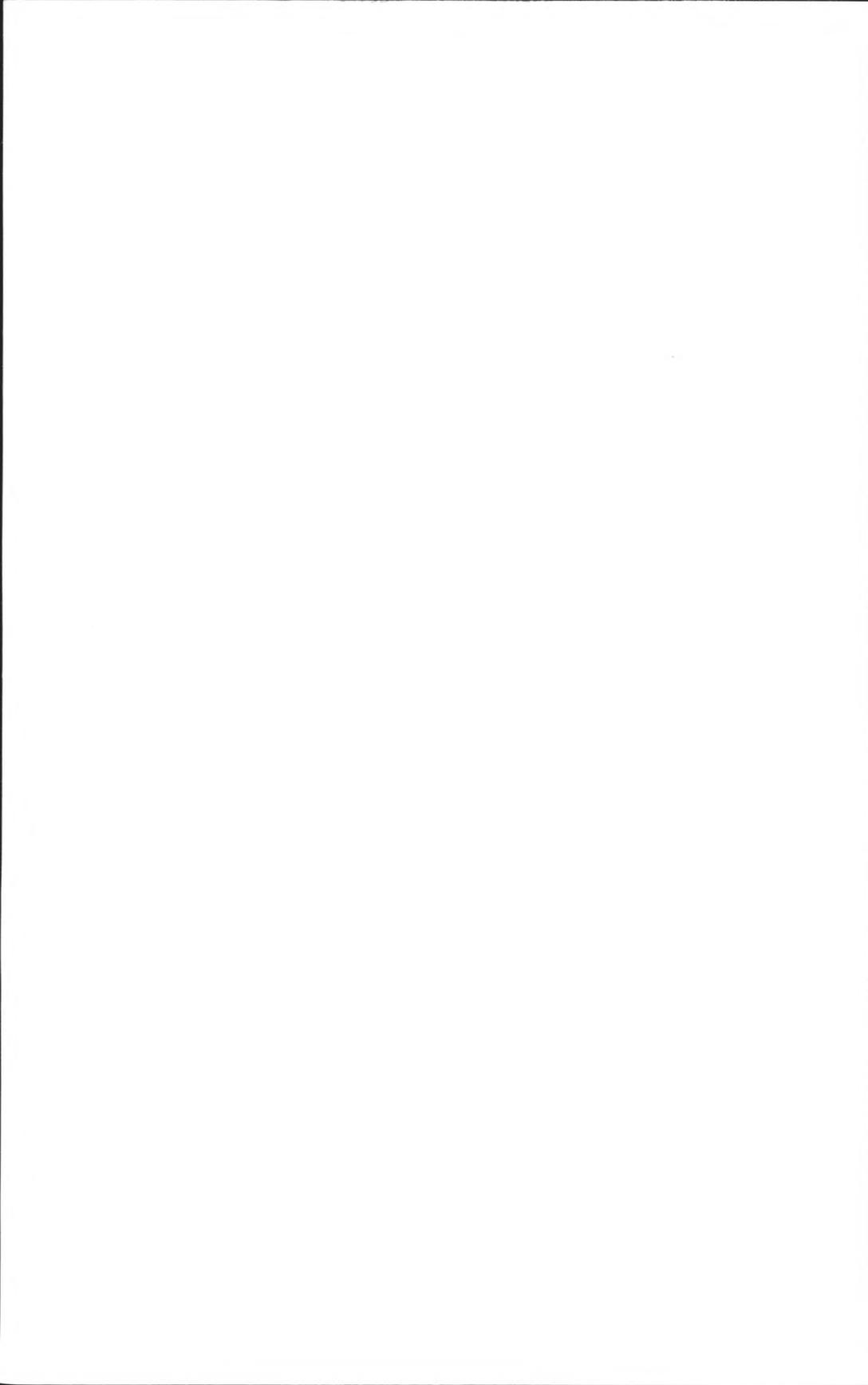




**College of
Arts and Sciences:
Courses of Study**



Cornell University

College of Arts and Sciences: Courses of Study

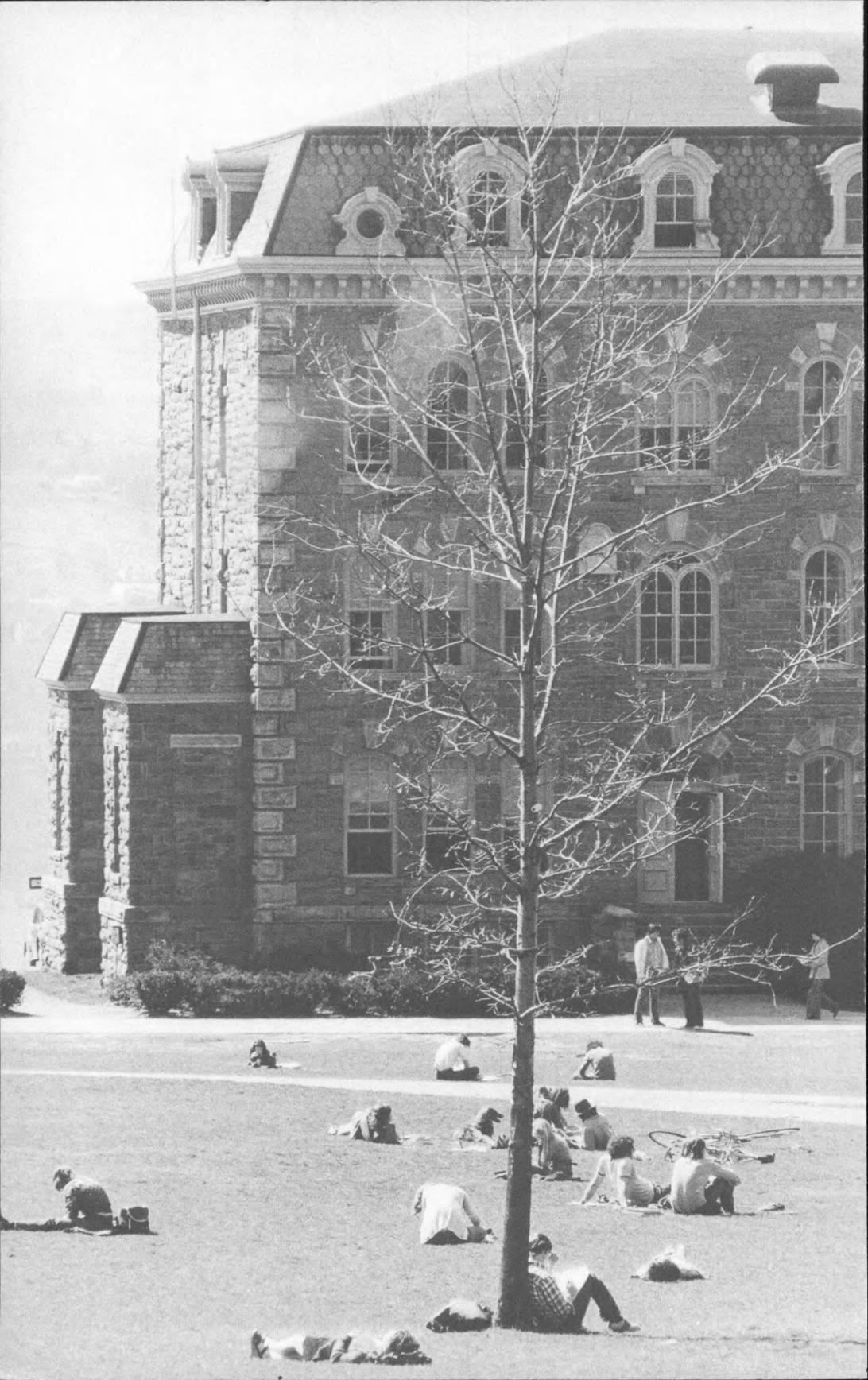
1975-76

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Cornell University Announcements

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Announcements

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The courses and curricula described in this *Announcement*, and the teaching personnel listed herein, are subject to change at any time by official action of Cornell University.

1975-76

Cornell Academic Calendar

Registration, new students
Registration, continuing and rejoining students
Fall term instruction begins
Thanksgiving recess:
 Instruction suspended, 1:10 p.m.
 Instruction resumed, 7:30 a.m.
Fall term instruction ends, 1:10 p.m.
Final examinations begin
Final examinations end
Registration, new and rejoining students
Registration, continuing students
Spring term instruction begins, 7:30 a.m.
Spring recess:
 Instruction suspended, 1:10 p.m.
 Instruction resumed, 7:30 a.m.
Spring term instruction ends, 1:10 p.m.
Final examinations begin
Final examinations end
Commencement Day

The dates shown in the Academic Calendar are subject to change at any time by official action of Cornell University.

