Board English composition test; passing a 25-wpm typing test administered by the school; and acquiring at least 75 CLA credits. Not more than 12 credits in journalism are to be presented at the time of application. Complete application information is available in the Student Services office, 18C Murphy Hall.

Specialized Professional Program—A specialized professional program may be planned in consultation with an adviser. Examples are public affairs journalism, international communication, community newspaper management, graphic arts, communications research, cinematography, newspaper design, public relations, broadcast advertising, magazine editing, and urban reporting. In collaboration with the Department of Agricultural Journalism, the school also offers a variety of agriculture-related programs.

Supporting Course Work—Econ 1001-1002 or 1014-1015 or 3001-3002; Pol 1001; Hist 1301-1302 or 3821-3822 or 3822-3823; for students whose primary interest area is advertising, Psy 1001; for students whose primary interest area is broadcast journalism, Spch 1101. Completion of freshman composition, or, if exempted, one 1xxx or 3xxx composition course from a list approved by the school (see *English Composition Requirements for Journalism Majors and Minors* below.)

Students need not complete this supporting course work before applying for major status, but are encouraged to do so early in their college program.

Required Preparatory Courses—Jour 1001, 1002 (formerly 1005), 1003, 1004

Major Requirements—Jour 3007 and 3008; one course from Group IA; two courses from Group II; 16 additional credits from Groups I, II, and III; a 3xxx or 5xxx composition course from a list approved by the school (see *English Composition Requirements for Journalism Majors and Minors* below). The B.A. program may include a maximum of 48 journalism credits.

Major Project—All journalism majors are required to complete a major project prior to graduation. See *Major Project Options* below.

B.A. Major Sequence—Mass Communication Emphasis

This program is intended to be equivalent to degree work in other CLA social science disciplines. Beyond a core of journalism courses also required for the professional emphasis, students elect a number of enrichment courses in journalism aimed at exploring mass communication as a social, economic, and political phenomenon. Students are additionally encouraged to choose CLA courses appropriate to the study of mass communication. Consultation with the director of undergraduate studies is advised.

Admission—Application for admission to the mass communication emphasis is not required. However, students must develop a plan of study in consultation with the director of undergraduate studies after completing, with a 2.50 grade point average, the required preparatory courses and before undertaking major requirements.

Supporting Course Work—Completion of freshman composition, or if exempted, one 1xxx or 3xxx composition course from a list approved by the school (see *English Composition Requirements for Journalism Majors and Minors* below). No other specific supporting course work is required, but students should consult with the director of undergraduate studies about appropriate recommended courses.

Required Preparatory Courses—Jour 1001, 1002 (formerly 1005), 1003, 1004

Major Requirements—Jour 3007 and 3008; a minimum of 20 credits from 3201 or Groups II and III; a 3xxx or 5xxx composition course from a list approved by the school (see *English Composition Requirements for Journalism Majors and Minors* below). The B.A. program may include a maximum of 48 journalism credits.

Major Project—All mass communication majors are required to complete a major project prior to graduation. See *Major Project Options* below.

Minor Sequence—Mass Communication

Admission—Application for admission to the minor is not required. However, students must develop a plan of study in consultation with the director of undergraduate studies after completing, with a grade of C or better, the required preparatory course and before undertaking upper level requirements.

Supporting Course Work—Completion of freshman composition, or if exempted, one 1xxx or 3xxx composition course from a list approved by the school (see *English Composition Requirements for Journalism Majors and Minors* below).

Required Preparatory Course—Jour 1001

Minor Requirements—Jour 3007 and 3008; a minimum of 18 credits from 3201 or Groups II and III; a 3xxx or 5xxx composition course from a list approved by the school (see *English Composition Requirements for Journalism Majors and Minors* below).

English Composition Requirements for Journalism Majors and Minors

1. Completion of (or exemption from) the freshman composition requirement as established by the College of Liberal Arts.
2. Completion of a second composition course from among the following: Comp 1027, Intermediate Expository Writing; 3011, Writing About Literature; 3012, Writing About Non-Fiction Texts; 3013, Writing for Arts Other Than Literature; 3014, Writing for the Quantitative Social Sciences; 3015, Writing About Science; 3027,

Advanced Expository Writing; 3050, Topics in Advanced Composition; 3080, Special Projects in Advanced Composition; 3085, Conference Course in Advanced Composition (must be taken for 4 credits).

3. Completion of one of the following composition courses as a *junior* or a *senior* (will also satisfy the CLA upper division writing requirement): Comp 3011, Writing About Literature; 3012, Writing About Non-Fiction Texts; 3013, Writing About Arts Other Than Literature; 3014, Writing for the Quantitative Social Sciences; 3015, Writing About Science; 3027, Advanced Expository Writing; 3050, Topics in Advanced Composition; 3080, Special Projects in Advanced Composition; 3085, Conference Course in Advanced Composition (must be taken for 4 credits).

Note: Comp 3050, 3080, and 3085 are infrequently offered.

Major Project Options

1. Professional emphasis majors may take any two of the following courses (at least one of which must be at the 5xxx level) to satisfy the major project requirement: Jour 3173, 3193, 3231, 3241, 3301, 3401, 3451, 3486, 5131, 5133, 5141, 5143, 5144, 5174, 5233, 5261, 5263, 5272, 5353, 5376, 5377, 5402, 5442, 5444.
2. Mass communication emphasis majors may take two of the following courses, chosen from two different groups, to satisfy the major project requirement: Jour 5501, 5531 (Group 1); 5601, 5606, 5611, 5615 (Group 2); 5721, 5777 (Group 3); 5801, 5825 (Group 4).
3. *Either professional or mass communication emphasis majors may satisfy the major project requirement with one of the following plans:*
 - a. An instructor in any 5xxx journalism course may define and apply appropriate standards for an extra assignment involving greater length, greater depth, or broader context than normal. Students would enroll for *one* extra credit in the selected course, using an "X" registration.
 - b. Students successfully completing a paper or project for academic credit based on an internship performed under customary academic supervision may satisfy the major project requirement, using the Jour 3970 designation.
 - c. Students successfully completing the honors program may satisfy the major project requirement.
 - d. Students may complete Jour 3970, Directed Studies, for four credits to satisfy the major project requirement, subject to the direction and evaluation of the instructor.

Graduate Degrees

(For additional information and application forms, write to the director of graduate studies, 111 Murphy Hall, 206 Church Street S.E., University of Minnesota, Minneapolis, Minnesota 55455.)

The School of Journalism and Mass Communication and the Graduate School offer programs leading to the master of arts and doctor of philosophy degrees.

Any student with a bachelor's degree or its approved equivalent from an accredited college or university may apply to the dean of the Graduate School for admission. An applicant with the necessary background for her or his chosen major field, an excellent scholastic record, and satisfactory character and professional references may be admitted for graduate work on recommendation of the faculty of the School of Journalism and Mass Communication and approval by the dean of the Graduate School.

Programs of Study

Information about the graduate programs and procedures for graduate students is sent in response to letters of inquiry. The Miller Analogies Test and the Graduate Record Examination aptitude test (TOEFL for foreign students) are required of prospective students. In addition to the Graduate School application form, the school has its own application form.

Details concerning application procedures, transfer of credits, fees, and other useful information are presented in the *Graduate School Bulletin*.

Prerequisites—Graduate students in mass communication without an undergraduate major in journalism must complete four undergraduate courses (12 to 16 credits). The courses are chosen in consultation with the student's adviser, and they may be taken concurrently with graduate program courses. One of the four courses may be a fundamental lecture course carrying graduate credit. Prior course work in journalism or documented professional experience of at least one year's duration may count toward the fulfillment of prerequisite requirements upon successful petition to the Graduate Affairs Committee. Students also have the option of satisfying prerequisites by special examination.

The major implication of this policy is that different patterns of prerequisites will be required for different programs; the responsibility for determining prerequisites will rest with the adviser and the graduate student. It is recognized that 12 to 16 credits of prerequisites may not be sufficient to prepare all students for work toward advanced degrees. In such cases, the adviser will discuss with the student the desirability of completing additional course work in preparation for a professional career or for further graduate training. The student must then make his or her own decision based on this advice. The adviser may not require a student to complete more than the prescribed 12 to 16 credits.