Thursday, August 28
Friday, August 29
Monday, September 1

Wednesday, November 26
Monday, December 1
Saturday, December 6
Saturday, December 13
Saturday, December 20
Thursday, January 22
Friday, January 23
Monday, January 26

Saturday, March 27
Monday, April 5
Saturday, May 8
Monday, May 17
Monday, May 24
Friday, May 28

In enacting this calendar, the University Senate has scheduled classes on religious holidays. It is the intent of Senate legislation that students missing classes due to the observance of religious holidays be given ample opportunity to make up work.

Important Dates 1975-76*

College of Arts and Sciences

	Fall Term	Spring Term
Registration, new students	August 28, 1975	January 22, 1976
Registration, rejoining students	August 29	January 22
Registration, continuing students	August 29	January 23
Instruction begins	September 1	January 26
Independent Majors: deadline for submitting proposals (first meeting)	September 12	February 6
Last day for dropping or adding courses without fee	September 19	February 13
Last day for electing S-U grading option	September 19	February 13
Last day for requesting permission to graduate at end of current term	September 19	February 13
Last day for requesting permission to graduate at end of summer term		February 13
College Scholar Program: deadline for applications		February 27
Independent Majors: deadline for submitting proposals (second meeting)	October 10	March 5
Last day for dropping courses with fee	October 24	March 19
Spring recess		March 27-April 5
Preregistration for spring term courses, 1976	October 27-November 7	
Leaves of absence: last day for requests for current term	October 17	March 12
<i>In absentia</i> : last day for requests for study the following term	October 31	April 1
Withdrawal: last day for requests for current term	October 17	March 12
Thanksgiving recess	November 26-December 1	
Internal transfers: deadline for requests for transfer to the College of Arts and Sciences for next term	November 30	July 30
Instruction ends	December 6	May 8
Final examinations begin	December 13	May 17
Final examinations end	December 20	May 24
Commencement Day	January 21	May 28

*Subject to change



Cornell University

College of Arts and Sciences

The Announcement of the College of Arts and Sciences: Courses of Study is the College catalog. It includes College requirements, course and program descriptions, and a roster of faculty. *The Announcement of General Information* provides details about admission requirements, and the *Announcement of the College of Arts and Sciences: Introduction* is an extended essay about the activities and special ambience of the College. See the last page of this *Announcement* for ordering these and other *Announcements*.

Introduction

The College of Arts and Sciences at Cornell is a liberal arts college, a university college, and a graduate school and research center. As a liberal arts college, it offers you the opportunity to increase your understanding of yourself and the world and can prepare you, if you wish, for further, more specialized study. As a university college, it is responsible for the general education of all Cornell students. The University community provides a source of strength and a diversity that is not available to the isolated and solely undergraduate institution. A university college is able to draw upon the more highly specialized knowledge and facilities of its professional fellow colleges, to combine liberal and practical studies, and to offer a curriculum of greater depth and breadth than it otherwise could. As a graduate school and research institute the College attracts a faculty with high professional standards and achievements, whose work demands first-rate facilities. It is this combination of functions that gives the College its distinctive character.

The Curriculum

The College's curriculum gives you an opportunity for breadth, experiment, and discovery, and for concentration in at least one field. The distribution requirements encourage you to explore the College and to become involved with at least some of the areas with which an educated person should be acquainted. As you explore new subjects, you may

uncover latent interests and abilities. You will also be preparing for more advanced work in particular fields. No later than your fourth term, you choose the subject or subjects in which you will concentrate, to achieve depth and competence in one or more fields. Roughly half the work of the last two years is devoted to the major program. Some departments offer two major programs: one, a program of intense and sophisticated preparation for postgraduate study; the other, a more general program for the person whose interests are not professional.

Almost all departments have an honors program for those of you who have demonstrated particular ability during your first two years. Most departments also have tutorials which permit you to pursue your independent interests under faculty supervision. The College also offers experimental courses which cut across the lines of traditional disciplines. The courses of study offered by both departments and special interdisciplinary programs are described in the pages that follow.

Admission

The College seeks a diverse, competent student body; no single criterion is employed for its selection. Instead, the College looks for intellectual ability, achievement, and motivation for study, in addition to a wide range of other qualities and characteristics. The College is also continuing its effort to identify and admit students whose schooling and family background indicate that standard measures are a poor index of their abilities. It is the policy of Cornell University actively to support equality of educational opportunity. No student shall be denied admission to the University or be discriminated against otherwise because of race, color, creed, religion, national origin, or sex.

For detailed information about entrance requirements, application procedures, spring term admission for freshmen, delayed enrollment, early admission, the Early Decision Program, and the Early Evaluation Plan, see the *Announcement of General Information*.

Transfers

The College encourages transfer applications, including those from veterans as well as from students who are completing associate degree programs in junior or community colleges. All transfer applicants will be expected to have had preparatory work equivalent to that prescribed for Cornell students. Additionally, an applicant's progress in meeting the distribution and language requirements will be examined carefully. For further instructions transfer applicants should refer to the *Announcement of General Information* and to the brochure *Transfer to Cornell*.

Students seeking admission to the College of Arts and Sciences from another undergraduate division of Cornell must first complete a term of successful study in that division before a decision can be made on their internal transfer application.

Transfer Credit

The College evaluates the course credits received from either another college of Cornell University or from another accredited institution of collegiate rank to determine the number of credit hours you may apply toward the degree of Bachelor of Arts. Tentative credit evaluations are normally provided to external transfers at the time of their notification of admission. Ordinarily total transfer credits may not exceed sixty hours, and no more than twenty hours may be in courses not commonly given by the College of Arts and Sciences. In order to earn the degree of Bachelor of Arts, you must spend at least four semesters or three regular semesters and one summer session of at least six weeks in residence in the College of Arts and Sciences and typically during that time must successfully complete at least sixty hours of courses. (See also *Residence and Credit* p.10.)

Special Students—Junior Year at Cornell

Each year a number of Special Students are enrolled in the College. These students typically enroll for a normal course load each semester, and usually complete only two terms in residence. Special students are expected to take the major portion of their course work in the College of Arts and Sciences. The students may be studying *in absentia* from their parent college or they may be college graduates or undergraduates with specific academic reasons for studying at Cornell. They are not candidates for a Cornell degree.

One attractive option for some undergraduates of other universities and colleges is to spend the junior year at Cornell since Cornell often offers a greater variety of courses than is available at other schools.

Part-Time Student Program

The College has a part-time degree program for residents of the Ithaca area who are twenty-three years of

age or older. The program is designed as a service for locally employed residents and their spouses.

Applicants to the Program are expected to present the normal admissions credentials, although exceptions can be made. Up to sixty credit hours of previous college work may be accepted as transfer credit toward the Cornell degree, but enrollees may begin as freshmen. As a registered part-time student, you are expected to make continuous progress toward the completion of degree requirements. Normally, up to ten hours of credit may be taken each semester. Transfer from full-time to part-time status, or vice versa, is possible only with the permission of the Committee on Academic Records and the College's admissions director.

Part-time students will be required to complete all normal academic degree requirements of the College with the exception of the College's full-time residency stipulation.

Special Opportunity Programs

Cornell University administers a variety of special opportunity programs designed to provide financial assistance and other forms of assistance to low-income, minority students and others meeting program guidelines. Special programs exist to aid in increasing representation of students from minority groups present in New York State who historically have been underrepresented in higher education. For details, consult the *Guide for Candidates* which accompanies each undergraduate application or will be sent by the Office of Admissions, Cornell University, 410 Thurston Avenue, Ithaca, New York 14853.

Scholarships and Financial Aid

The Office of Scholarships and Financial Aid, 203 Day Hall, administers scholarship funds available to students in the University. Some scholarships are open to any student in the University; others are open only to students in the College of Arts and Sciences. An entering student who wishes to apply for financial aid should complete the application form that accompanies the application for admission.

For details about Cornell, state, and federal programs, see the financial aid brochure and the *Announcement of General Information*.

Advising

Undoubtedly there will be times when you will want advice about any one of a number of academic concerns, from developing an exciting plan of study to problems with studying. The advisers and staff of the Academic Advising Center, 134 Goldwin Smith Hall, and the staff of the Dean's Suite in Goldwin Smith, are available to talk with you and to suggest other sources of information and aid that you may find helpful. You also will be able to call upon your faculty and student advisers, your major adviser, and the staff of departmental advising centers, designed

especially to provide advice about courses and majors in particular departments.