Students must also meet the typing proficiency requirement for courses for which it is a prerequisite.

Master of Arts Degree

Two types of master's degree are offered. The general M.A. program—designed for students who may go on to pursue the Ph.D., who seek academic support for professional training, or who plan to teach at the secondary or junior college level—emphasizes theoretical course work, but professional courses may also be included. The professional M.A. program—designed for students who plan careers in print media, advertising, public relations, photocommunication, broadcasting, and science communication—includes fewer theoretical and Ph.D. subfield courses. The general M.A. program usually follows Plan A, whereas the professional M.A. program usually follows Plan B.

Plan A and Plan B Requirements—For Plan A, a minimum of 36 credits plus a thesis are required. Course work must include Jour 8001 and 8101, two additional mass communication seminars, twelve credits in other journalism and mass communication seminars or courses, and eight credits in other departments, in addition to the thesis. For Plan B, a minimum of 44 credits plus a master's project for professional M.A. students (or a research project for general M.A. students) are required. Course work must include Jour 8101 and 8102, two additional mass communication seminars, twelve credits in other journalism and mass communication courses of seminars, eight credits in other departments, and eight credits inside or outside the school, in addition to the project.

Language Requirement—Foreign language study is recommended for students in international mass communication. Consultation with the adviser is recommended.

Master's Final Examination—The final examination is oral for both the Plan A and Plan B programs.

Doctor of Philosophy Degree

Students planning a Ph.D. program in mass communication will, in consultation with their adviser, elect two of four subfields—a dissertation field and a secondary field. The subfields are communication theory and research methodology, history of mass communication, communication agencies as social institutions, and international mass communication. In the dissertation field students will complete a minimum of 24 to 28 credits and in the secondary field a minimum of 16. A majority of credits in both fields must be offered in 8xxx courses. In addition, the Ph.D. program must include a 12-credit "core" subfield, mass communication research. A minimum of 28 credits is required in studies outside of mass communication, including at least 18 credits in minor or supporting field courses related to the dissertation field. In the preliminary examinations, Ph.D. students will be held responsible for the subject matter in their two subfields and the core.

Prospective students should write to the school's director of graduate studies for detailed subfield descriptions.

Minor—Candidates for the Ph.D. in other fields may complete a minor in journalism. Approval of the major adviser and of the director of graduate studies of the School of Journalism and Mass Communication is required. Written preliminary examinations are required of all minors.

Language Requirement—Candidates must either (a) study two foreign languages, (b) develop a high level of proficiency in one language, or (c) study one foreign language and offer either a special research technique or a collateral field of knowledge. Acceptable languages have included Arabic, Chinese, French, German, Hindi, Italian, Japanese, Russian, Spanish, and Portuguese; others may be proposed.

III. COURSE DESCRIPTIONS

Symbols—The following symbols are used throughout the course descriptions in lieu of page footnotes:

- § Credit will not be granted if the equivalent course listed after the section mark has been taken for credit.
- ¶ Concurrent registration is allowed (or required) in the course listed after the paragraph mark.
- # Consent of the instructor is required prior to registration.
- △ Consent of the department, division, or school offering the course is required prior to registration.

Journalism (Jour)

PREPARATORY

- 1001. INTRODUCTION TO MASS COMMUNICATION.** (2 cr; fr composition recommended)
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.
- 1002 (formerly 1005). VISUAL COMMUNICATION.** (2 cr)
Functions of visual communication in news and advertising in print and electronic media. Evaluation and criticism of visuals in creative typography, photography, and visual techniques. Lectures (CCTV), projects, critiques.
- 1003. PRODUCING MASS MEDIA MESSAGES.** (4 cr; prereq fr composition or exemption, △)
Analysis of mass media messages; practice, under instruction, in writing factual and persuasive messages. Emphasis on message attributes, style, structure, formula, constraints, techniques and conventions. Applications to news, advertising, documentary, and interpretive writing for print, film, and video.
- 1004. INFORMATION FOR MASS COMMUNICATION.** (4 cr; prereq fr composition or exemption, △)
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, data bases, and interviews.