As freshmen, you will be assigned to faculty and student advisers during the summer before your arrival at Cornell. During Orientation Week, you will meet with your faculty and student advisers and also with faculty representing all departments of the College. Your advisers will help you plan your program before registration begins.

Following your first course registration, you may seek advice at any time from any of the people listed above. Although your faculty and student advisers will try to be in touch with you throughout the year, your own initiative in seeking advice is essential.

As second-term sophomores, you must approach the department of your choice, ask to be accepted to that major, and be assigned a major adviser. Some of you will find that an interdisciplinary major best suits your goals (see Independent Major Program p. 164).

As juniors you must have been accepted by an academic department or special program and assigned a major adviser before you can register. Junior transfers will have been accepted to a major as a condition of acceptance to the College. The major adviser is the person who declares that the graduating senior has fulfilled major requirements for the degree.

It is your responsibility as an upperclassman to meet with your major adviser during preregistration and registration to discuss your program for the coming term, and to discuss as much more as seems valuable to you both. Your major adviser's signature on the course registration schedule signifies consent. Your adviser's consent is also required for exceptions, such as *in absentia* study, acceleration, summer school, and general petitions.

Registration and Preregistration in Courses

All academic courses of the University are open to students of all races, religions, ethnic origins, ages, sexes, and political persuasions. No requirement, prerequisite, device, rule, or other means shall be used by any employee of the University to encourage, establish, or maintain segregation on the basis of race, religion, ethnic origin, age, sex, or political persuasion in any academic course of the University.

New students (incoming freshmen and transfers from other institutions) will be notified early in July by the Academic Advising Center about registration procedures. As a new student you do not preregister for your first-term courses.

Continuing students should have preregistered the previous term. If you did not preregister, but wish to continue in the College, you must pay a \$10 fee. You may then add and drop courses through the first three weeks of classes free of further charge. You should, however, register on registration day even if

you did not preregister the previous term. If you fail to do so, there will be an additional \$10 fee; further, after the first week, you are required to petition for permission to register. If you do not register, and do not apply for a leave by the end of the first two weeks of classes, you will be withdrawn from the College. (See p. 18 for information about leaves and withdrawals.)

Rejoining students (those of you returning after a regular leave of absence) should notify the Academic Advising Center of your intention to rejoin at least one month before the beginning of the term. If you were suspended, or took a conditional leave of absence, you may rejoin only in accordance with the College's special instructions. Inquiries may be directed to the Secretary, Academic Records Committee, 144 Goldwin Smith Hall.

Remember that preregistration is not the same as registration, and that you must register with *both* the College and the University.

Changes in registration may be made without fee during the first three weeks of classes. Add-drop change slips are available in room 142 Goldwin Smith Hall. However, you must consult the appropriate professor to insure that space is available in the course for which you wish to register, and that work missed can be adequately made up. After the first three weeks of classes, there will be a \$10 fee for changes in registration. Only in unusual circumstances should you add a course after the first three weeks of classes, and only for medical or compelling personal or academic reasons may a course be dropped after the first eight weeks.

Registration for or completion of fewer than twelve hours a term, except by petition, will result in unsatisfactory academic standing. You may register for no more than eighteen hours a term unless your previous term's average was 3.0 or higher. In that case you may register for up to twenty-two hours. Others wishing to register for more than eighteen hours must consult with an adviser in the Academic Advising Center or a major adviser. First-term freshmen may not register for more than eighteen hours. An average of fifteen hours a term is considered satisfactory progress toward a four-year degree. (For further information, see Credit, p. 10.)

You should consult the list of Important Dates, p. 5, to avoid missing deadlines.

Requirements for Graduation

Status of Requirements

Occasionally, College requirements are modified to reflect changing concepts of the purpose of a liberal education. For the most up-to-date information on requirements, you should consult the quarterly *Arts College Bulletin*, or the Academic Advising Center.

College requirements include (1) residence, (2) credit, (3) Freshman Seminars, (4) foreign language, (5) distribution (four groups), and (6) the major. The

10 Requirements for Graduation

University requires you to complete four terms of physical education.

A student may not use the same course to fulfill more than one College requirement, with three exceptions. First, a course may be used for fulfillment of a College requirement and for fulfillment of a major requirement, provided the major department agrees. Second, a one-semester course in foreign literature that is acceptable as a means of achieving proficiency in that language and also as partial fulfillment of the distribution requirement in the humanities may be used for both purposes. Third, foreign students who take English 211-212 may fulfill both the Freshman Seminars requirement and the humanities or expressive arts distribution requirement by taking two Freshman Seminars offered by one of the following departments: English, History, History of Art, Classics, Philosophy, Romance Studies, Russian Literature, German Literature and Comparative Literature. Courses used to fulfill College requirements may be taken on an S-U basis (see Grades and Academic Standing p. 13).

Residence

Candidates for the degree of Bachelor of Arts normally spend eight terms in residence. However, you may use advanced placement or other additional credit to graduate in six or seven terms (see Acceleration, p. 17). Students other than transfers are normally expected to earn at least ninety hours of credit during their terms of residence at Cornell. Transfers must spend a minimum of three regular terms and one Cornell summer session in residence, earning at least sixty hours of credit during that time. You may spend a ninth term in residence by notifying the Records Office, 144 Goldwin Smith Hall, of your intention to do so.

Credit

To receive the degree of Bachelor of Arts, you must earn at least 120 hours of credit of which 100 hours must be in courses taught in the College of Arts and Sciences. Some courses taught in other colleges of the University, including those that your major adviser certifies as part of your major program, may be counted as part of the 100-hour requirement. For information about specific courses, consult the Records Office.

The College does not grant credit for all courses offered by the University. Courses in remedial reading and writing, physical education, and most military training courses are among those for which credit toward the degree is not given.

You may elect to repeat a course. If the instructor certifies that the course content has been changed appreciably, credit may be granted a second time; if the course content has not changed, the course may be repeated to obtain a better grade, but without credit the second time. Courses that you have failed may be repeated for credit. Information about this option may be obtained at the Scheduling Office, 142 Goldwin Smith Hall.

Advanced Placement Credit

See p. 14.

Transfer Credit

See p. 8.

Summer Session Credit

You may earn credit toward the degree by completing courses in Summer Session at Cornell or at other colleges. Upperclassmen should consult their advisers regarding summer study plans.

Credit for non-Cornell summer courses must be approved by the chairperson of the appropriate Cornell department. The Records Office can supply forms and information.

Entering students who wish to receive credit toward the degree for courses completed in Summer Session at Cornell or elsewhere, should have transcripts sent to the Academic Advising Center during the summer before matriculation.

Credit by Examination

See Advanced Placement pp. 14-17, and the *Announcement of General Information*.

Freshman Seminar Program

D. Connor, director

The first purpose of the Freshman Seminar Program is to help you improve your ability to write. This means developing every skill, from spelling and grammar to syntax and style; from acquisition of vocabulary to better organization of arguments. The stress is not merely on acquiring techniques but on improving an intellectual process.

The enrollment in every section is limited so that each of you may participate in the Seminar, and so that each instructor may give individual help in writing. *All* of the sections stress writing. The frequency and length of the assignments vary; in some courses weekly papers are assigned.

No college curriculum can ignore the importance of writing decent prose. It is our hope that we will encourage the stimulus to composition by providing you with stimulating subjects to write about. There are over thirty topics to choose from, and the instructors in the Program come from more than a dozen departments. Complete descriptions are published each term in a separate brochure. The College requires that you complete two one-semester courses in the Freshman Seminar Program. Normally the requirement is met during the first year. Foreign students who take English 211-212 and who also take two of the Seminars offered by the humanities departments will be fulfilling the distribution requirement in the humanities or expressive arts. With that exception, courses used to meet the Freshman Seminar Program requirement may not be used to satisfy the distribution or language requirements. Enquiries should be

addressed to the Office of Special Programs, 159 Goldwin Smith Hall.

Foreign Language

The language requirement can be met by attaining Qualification in two languages, or by attaining Proficiency in one language.

Qualification in a modern foreign language can be achieved in any of four ways: (a) by successful completion of course 102, 112, 134, or, in the case of transfer students, any first-year two-semester college course; (b) by a score of 560 or more on the reading portion of the College Entrance Examination Board (CEEB) Achievement Test; (c) by special examination administered by staff members of the Department of Modern Languages and Linguistics in cases where no CEEB tests exist; (d) by three or more years of high school study in the language.