CORE

- 3007. THE MEDIA IN AMERICAN HISTORY AND LAW: CASE STUDIES.** (4 cr; prereq preparatory journalism courses, filed application for major status, △ for intended professional journalism majors...preparatory journalism courses, filed study plan, △ for intended mass communication majors...1001, filed study plan, △ for intended mass communication minors...1001, △ for others)
Using a case study approach focusing on legal and ethical issues, examines the media in the socioeconomic-political-technological context of a specific historical period.
- 3008. MASS COMMUNICATION PROCESSES AND STRUCTURE.** (4 cr; prereq preparatory journalism courses, filed application for major status, △ for intended professional journalism majors...preparatory journalism courses, filed study plan, △ for intended mass communication majors...1001, filed study plan, △ for intended mass communication minors...1001, △ for others)
Analysis of a variety of communication theories as they relate to mass communication processes; major structural aspects of mass communication systems as they influence mass communication processes.

I. PROFESSIONAL

These courses, except for 3201, are not open to students in mass communication. Professional journalism students must have official major status before enrolling.

Group A

- 3101 (formerly 1101). REPORTING.** (4 cr; prereq professional journalism major status, type 25 wpm, △)
Fact gathering and journalistic writing. Problems in judgment and handling of news and news features.
- 3201 (formerly 1201). PRINCIPLES OF ADVERTISING.** (4 cr; prereq major status for professional journalism and mass communication students...1001 and filed study plan for intended mass communication minors...no prereq for others)
Theory, principles, and functions of advertising; its role in economic, social, and marketing structure. Newspapers, magazines, radio, television as advertising media.

- 3301. PHOTOJOURNALISM.** (4 cr; prereq professional journalism major status, Δ)
Photography as creative communication. Fundamentals of photography: use of news cameras; darkroom processes. Laboratory.

Group B

- 3121. PUBLIC AFFAIRS REPORTING.** (4 cr; prereq 3101, type 40 wpm. Δ)
Reporting and editing news of courts and municipal, county, state, and federal administrative and legislative agencies.
- 3155. PUBLICATIONS EDITING.** (4 cr; prereq 3101, Δ)
Selection and editing of news-editorial content of newspapers, brochures, magazines. Newspaper makeup, magazine format. Press association teletype service. Lecture and laboratory.
- 3173. MAGAZINE WRITING AND EDITING.** (4 cr; prereq 3101, Δ)
Writing feature articles for general, class, and trade publications; study of market free-lance methods.
- 3176. BUSINESS AND INDUSTRIAL JOURNALISM.** (4 cr; prereq 3155, 3121 or 3173, $\#$)
Analysis of content, staffing, design, and production of business and company publications. On-the-job projects of gathering material and writing feature articles for the business and company press.
- 3193. COMMUNITY NEWSPAPER.** (4 cr; prereq professional journalism major status, $\#$, Δ)
The community newspaper (weekly and small daily) as an editorial product and a business. Aspects of news, opinion, advertising, production. Role of the editor in the community.
- 3231. ADVERTISING GRAPHICS.** (4 cr; prereq professional journalism major status, 3101 or 3201 or 3301 or $\#$, Δ)
Design and layout; preparation of copy for print and film; uses of type; type legibility; illustration, printing processes.
- 3241. ADVERTISING COPYWRITING.** (4 cr; prereq professional journalism major status, 3201 or $\#$, Δ)
Advertising appeals and strategy; advertising for print and broadcast. Individual and group projects.
- 3401. BASIC CINEMATOGRAPHY.** (4 cr; prereq professional journalism or speech major status, Δ)
Practice and theory in film communication. Creative and technical applications in television news, documentaries, advertising films.
- 3421. TELECOMMUNICATION ADMINISTRATION.** (4 cr; prereq professional journalism or speech major status, Δ)
Role of the broadcasting station in American life. Basic issues in station operation, frequency and channel allocations, cross-channel affiliations.
- 3451. TELEVISION AND RADIO NEWS.** (4 cr; prereq 3101 or speech major status with $\#$, Δ ; 2 lect, 3 lab, 3 news production hrs per wk)
Writing, interviewing, delivery, audiotape editing, graphics preparation. Production of radio newscasts and a radio documentary.
- 3486. RADIO AND TELEVISION SCRIPTWRITING.** (4 cr; prereq professional journalism or speech major status, Δ)
Planning and writing scripts for broadcast in variety of program areas.
- 5182 (formerly 3182). SUPERVISION OF SCHOOL PUBLICATIONS.** (4 cr; prereq professional journalism major status or $\#$, Δ)
Editorial content, staff organization, editing, typography, makeup, business management for those who plan to be advisers for high school or college newspapers, yearbooks, magazines.