Note, however, that if you have obtained Qualification by virtue of three or more years of high school study, you cannot be placed in a 200-level course unless you have received a score of 560 or above on the CEEB test.

Proficiency in a modern foreign language can be achieved in either of two ways: (a), by successful completion of a three-hour course at the 200 level or above for which Qualification, by (a), (b), or (c) (but not [d]), above, is a prerequisite (excluding Freshman Seminars) or, in the case of transfer students, any advanced course in language or literature in the original; (b) by advanced placement credit (see p. 16) equivalent to (a).

Qualification in Semitic and Classical languages can be achieved in any of four ways: (a) successful completion of Semitics 200 (Hebrew), Semitics 210 (Arabic), Greek 103, Latin 106 or 108; or, in the case of transfer students, any three-semester college course; (b) by a score of 560 or more on the reading portion of the College Entrance Examination Board (CEEB) Achievement Test or, in Hebrew, a CEEB score of 500 or a Regents' score of 90; (c) by special examination administered by staff members of the Departments of Classics or Semitic Studies in cases where no CEEB tests exist; (d) three or more years of high school study in one or more languages.

Proficiency in Semitic and Classical languages can be achieved in either of two ways: (a) successful completion of Semitics 201 (Hebrew), Semitics 211 (Arabic), Greek 203, any two- or three-hour Latin course beyond 108; or, in the case of transfer students, any advanced course; (b) advanced placement credit equivalent to (a). (See p. 16.)

Special Cases

If the language you are offering for Qualification or Proficiency is not taught at Cornell, you may arrange for examination through the Academic Advising Center.

If you enter with three or more years of high school language study, you will be required to take placement examinations. You may not automatically enter 200-level courses. For information on placement into language courses, see p. 16.

If you are a native speaker of a language other than English, you may request exemption from the language requirement. Your proficiency in both the spoken and written forms of the language must be certified by an appropriate member of the faculty. You may be granted a maximum of six hours of credit if you can demonstrate proficiency equivalent to course work on the 200 level or above at Cornell. Additional credit may be considered only for those of you who pursue advanced work in your native language.

Distribution

The purpose of the distribution requirement is to give you the opportunity to explore new areas and to give breadth to your education. You are required to complete a minimum of six hours (two courses) of related course work in each of four areas: Group I, physical or biological sciences; Group II, social sciences or history; Group III, humanities or expressive arts; Group IV, mathematics or a subgroup not elected in fulfillment of I, II, or III. With the exceptions noted on p. 10, the same course may not be used to satisfy more than one distribution requirement. Normally, the two courses must be taken in the same department of the College. You should complete at least the major portion of this requirement during your first two years.

Two Africana Studies and Research Center courses from the appropriate group may be used in fulfillment of one of the following distribution requirements: social sciences, history, humanities, expressive arts. Those of you who are not Africana Studies and Research Center majors may petition to satisfy a second of the four requirements listed above with Africana Studies and Research Center courses if you are carrying a heavy program of courses given by the Center. Again, the courses must be in the same area as the distribution which they satisfy. You may not, however, use Africana Studies courses as a substitution for the natural sciences requirement. Africana Studies language courses and courses used to satisfy the Freshman Seminars requirement may not be used to fulfill a distribution requirement.

The specific courses which satisfy each of the four groups of the distribution requirement are listed below.

Group I. Physical or Biological Sciences

a. Physical Sciences. *Astronomy:* 101-102 or 111-112. *Chemistry:* 103, 207, or 215 and 104, 208, or 216. *Geological Sciences:* 101-102. *Physics:* 101-102, 201-202, 207-208, or 112-213, or the first term of any of these sequences followed by the second term of another. Physics 201-202 is particularly designed for students who do not expect to do further work in any branch of science.

12 Requirements for Graduation

b. Biological Sciences. 101, 103 and 102, 104; or 109-110; or 105-106; or advanced placement with a score of 4, plus Biological Sciences 107; or advanced placement with a score of 5.

Group II. Social Sciences or History

a. Social Sciences. *Africana Studies:* any two of 171, 172, 231, 290, 301, 302, 344, 345, 346, 351, 352, 420, 460, 484, 485. *Anthropology:* any two courses totaling six hours (crosslisted courses not included). *Archaeology:* 100 with any one of the following, Anthropology 150, 303, 350, 354, 355, 356, 493, 494, 664, 666, 667. *Economics:* 101-102. *Government:* any two of 111, 131, 161, 181; or one of 111, 131, 161, 181 followed by a 300-level course in the same area. *Linguistics:* 101-102 or a combination of Linguistics 101 and any other course for which Linguistics 101 is a prerequisite. *Psychology:* any two courses totaling six hours (Human Development and Family Studies 115 and Education 110 may be counted). *Sociology:* any two courses totaling six hours. *Center for International Studies:* any two courses totaling six hours. *Women's Studies:* 101 and any one of the following, 244, 321, 337, 353, 366, 384, 422, 635, 684.

b. History. *Africana Studies:* any two of 203, 204, 231, 283, 344, 360, 361, 381, 460, 475, 483, 490. *History:* any one-year sequence in 100- through 300-level courses, or any two related history courses (as specified in a listing of options on file in the Arts College Office).

Group III. Humanities or Expressive Arts

a. Humanities. *Africana Studies:* any two of 219, 321, 322, 422, 465, 492. *Archaeology:* 100 and any one of the following, Classics 220, 221, 320, 629, 630; Semitics 243, 244, 282, 330, 345. *Asian Studies:* six hours of any 300-level courses listed under Asia, Literature and Religion which form a sequence. *Classics:* (a) any two courses in Greek beginning with 201 or in Latin beginning with 207 that form a reasonable sequence; or (b) any two of 119, 120, 200, 221, 222, 224, 225, 236, 300, 320, 331, 332, 336, 339, 430. *Comparative Literature:* any two of the 200- or 300-level courses in literature which form a sequence. *English:* any two courses at the 200 level or above, other than those numbered in the 80s and 478, 479, 496 and 678. *Modern Foreign Literatures.* *French Literature:* 201 and 202, 221, 222 or any 300-level course. *German Literature:* any two courses at the 200 level or above. *Italian Literature:* 201-202. *Spanish Literature:* any two of 201, 315, 316, 317, or any 300-level literature course. *Russian Literature* any two courses at the 200 level or above. *Philosophy:* any two courses except (a) Philosophy 100 if used in satisfying the Freshman Seminars requirement, and (b) a combination of two formal logic courses such as 231, 431, 432, and 436. *Semitics:* any two courses at the 200 level or above, except language courses. Hebrew 300-301 may be used to fulfill the requirement. *Women's Studies:* 360-361 or 648-748.

b. Expressive Arts. *Africana Studies:* any two of 137, 138, 303, 465. *Archaeology:* 100 with any one of the following, History of Art 210, 215, 315, 316, 322, 323, 324, 415, 424, 431, 488. *English:* any two courses at the 200 level or above numbered in the 80s. *History of Art:* any two courses at the 200 level or above. *Music:* any six hours, with a maximum of three hours in courses from 331 through 338, and 441 through 444. *Theatre Arts:* any two three- or four-credit courses.

Group IV. Random Distribution

One of the subgroups not used in satisfaction of group I, II, or III may be used, or *Mathematics:* any six hours not including more than one course from 105, 107, 303; Computer Science 100 plus one of 101, 102, 104, or 106 may be used for three of these hours. The mathematics distribution requirement is also satisfied by a score of 3 on the CEEB-BC examination. However, Mathematics 109 or Orientation 115, College of Agriculture and Life Sciences, may not be used.

The Major

You must be accepted as a major by a department or a special program before preregistering for your junior year. Most departments and programs specify certain prerequisites for admission as a major; consult the department listings in the section Courses of Instruction, beginning on p. 21. A department may refuse to continue as a major advisee any student whose performance is not meeting department standards. Some majors require courses in related subjects outside the major department and/or outside the College; these courses outside the College are counted as part of the 100 credit hours in the College of Arts and Sciences required for graduation. Independent majors fulfill the requirements approved for them by the Independent Major Board (see Independent Major Program, p. 164).

Physical Education

You must complete the University requirement of four terms of physical education during your first four terms of residence. These courses are described in the publications made available at registration by the Department of Physical Education and Athletics. You are automatically registered for physical education by that department until the requirement is completed.