Group C

- 5131. INTERPRETIVE REPORTING.** (4 cr; prereq sr, 3121, Δ)
Advanced problems in reporting about government, politics, social problems, and the arts.
- 5133. SCIENCE COMMUNICATION.** (4 cr; prereq 3121 or $\#$, Δ)
Role of journalistic communication in science; scientist-journalist relationships; communicating results of scientific investigations to public, specialized audiences, industry.
- 5141. OPINION WRITING IN AMERICA.** (4 cr; prereq one 3xxx writing course, major or grad status for professional journalism students with $\#$, Δ)
Oral and written analysis of major political, economic, social developments. Persuasive communication in newspapers and magazines; columnists; commentators.
- 5143. INTERPRETIVE REPORTING ABOUT SCIENCE.** (4 cr; prereq professional journalism major status, 5133 or $\#$, Δ)
Analysis of scientific research and technological development for mass and specialized media; critical study of science content in media; audience impact.
- 5144. URBAN JOURNALISM.** (4 cr; prereq professional journalism major status, 3121 or grad student or professional experience with $\#$, Δ)
Urban problems and mass media role and performance; specialized reporting and commentary on urban media policy, news gathering techniques; analysis of media content; reporting projects and appropriate readings.

Course Descriptions

- 5155. PRECISION JOURNALISM.** (4 cr; prereq professional journalism major status, 3101 or grad student or professional experience with #, Δ)
Quantitative methods of investigation and interpretation for the mass media.
- 5171. ARTS REVIEWING.** (4 cr; prereq one 3xxx writing course, major or grad status for professional journalism students, #, Δ; offered all yrs)
Book, theatre, and motion picture reviews. Analysis of leading critics and critical periodicals. Weekly reviews.
- 5174. MAGAZINE EDITING AND PRODUCTION.** (4 cr; prereq 3173 or 5376 or 5221, #)
Writing, editing, illustration, design, layout, photocomposition of a single-issue magazine.
- 5233. GRAPHIC DESIGN ANALYSIS.** (4 cr; prereq professional journalism major status, 3231 or #, Δ)
Publication formats for design and efficiency; historical and current trends; field projects; creative problems.
- 5261. ADVERTISING: MEDIA ANALYSIS.** (4 cr; prereq professional journalism major status, 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.
- 5263. ADVERTISING CAMPAIGN PLANNING AND MEDIA STRATEGY.** (4 cr; prereq professional journalism major status, 3241, 5261, Mktg 3000 or #, Δ)
Relation of campaign strategy to media measurement, evaluation, and planning. Coordination of advertising campaigns; media scheduling and purchasing.
- 5272. ADVERTISING COPY-GRAPHICS.** (4 cr; prereq 3231, 3241, #, Δ)
Copy and graphics design for print and television advertising. Preparation and presentation of ads and commercials for consumer, business, industrial, corporate, and public service advertisers.
- 5353. PHOTOGRAPHIC COMMUNICATION.** (4 cr; prereq 3301, Δ)
Photographic communication in the mass media. Multichannel communication theories, communicative overtones. Visual sources, layout, objectivity in editing. Experimental creative projects.
- 5376. ADVANCED PHOTOJOURNALISM.** (4 cr; prereq 3301, Δ)
Materials and processes for visual reporting in newspapers and magazines. Thematic visual series. Dynamics of visual content: pattern, texture, movement. Use of miniature camera, light, and lighting. Color photography.
- 5377. DOCUMENTARY PHOTOGRAPHY.** (4 cr; prereq 5376, Δ)
Definition, scope, research, and approaches of the documentary picture story for magazines, picture books, and multimedia presentations. Series, sequences, essays. Photographic markets.
- 5402. FILM PRODUCTION.** (4 cr; prereq professional journalism major status, 3401 or Spch 3201, #)
Directed projects in planning, shooting, and editing silent and sound film. Creative production. Lectures, laboratory work, field experience.
- 5442. ADVANCED TELEVISION NEWS.** (4 cr; prereq 3451, Δ; 2 lect, 3 lab, 3 news production hrs per wk)
Newsfilm editing; preparation and delivery of television newscasts. Current problems; legal and ethical considerations.
- 5444. TELEVISION AND RADIO DOCUMENTARY.** (4 cr; prereq 5442, Δ; 2 lect hrs, field and lab hrs as needed)
Scope and techniques. Production of television or radio news documentaries of broadcast quality.
- 5559. CASE STUDIES IN PUBLIC RELATIONS.** (4 cr; prereq professional journalism major status or #, 5549, Δ)
Case study approach in applying public relations principles to solve problems in business, government, education, and community. Designed to enable students to sharpen their perceptions, insights, and judgments in examining practical and ethical questions.