Possible Excuses and Postponements for Physical Education. (1) Medical: The Academic Advising Center must receive a recommendation from Gannett Clinic. The Clinic may recommend either a postponement, an excuse for the term, or an exemption from the requirement. (2) Self-help employment: If you are working at least twenty hours a week and can prove financial need, you may apply to the Office of Scholarships and Financial Aid for an excuse for that term. (3) Military service: veterans are excused from fulfilling the requirement. (4) Age: Students twenty-

two years of age or more when entering the University are excused from fulfilling the requirement. (5) Parents responsible for the care of young children may ask to be excused from fulfilling the requirement at the Academic Advising Center. Any questions about the requirement should be directed to Dean Lefferts, 134 Goldwin Smith Hall.

Electives

You must complete fifteen hours of courses not offered in satisfaction of requirements and not given by the major department. Your major adviser must certify that you have met this requirement.

Petitioning

If, for sound academic reasons, you wish to petition for an exception to the requirements, consult a member of the Academic Advising Center.

Grades and Academic Standing

Passing grades for courses range, in descending order, from A+ through D-. F is a failing grade. No credit toward graduation will be given for a course in which a failing grade has been received, unless the course is repeated and a passing mark received. Final grades A+, A, A- mean *excellent to very good*; B+, B, B- mean *good*; C+, C, C- mean *satisfactory*; D+, D, D- mean *marginal*; F means *failing*—unacceptably low level of knowledge and understanding of subject matter, severely limited perception and/or originality.

S-U Grades

You may elect (within the first three weeks of the term) to receive a grade of S (satisfactory) or U (unsatisfactory) instead of one of the letter grades (A+ through F), provided that the instructor is willing to assign such grades. A grade of S is equivalent to a grade of C- or higher; a grade of U is equivalent to any grade below C-. S means you receive the credit specified for the course; U means no credit will be given. Unlike the grades A+ through F, the grades S and U are not used in calculating your grade average.

Courses which will count toward satisfaction of your major requirements should not be taken for an S or U grade unless the department grants permission. You may elect the S-U option in courses used to satisfy distribution and language requirements provided that such courses do not also count toward your major requirements or serve as prerequisites for admission to the major. You are advised to use the S-U option sparingly if you intend to apply to graduate school or for transfer to another college. There is no limitation on the number of courses each term for which you may elect the S-U grade option. However, within the

120 hours required for the degree, a minimum of eighty hours must be in courses for which you have received a letter grade.

If you elect the S-U option in a course, you must file a permission card with the Scheduling Office, 142 Goldwin Smith Hall. No change in grading option can be made after the first three weeks of any term.

Some courses are offered exclusively for S or U grades, while others are offered only for letter grades. For most courses, however, you may choose the option you prefer.

Incomplete Grades

The grade of *incomplete* signifies that you failed to complete a course for reasons acceptable to the instructor. Each instructor retains complete discretion for determining the circumstances for which incompletes will be given. You must have substantial equity in the course; that is, you must be able to complete the remaining work without further registration, and you must have a passing grade for the completed portion.

When a grade of *incomplete* is reported, the instructor will state what work you must complete, when it must be completed, and what grade should be awarded if the work is not completed by that date. If a grade is not assigned, the *incomplete* will be frozen. Unless the instructor stipulates otherwise, you will be allowed one term plus one summer to make up the work.

The grade of *incomplete* remains on your record permanently even after the final grade is recorded.

Special Grading Arrangements

Certain courses in the College are offered with special grading arrangements. Some courses are offered with the option of taking up to two semesters to complete a modular course. If you complete the course by the end of the first term, the grade is recorded as usual. If the course is not completed, an asterisk on your record makes clear the option of continuing, and the course is again recorded and the grade noted on the second term report.

The letter "R" is available for courses that are designed to be two-semester or year-long courses. The R is recorded at the end of the first term; the grade recorded at the end of the second term describes the level of performance in the course throughout the year.

Academic Standing

You will be considered in good standing for the term if you successfully complete at least twelve hours by the end of the term and receive no more than one D and no grade of F or U. If your record falls below this level or if you fail to make satisfactory overall progress in grades, or in hours (whether due to failures or incompletes), or in the requirements of the College or the major, you may at any time be warned, placed on

"final warning," suspended for a specific period of time (e.g., at least one year), or forbidden to register again in the College. A general guideline is that you should be progressing toward the completion of degree requirements with at least five-sixths of your hours at a grade of C (not C-) or better.

You will not be allowed to register for the first term of your junior year unless you have acceptance into a major program of a department.

All requirements for the degree must be completed by the degree date. There will be no changes in the record after graduation except to correct clerical or administrative errors. Grades, including incompletes, will remain unchanged.

Dean's List

The requirements for the Dean's List are determined by the dean and may vary from term to term. The specific criteria for a given term, together with the list of students who have met those criteria, will be posted on the bulletin board opposite 144 Goldwin Smith Hall as soon as this information is available. In general, a 3.5 grade point average in a program of at least fifteen credit hours taken for letter grades (with a correspondingly higher average required if only twelve, thirteen, or fourteen hours are taken for letter grades) and the completion of all work by the end of the semester are required.

Bachelor of Arts with Distinction

The degree of Bachelor of Arts with distinction in all subjects will be conferred upon those of you who, in addition to having completed the requirements for the degree of Bachelor of Arts, (1) have completed at least sixty credit hours while registered in regular session in the College of Arts and Sciences; (2) have received the grade of B- or better in at least three-fourths of the total number of hours taken while registered in this College; (3) have received the grade of A- or better in at least one-half of the total number of hours taken while registered in this College; (4) have received a grade below C- in no more than one course; (5) have received no failing grade; (6) have maintained good standing in each of your last four terms; (7) have no incompletes remaining on your record.

Bachelor of Arts with Honors

The degree of Bachelor of Arts with honors will be conferred upon those of you who, in addition to having completed the requirements for the degree of Bachelor of Arts, have satisfactorily completed the honors program in your major subject and have been recommended for the degree by the department representing your major subject or by the Independent Major Board.

Honors programs are designed for exceptionally promising students to broaden and deepen their understanding of their field of special interest, to ex-

plore branches of their subject not represented in the regular curriculum, and to gain experience in original investigation. Candidates for the degree of Bachelor of Arts with honors are usually required to pass a comprehensive examination in their major subject or to submit a thesis or some other satisfactory evidence of capacity for independent work. The degree with honors may be awarded at one of three levels: *cum laude*, *magna cum laude*, or *summa cum laude*.

When performance does not justify a degree with honors, course credit toward the degree of Bachelor of Arts may be received for the work done. Students may, after admission to honors, revert to candidacy for the regular Bachelor of Arts degree.

Special Arrangements

Advanced Placement

You may receive advanced placement credit toward the degree or placement into sophomore-level courses or both, if you have done college-level work in high school or have studied college material in some other way. All advanced placement and credit is recommended by the individual academic departments. With a few exceptions the awarding of credit is not conditional upon further study of that subject at Cornell.

Advanced placement credit may sometimes be used to satisfy distribution or major requirements. However, the College recommends using it as an opportunity to take more advanced work or a broader program, rather than as a means to reduce the number of credit hours carried each semester. If you wish to use advanced placement credit to reduce the number of terms in residence at Cornell, see the section on Acceleration, p. 17.

Those of you who have completed college courses for which you wish to receive credit toward the Cornell degree should send transcripts and course descriptions to the Records Office, 144 Goldwin Smith Hall. The award of credit and/or placement for such courses is, like all advanced placement and credit, determined by the appropriate departments.

If you have done college-level work in high school and wish to receive advanced placement credit and/or advanced placement, you can provide evidence of your achievement by: (1) asking the College Entrance Examination Board (CEEB) to send Advanced Placement (AP) or College Level Examination Program (CLEP) examination scores to the Records Office, or (2) arranging to take departmental advanced placement examinations when you arrive on campus. Advanced placement can then be announced by the time of registration so that you can choose your courses accordingly.

The departments which award advanced placement and/or credit on the basis of AP, CLEP, or departmental examinations are shown below.

Biological Sciences

If you earn a score of 5 on the CEEB Advanced

Placement Examination in biology, or if you have a superior performance on a special departmental examination, you will receive eight credits and be permitted exemption from all introductory biology courses, including Biological Sciences 107. If you complete Biological Sciences 107, you will receive an additional four credits.

If you score 4, you may take Biological Sciences 107 and upon successful completion of this course, receive eight credits. You will not be given credit or standing for a score of 4 only. You may not enroll in Biological Sciences 107 unless you have a score of 4 or 5 and the permission of the instructor.