II. ENRICHMENT

Mass communication students may enroll in these courses after they complete preparatory journalism courses and file study plans. Professional journalism students must have official major status before enrolling.

- 3776. MASS COMMUNICATION LAW.** (4 cr; prereq 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.
- 3796. MASS MEDIA AND POLITICS.** (4 cr, \$Pol 3796; prereq major status in journalism, 1001 or Pol 1001 or #)
Analysis of role of mass media in politics; emphasis on television and electoral campaigns; news coverage versus newsmaking. Free press in democracy.
- 5221. PUBLICATION GRAPHICS.** (4 cr; prereq 8 cr in 3xxx or 5xxx courses in art and design or #)
Role of printing processes in graphic communication. Technique and production of illustrations. Significant developments in graphic arts technology.

- 5251. PSYCHOLOGY OF ADVERTISING.** (4 cr. \$Psy 5751; prereq Psy 1001)
Psychological principles, research techniques, and applications in advertising and selling. Consumer attitudes and behavior. Psychological mechanisms upon which effectiveness of advertisements and commercials depends.
- 5274. CURRENT ADVERTISING DEVELOPMENTS AND PROBLEMS.** (4 cr; prereq 5263 or 5272 or #, Δ)
Creative, management, research, media, and technical developments in advertising. Specific problems. Case studies in advertising-marketing process.
- 5501. COMMUNICATION AND PUBLIC OPINION I.** (4 cr; prereq 16 cr in social science depts)
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.
- 5531. COMMUNICATION AND PUBLIC OPINION II.** (4 cr; prereq 5501 or Soc 5355)
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.
- 5549. PUBLIC RELATIONS.** (4 cr; prereq 16 cr in social science depts)
History and development of public relations practice and principles. Process and applications in a variety of institutional settings. Analysis and critique of public relations in contemporary society.
- 5601. HISTORY OF JOURNALISM.** (4 cr)
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.
- 5603. TOPICS IN HISTORY OF JOURNALISM.** (4 cr; prereq 5601)
Intensive study of significant individuals, newspapers, and periodicals in the United States, 1865-1920. Individual research projects.
- 5606. LITERARY ASPECTS OF JOURNALISM.** (4 cr; prereq #; offered all yrs)
Literary aspects of journalism as exemplified in, and influenced by, works of English and American writers, past and present. Lectures, discussions, and weekly papers.
- 5611. DEVELOPMENT OF AMERICAN BROADCASTING.** (4 cr)
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.
- 5615. DEVELOPMENT OF PHOTOJOURNALISM AND DOCUMENTARY FILM.** (4 cr)
History of these forms of visual communication and their utilization by the mass media. Principal contributors, visual styles, and changing evaluative criteria, 1839 to present. Analysis of important films and photographs from the period. Individual research projects involving primary data.
- 5721. MASS MEDIA IN A DYNAMIC SOCIETY.** (4 cr; prereq 16 cr in social science depts)
Economic, political, and social determinants of character and content of mass communication in America. Impact, structure, functioning of mass media. Problems, prospects, criticism. Professionalism, technology, reform.
- 5731. CURRENT COMMUNICATIONS PROBLEMS.** (4 cr; prereq professional journalism or mass communication sr, 16 cr in social science depts, #)
Individual project and seminar method of analysis of major contemporary problems of communication, both descriptive and normative.
- 5731H. HONORS COURSE: CURRENT COMMUNICATIONS PROBLEMS.** (4 cr; prereq professional journalism or mass communication sr, 16 cr in social science depts, #)
For description, see 5731.
- 5777. CONTEMPORARY PROBLEMS IN FREEDOM OF SPEECH AND PRESS.** (4 cr; prereq 16 cr in social science depts)
Legal and constitutional derivation of freedom of speech and press with emphasis on case law, judicial theories, doctrines, tests, and values. Symbolic, commercial, and compelled speech, speech plus, petition and assembly, leading press cases, legal research techniques.
- 5801. INTERNATIONAL COMMUNICATION.** (4 cr; prereq 16 cr in social science depts)
Global telecommunications, channels, artifacts of international mass communication. Problems in free flow of information. Roles of international organizations, journalism. Mass communication in social, political, educational, economic development; implications for conflict resolution.
- 5825. WORLD COMMUNICATION SYSTEMS.** (4 cr; prereq 16 cr in social science depts)
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.
- 5826. MASS COMMUNICATION SYSTEMS OF WESTERN EUROPE.** (4 cr; prereq 16 cr in social science depts)
Implications of mass media and telecommunications, with analysis of historical origins, contemporary sociocultural issues, and roles in Western European and international affairs.