No matter what your score, you need not accept advanced standing. You may take whatever introductory biological sciences course seems appropriate to your interests, but you will forfeit advanced credits.

If you feel prepared, you may arrange to take the departmentally administered examination by requesting permission in advance from the General Biology Office, 310 Roberts Hall. This examination is given only once, during Orientation Week. A sheet describing exam content and format, eligibility, fee and credit is available by writing to the Academic Advising Center.

Advanced placement with a score of 4 plus Biological Sciences 107, or advanced placement with a score of 5 fulfills the biological sciences distribution requirement.

Chemistry

The Department of Chemistry offers two sequences that satisfy prerequisites for further work in the Department — an eight-hour sequence which includes qualitative analysis (Chemistry 207-208), and a nine-hour sequence which includes both qualitative and quantitative analysis (Chemistry 215-216). The college-level chemistry course offered by some secondary schools corresponds roughly to Chemistry 207-208. CBA (Chemical Bond Approach) and CHEMS (Chem Study) are not considered sufficient preparation for advanced placement.

Freshmen may qualify for advanced placement and seven hours of advanced placement credit for Chemistry 207-208 with a score of 5 on the Advanced Placement Examination in Chemistry, or by passing a special examination available from the Department of Chemistry. Before taking the special examination, consult with Professor F. R. Scholer. A score of 4 or 3 on the Advanced Placement Examination earns three hours of advanced placement credit for Chemistry 207 and placement in Chemistry 208. However, students receiving advanced placement credit for Chemistry 207 who are interested in chemistry or a related science major should consider taking Chemistry 215-216 and should consult with Professor J. R. Wiesenfeld, Department of Chemistry.

Economics

The Department of Economics will grant six hours of advanced placement credit to students who score 600 or higher on the CLEP examination in introduc-

tory economics before entering Cornell. Such students will be admitted to courses for which Economics 101-102 is a prerequisite. CLEP scores should be submitted to the Academic Advising Center.

English

For exceptionally well-qualified freshmen, the Department of English will recommend three or six hours of advanced placement credit, and freshmen for whom such credit has been recommended will also be eligible to enroll in certain intermediate courses in English and American literature. The Department's decision to recommend advanced placement credit will be based on performance on the CEEB English Composition or Literature Achievement Test, and on the CEEB Advanced Placement Examination in English (if it has been taken). Secondary school grades, including grades in any advanced placement (or "honors" or "enriched") courses, will also be considered. The Department will not exclude from consideration for advanced placement credit the student who has not taken an advanced placement course or the CEEB Advanced Placement Examination in English, nor will it base a decision to recommend advanced placement credit on any one piece of evidence — such as a score on the Advanced Placement Examination — alone. The Department does not give placement examinations.

Advanced placement credit awarded in English may not be used to satisfy the Freshman Seminars requirement, or the humanities or expressive arts distribution requirements.

Freshmen who do not receive advanced placement credit, but whose test scores and secondary school records in English are impressive, may seek to enroll in certain intermediate courses in English and American literature during their first term at Cornell. Consult Professor Scott McMillin, 260 Goldwin Smith Hall.

History

The History Department will grant four credit hours to students who score a grade of 4 or 5 on the CEEB Advanced Placement Examination in European History, and four credit hours to those with similar scores on the American History Examination.

Advanced placement credit may *not* be used to satisfy the distribution requirement in history, nor will it be accepted as meeting any part of the Department's requirements for the history major.

History of Art

College Board Advanced Placement Examination papers must be reviewed by the Department in order to receive credit. Students who receive a grade of 4 or 5 may receive a maximum of three hours of credit and be eligible to register for 300-level courses in history of art. Questions concerning advanced placement may be referred to Mrs. Carol O'Brien, administrative supervisor, 35 Goldwin Smith Hall.

Languages

Classical Languages. Placement in Latin courses other than beginning Latin is normally determined by an examination administered by the Department of Classics during Orientation Week.

Tentative placement only may be made on the basis of College Board Achievement Test scores and/or previous training: two years of high school Latin for Latin 108; three or four years of high school Latin for 207, 208, or 215. Tentative placement in a 300-level Latin course is permitted to those entering freshmen who have passed the College Board Advanced Placement Examination in Latin with a score of 4 or better; such freshmen may also, at the Department's discretion, be required to take the Department's own examination during Orientation Week. If permitted to register in a 300-level course, students will be given six hours of advanced placement credit, and will be considered to have satisfied the language requirement of the College.

For advanced placement in Greek students should consult the chairman of the Department of Classics.

Modern Foreign Languages. If students attain a score of 700 or above on the CEEB examination, they are eligible to take the Advanced Standing Examination administered by the Department of Modern Languages and Linguistics. They will be placed in the appropriate language course on the basis of their performance in this examination; advanced standing credit (see below) may also be awarded on this basis. Native speakers of languages other than English may gain six hours of credit upon examination by the appropriate professor if they can demonstrate proficiency in reading and writing the language of their birth.

If students have two or more years of high school credit for language study and wish to continue study in that language, they must present a CEEB score. They will choose which course to take on the basis of the information given in the Placement Guidelines, a document which is sent to all incoming students and is posted at testing and advising centers. The Placement Guidelines match CEEB reading scores with courses at various levels. Placement in language courses for which no CEEB test exists is done in consultation with the appropriate professors in the Department of Modern Languages and Linguistics. If students have had a year of formal study or substantial informal study since they last took the CEEB test, they are permitted to take it again (e.g., in August). CEEB tests are administered by the University Guidance and Testing Center at Cornell before registration in August and in December, January, and May.

Advanced standing credit, which may be used to wipe satisfaction of the language requirement (see p. 11) is granted as follows:

1. For high school work, credit is granted only for the equivalent of 200-level courses (three to eight hours). Credit in this case is awarded according to performance in the CEEB Advanced Placement Examination (a score of 4 or 5 on the language examination

equals three hours of credit), Cornell's Advanced Standing Examination, or special examination. A student receiving three credits by virtue of a score of 4 or 5 on the CEEB Advanced Placement Examination is well advised to take the Cornell Advanced Standing Examination, on which outstanding performance could provide three additional credits. A recommendation for credit is forwarded by the appropriate faculty member to the Dean's Office.

2. Credit for language work at college level (including summer study and study abroad) is granted as follows:

- a. For formal work at an accredited college, credit is considered by the Dean's Office upon submission of a transcript.
- b. For summer study or study abroad at any time, students must petition for transfer of credit in the usual way (i.e., with the permission and recommendation of the appropriate professor).

Semitic Languages. For advanced placement and credit in Semitic languages, students should consult with the Department of Semitic Languages and Literatures, 166 Rockefeller Hall. Advanced placement and credit are determined as follows:

Hebrew: Students may be admitted to the first term of Intermediate Hebrew (Semitics 200) by departmental examination. To be admitted to the second term (Semitics 201), students should achieve scores of 500 on the CEEB examination. If they receive scores of 650 or above on the CEEB examination, they may be admitted to Advanced Hebrew (Semitics 300), and will receive five hours of credit. If students show evidence of knowledge beyond Semitics 300 they will receive eight hours of credit in Hebrew.

Arabic: Placement and credit are determined by departmental examination.

Literatures

French Literature. The Department of Romance Studies grants three hours of credit to students with a score of 5 on the CEEB Advanced Placement Examination in French literature. (Students who want to continue for a major will be exempted from French 202.) Students with a score of 4 will receive three hours of retroactive credit if they get a grade of B+ or higher in a first introductory course taken with this Department.

Spanish Literature. The Department of Romance Studies grants three hours of credit to students with a score of 5 on the CEEB Advanced Placement Examination in Spanish literature. (Students who want to continue for a major will be exempted from Spanish 201.) Students with a score of 4 will receive three hours of retroactive credit if they get a grade of B+ or higher in a first introductory course taken with this Department.

Mathematics

The Cornell calculus sequences discussed below are described under "Basic Sequences" in the Mathematics section of this *Announcement*.

The regular freshman calculus courses at Cornell do not differ substantially from calculus courses given in many high schools, and it is best to avoid repeating material that has already been covered at an appropriate level. Secondary school students who have had the equivalent of at least one semester of analytic geometry and calculus should, if possible, take one of the CEEB's two Advanced Placement Examinations (either the AB or BC examination) during their senior year. Students taking these examinations will automatically be offered advanced placement as detailed below.