Course Descriptions

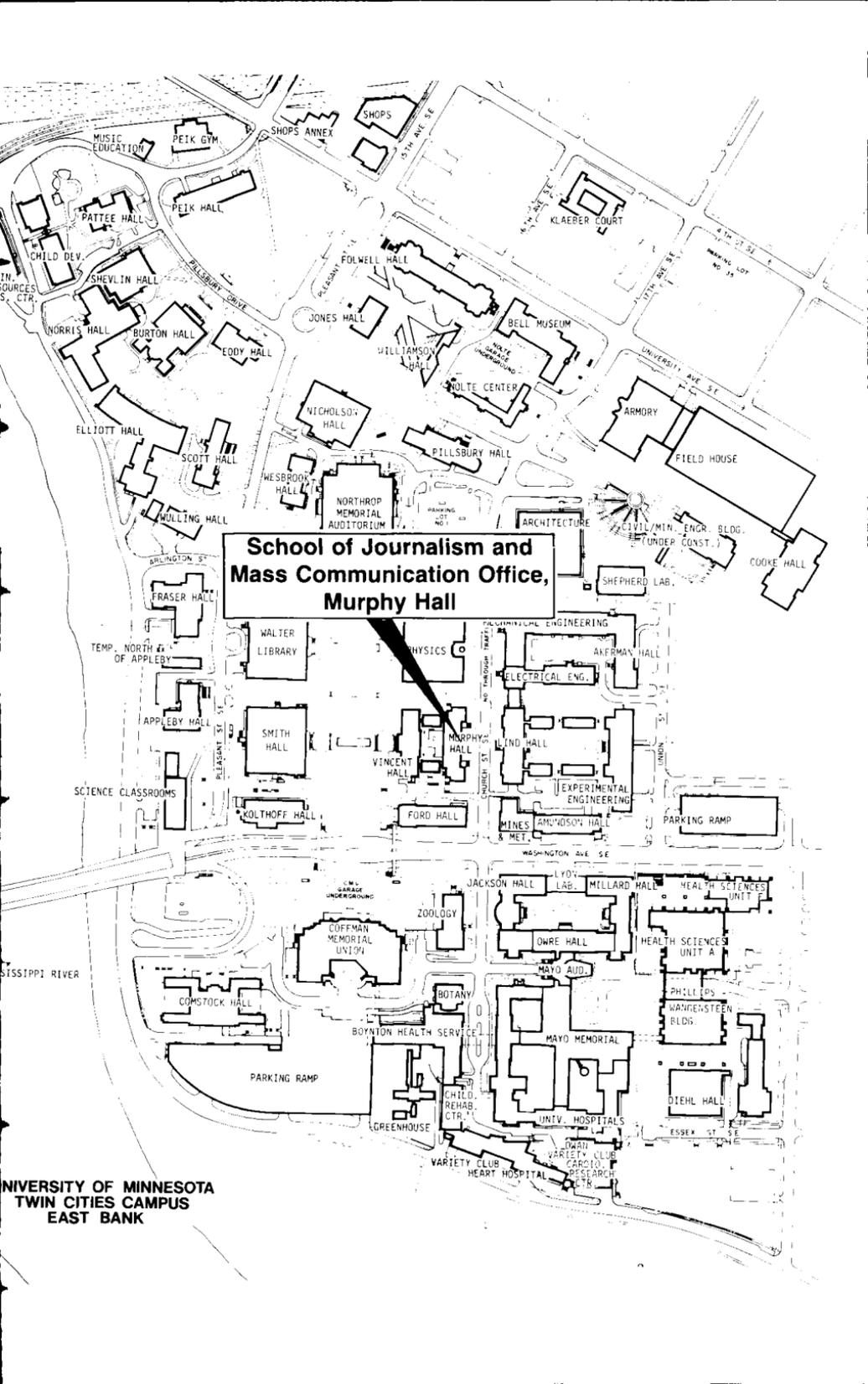
III. INDEPENDENT STUDY

- 3970. DIRECTED STUDIES.** (1-4 cr per qtr; prereq major status for professional journalism and mass communication students, #, Δ)
Guided individual reading or study.
- 5970. ADVANCED PROJECTS IN JOURNALISM.** (1-4 cr per qtr [8 cr max]; prereq major status for professional journalism and mass communication students, B avg, #, Δ)
- 5970H. HONORS COURSE: ADVANCED PROJECTS IN JOURNALISM.** (1-4 cr per qtr [8 cr max]; prereq major status for professional journalism and mass communication students, B avg, #, Δ)
- 5990. SPECIAL TOPICS IN MASS COMMUNICATION.** (4 cr per qtr [8 cr max]; prereq major status for professional journalism and mass communication students, #, Δ)
Topics specified in *Class Schedule*.

GRADUATE COURSES

(See *Graduate School Bulletin* for course descriptions)

- 8001-8002-8003. SEMINAR: MASS COMMUNICATION RESEARCH
8101. PERSPECTIVES ON MASS COMMUNICATION
8102. MASS COMMUNICATION RESEARCH IN ACTION