The placement examination in mathematics offered at Cornell just before the beginning of classes in the fall should be taken if the student has (1) had at least a semester of calculus but did not take a CEEB examination; (2) received a 2 on the BC examination or a 3 on the AB, and wishes to enter the upper sequence; or (3) believes that the placement assigned on the strength of the CEEB examination is not high enough in the student's case. Students are strongly urged to take the placement test even if they feel that their grasp of the material is uncertain. Grades on placement examinations do not become part of the student's record. The Cornell examination is given only at the beginning of the year during Orientation Week. No advance registration for the exam is necessary.

A student entering the upper sequence who has a firm grounding in the first semester of calculus but cannot omit the second may, with the consent of the Department, take 122 and 221 simultaneously in the first semester. Thus, if 222 is taken in the second semester, the student may complete the sophomore course by the end of the first year.

Students with a grade of 4 or 5 on the BC examination will receive six hours of advanced placement credit and will be placed in the appropriate third-semester course (293, 295, 221, or 214–215–216–218) though students entering 293 may have to make up some material on partial differentiation. Students with a 3 on the BC examination, or a 4 or 5 on the AB, will receive three hours of advanced placement credit and will be placed in the appropriate second-semester course (192, 122, or 112). Students with a 2 on the BC exam, or a 3 on the AB, will receive three hours of advanced placement credit and will be placed in 192 or 112. Advanced placement credit will be awarded appropriately. A grade of 3 or higher on the BC exam satisfies the distribution requirement in mathematics.

Music

Advanced placement and credit are awarded only in music theory and only on the basis of a comprehensive examination administered by the Department of Music, normally during registration for the fall term. The examination can be administered at other times during the academic year by special arrangement. All students interested in taking this examination should inquire at the office of the Department of Music, 122 Lincoln Hall.

Physics

Advanced placement and credit are awarded on the basis of the CEEB Advanced Placement Examination (Physics B or C) or a departmental examination (for permission to take this examination consult Professor H. Newhall, 101 Clark Hall). Results of Advanced Placement examinations are reviewed individually by the Department, with the following as guidelines.

Physics C examination (mechanics): score of 4 or 5 (or 3 combined with a high score in mathematics AB or BC) — four hours credit for Physics 112 or 207.

Physics C (electricity and magnetism): score of 4 or 5 (with high score in mathematics) — eight hours credit for 207–208; score of 5 (with 4 or 5 on mathematics BC) — possible eight hours credit for 112–213 (requires interview with Professor R. Cotts, 522 Clark Hall).

Physics B exam: score of 3 — four hours credit for Physics 101; score of 4 or 5 — eight hours credit for Physics 101–102; score of 4 or 5 combined with 4 or 5 on mathematics AB or BC — four hours credit for Physics 112 or 207.

Advanced placement into a next-in-sequence course depends upon meeting appropriate mathematics prerequisites. It is not necessary to continue the study of physics to qualify for advanced placement credit. General information and advice may be obtained from Professor R. Cotts, 522 Clark Hall, or from the physics office.

Psychology

Students who score well on the CLEP psychology test before entering Cornell may receive advanced placement credit in psychology. To take further courses in psychology students should consult with an adviser or faculty member in the Department. CLEP scores should be sent to the Academic Advising Center.

Advanced credit based on the CLEP test may not be used to satisfy the distribution requirement. Credit toward the requirements of a major in psychology will depend upon the recommendation of the major adviser.

Sociology

The Department of Sociology will recommend advanced placement and three hours of credit for students who receive the equivalent of a B on the CLEP sociology examination before they enter Cornell and whose essay questions are considered acceptable by the Department. Students receiving advanced placement will be considered to have completed Sociology 101, to have finished one-half of the distribution requirement in sociology, and to be qualified for placement into advanced courses for which Sociology 101 is a prerequisite. CLEP scores should be sent to the Academic Advising Center.

Acceleration

Many of you will find it more in keeping with your

educational plans to earn your Bachelor of Arts degree from the College at the end of six or seven terms. If, for example, you enter the College with substantial advanced placement credit, or if you are planning graduate study and feel it would be to your advantage to complete your degree requirements early, you may choose this option. Consult a member of the Academic Advising Center for advice.

If, after receiving permission to accelerate, you decide to register for a seventh and/or eighth semester, you should notify the Records Office, in writing, by the last day of the examination period before your accelerated graduation date. If you do not fulfill your approved acceleration plan, you will be required to register for a full seventh or eighth term, unless the failure is due to reasons beyond your control.

Double Registration

With Law: If you are able to graduate in seven terms, it is possible to register simultaneously in the College of Arts and Sciences and the Law School during the seventh and eighth terms, and to receive the Cornell A.B. degree at the end of the eighth term, and the Cornell J.D. degree after only two additional years of study.

With Medicine: A similar program is available with the Cornell Medical College, and the State University of New York Upstate Medical Center in Syracuse, leading to an A.B. and an M.D. in seven years.

Acceptance to the other college or school and consent of the College of Arts and Sciences are necessary in all the above cases. For information, consult a member of the Academic Advising Center.

Dual Degree Programs with Other Undergraduate Colleges at Cornell

Upon petition it is possible to earn degrees in engineering or fine arts and a Bachelor of Arts in five years, provided plans for the joint program are begun by the end of the freshman year at Cornell. It is unlikely that transfers to Cornell will be able to qualify for the dual degree program. You should inquire at the Academic Advising Center and at the Department of Art, 100 Franklin Hall, or in the office of the Division of Engineering Basic Studies, 170 Olin Hall.

Early Concentration Programs

The German and Russian Literature Departments have instituted early concentration programs, under which students with a particular interest may, during their freshman or sophomore years, work intensively in these areas by taking a concentration of courses especially designed for this purpose. See the entries under German 211 on p. 114 and Russian 107 on p. 123.

Independent Study and Fieldwork

Independent study and fieldwork give you the oppor-

tunity to pursue special interests not treated in regularly scheduled courses. Independent study allows you to investigate such topics through reading or laboratory work, and field work enables you to receive credit for work experience related to your area of study.

If you are interested in independent study, consult the Office of Special Programs, 159 Goldwin Smith Hall. In one semester, you may earn up to six hours credit with one instructor, and up to eight hours credit with more than one instructor.

Fieldwork projects must be supported by three faculty members who serve as your Fieldwork Committee. They examine and aid you with your preparation for the project, supervise your activities, and evaluate your achievement. After consultation with your Fieldwork Committee, you must present your proposal to the Academic Records Committee for approval. You may be granted a maximum of fifteen credit hours toward your degree for fieldwork.

For additional help in preparing fieldwork proposals, consult with Dean Unsworth in the Academic Advising Center.

In Absentia Study

Some undergraduate programs can be immeasurably enriched by study abroad, or by study at another American university or college with academic programs unavailable at Cornell. *In absentia* study affords you such opportunities. The Career Center, Sage Hall, offers information on study abroad; your adviser and the Academic Advising Center can provide you with information about both study abroad and study at other American schools. Your adviser and members of the Academic Advising Center will be glad to discuss your plans for *in absentia* study with you. When your plans are final, you should submit them, with the signature of your adviser and your major department chairperson, to the Academic Records Committee. You should also secure prior approval from the appropriate department chairpersons of all courses you intend to take. The fee for *in absentia* study is \$75.

You should submit your request for permission to study *in absentia* to the Records Office by October 31, 1975 for spring term study, and by April 1, 1976 for fall term study. Your petition should be submitted by these dates even if you have not yet been accepted by the program or school to which you have applied.

Leaves of Absence and Withdrawals

A leave of absence implies your right to reregister in the College, although that right may be conditional. All leaves of absence are for an unspecified but limited time; five years is the maximum length of time you may leave a degree in abeyance.

Please note: A leave of absence is not the same as permission for *in absentia* study, and credit will by no means be automatically granted for study com-

pleted while you are on leave. Limited amounts of credit may be earned, however, if you are (a) a member of the armed services, (b) studying subjects not offered at Cornell, or (c) earning credits to submit as evidence for readmission from a conditional leave. In these cases, the appropriate Cornell department chairperson must approve the credit. The Committee on Academic Records will then review the request for credit upon readmission to the College.

Leaves of absence are of three types:

1. A leave of absence for *personal* reasons has no modifying conditions concerning your right to re-enter the College (except the five-year limit on leaving a degree in abeyance). Readmission is automatic if a request is made six weeks prior to the beginning of the term in which you wish to return. Such leaves are granted to students in good standing who request a leave before the eighth week of the semester.
2. *Medical* leaves of absence are granted by the College only upon the recommendation of Gannett Clinic. Such leaves are granted for an unspecified length of time (up to five years) with the understanding that you may return at the beginning of any term after satisfying the Clinic that the medical condition in question has been corrected.
3. A *conditional* leave of absence may be granted if you are not in good standing or, in unusual circumstances, after the end of the seventh week of the term. Normally you may not return from a conditional leave for at least one year. You must also meet the stated conditions (determined at the time of request for leave), and submit letters of support establishing your readiness to return.