8442. SEMINAR: BROADCAST NEWS
8514. SEMINAR: MASS COMMUNICATION THEORY
- 8515-8516. SEMINAR: COMMUNICATION ANALYSIS
- 8601-8602-8603. SEMINAR: HISTORY OF MASS COMMUNICATION
8604. SEMINAR: VISUAL COMMUNICATION HISTORY
8606. SEMINAR: LITERARY ASPECTS OF JOURNALISM
8611. SEMINAR: DEVELOPMENT OF AMERICAN BROADCASTING
- 8721-8722-8723. COMMUNICATION AGENCIES AS SOCIAL INSTITUTIONS
8777. GOVERNMENT AND MASS COMMUNICATION: ADMINISTRATIVE LAW
8778. GOVERNMENT AND MASS COMMUNICATION: CONSTITUTIONAL LAW
8779. GOVERNMENT AND MASS COMMUNICATION
8801. SEMINAR: PROBLEMS IN INTERNATIONAL COMMUNICATION RESEARCH
- 8825-8826. SEMINAR: INTERNATIONAL MASS COMMUNICATION
8828. MASS COMMUNICATION PROBLEMS OF DEVELOPING COUNTRIES
8831. SEMINAR: INTERNATIONAL BROADCASTING AND WORLD AFFAIRS
8970. ADVANCED PROJECTS IN MASS COMMUNICATION
8990. SPECIAL PROBLEMS IN MASS COMMUNICATION



**School of Journalism and
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TWIN CITIES CAMPUS
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