If you wish to take a leave of absence for any reason, contact a member of the Academic Advising Center.

All courses for the partial term will be expunged from your record if a leave is granted. Upon readmission, your graduation date will be determined according to the length of the leave, the number of acceptable credits earned toward the degree, and College policies.

Two consecutive leaves usually will not be granted; you should therefore be certain you are ready to return and able to undertake a full program when you ask for readmission.

A withdrawal is considered a voluntary severance of connections with the University. If you wish to withdraw during a term in which you are already registered, the withdrawal must be requested before the beginning of the eighth week of classes. Upon withdrawal it is assumed that you will not wish to reregister in the College.

If you fail to register for a term and do not request a leave you will be withdrawn from the College for failure to register.

When you take a leave of absence, or withdraw, your parents are notified that such an action has been approved by the College. In unusual circumstances, you may request that such notice be withheld.

If a leave of absence or withdrawal is taken during a term for which you are already registered, you will be refunded tuition as follows:

<i>Period of time following University registration</i>	<i>Percentage of semester total refunded</i>
First six days 8/29-9/3; 1/23-1/28	100%
Seventh day 9/4; 1/29	90%
Second week 9/5-9/11; 1/30-2/5	80%
Third week 9/12-9/18; 2/6-2/12	70%
Fourth week 9/19-9/25; 2/13-2/19	60%
Fifth week 9/26-10/2; 2/20-2/26	40%
Sixth week 10/3-10/9; 2/27-3/4	20%
Seventh week 10/10; 3/5	no refund

If you take a leave of absence or withdraw after two years of study, ask at the Academic Advising Center about the New York State Regents External Associate in Arts degree.

Prelaw

There is no "prelaw major" at Cornell. However, those of you interested in the study of law are welcome to consult with members of the Academic Advising Center for further information.

Premedical Studies (Health Careers)

There is no established "premedical major" at Cornell. Since medical schools look for diverse backgrounds in potential students, you are encouraged to major in the field which interests you most, while at the same time completing certain minimum requirements for admission to a professional school. Since there is a substantial chemistry requirement, you are advised to include chemistry in your freshman course of study. A second science (biology or physics) is often included in the freshman year as well, along with English or a Freshman Seminar equivalent.

Students who intend to prepare for a career in the health professions (e.g. medicine or dentistry) are urged to visit the Health Careers Office, G-14 Stimson Hall. This office has established procedures to facilitate the eventual preparation of letters of evaluation for applicants to health careers. Advisers are available to provide counseling on academic and curricular problems in these fields. Publications and catalogues in the areas of medicine, dentistry, and related careers are available in the office.

Preparation for Teaching

You can earn provisional certification to teach in secondary schools in New York State by completing one of the state-approved programs in the College.

Each of these programs includes the requirements for the bachelor's degree, professional courses in education or psychology, and a practice teaching experience in nearby schools. Because of changing certification procedures in New York State, it is not clear which of the existing programs will be available beyond 1975-76.

The teacher preparation programs that will be offered in 1975-76 will be in English, mathematics, modern languages, and social studies. To be eligible for one of these programs, you should register no later than the end of the sophomore year at the Academic Advising Center, where additional information is available.

Student—Initiated Courses

The College encourages you to initiate proposals for new courses or modes of instruction that are not currently offered in the College, or elsewhere in the University. If such a proposed course falls within the jurisdiction of a particular department, you should seek the advice of a faculty member in the department or of the department chairperson. If an interdisciplinary course is being considered, you may seek the assistance of the Agency for Educational Innovation. The Agency is prepared to help students plan and organize innovative projects of all kinds. The Educational Policy Committee of the College must approve any course which is to count for academic credit.

For further information, consult the Office of Special Programs, 159 Goldwin Smith Hall, and the Secretary of the Educational Policy Committee, 144 Goldwin Smith Hall.

Special Programs

The College offers a wide variety of special programs. Program and course descriptions may be found on pp. 159-173.

Africana Studies and Research

College Scholar Program

Frederick George Marcham Scholar Program

German Area Studies Major

Programs in Greek and Roman Civilization

Human Affairs Program

Independent Major

Center for International Studies

Jewish Studies

Latin American Studies

Concentration in Law and Society

Medieval Studies

Military Training

Religious Studies

Russian and Soviet Studies Major

Science, Technology, and Society

Social Relations

Society for the Humanities

South Asia Program

Southeast Asia Concentration

Women's Studies

Further Information

Information on matters of general interest not contained in this *Announcement* may be found in the *Announcement of General Information*. The *Announcements* for all the colleges and schools of the University are listed at the back of this publication, and may be obtained by writing to the address given, or by inquiring at the administrative offices of the several schools and colleges.

Courses of Instruction

American Studies

R. H. Elias, chairman; M. J. Colacurcio, M. G. Kammen, R. L. Moore, R. Polenberg, S. C. Strout.

The Cornell major in American studies is basically a program of coordinated study in history and literature, since the core faculty belong to the Department of History and the Department of English. It is not a "double major," but it does prescribe more hours than either history or English does. The prerequisites are minimal: one course in British or American literature at the 200 level and one course in British or American history at the 100 or 200 level. But the major itself is structured and demanding, and the student who expects to major in American studies should apply to the chairman of the committee as early as possible.

For the purposes of American studies, American history (including literary history) is divided into three periods: colonial, nineteenth century, and twentieth century. A student majoring in American studies ordinarily takes eight hours of work at the 300 level or above in each of two of these periods, and sixteen hours at the 300 level or above in the third period, the declared area of concentration. In addition, the student takes one of the specially designated interdisciplinary seminars at the 400 or 600 level. Any of the seminars not used to satisfy this four-hour requirement may, when appropriate, be taken to satisfy a period requirement. These thirty-six hours of work are to be divided between American history and American literature; they may be divided more or less equally, or they may be split into a division of a maximum of twenty-four hours in one department and twelve in the other.

Beyond the basic requirement of thirty-six hours in American history and American literature, twelve hours above the elementary level are required in allied subjects. Eight hours of work are in the history and/or literature of another (related) culture; and four hours are in American thought, society, or culture studied from the perspective of another discipline such as anthropology, economics, government, history of art, and sociology. (This last four-hour requirement may be satisfied outside the college.)

Candidates for honors must maintain an average of

B-plus in courses pertinent to the major. To be eligible for a degree with honors in American studies a student must in the senior year (a) either write an honors essay for American Studies 493 (Honors Essay Tutorial) or must submit to the American Studies Committee three term papers written for courses in the major, and (b) take an oral examination in the declared area of special interest.

The courses listed below will satisfy the thirty-two-hour requirement described in the second paragraph; a list of courses designated as interdisciplinary seminars can be secured from the chairman.

American History

History

[311-312 The Structure of American Political History] J. H. Silbey. Not offered 1975-76.]

[313-314 History of American Foreign Relations] W. F. LaFeber. Not offered 1975-76.]

316 American Cultural and Intellectual History to 1820 F. Somkin.

[317 American Cultural and Intellectual History, 1820-1890] F. Somkin. Not offered 1975-76.]

318 American Constitutional Development M. B. Norton.

321 The Origins of American Civilization M. G. Kammen.

325 Age of the American Revolution, 1763-1815 M. B. Norton.

330 The United States in the Middle Period, 1815-1850 J. H. Silbey.

331 The American Civil War and Reconstruction J. H. Silbey.

332-333 The Urbanization of American Society S. Blumin.

340-341 Recent American History, 1920 to the Present R. Polenberg.

345 The Modernization of the American Mind R. L. Moore.

[**346 The Irrational and the American Mind** R. L. Moore. Not offered 1975-76.]

[**411 Undergraduate Seminar in American Political History** J. H. Silbey. Not offered 1975-76.]

414 Motivations of American Foreign Policy W. F. LaFeber.

416 Undergraduate Seminar in American Cultural History F. Somkin.

[**418 Undergraduate Seminar in the History of the American South** J. H. Silbey. Not offered 1975-76.]

419 Undergraduate Seminar in American Social History S. Blumin.

426 Undergraduate Seminar in Early American History M. B. Norton.

440 Undergraduate Seminar in Recent American History R. Polenberg.

[**445 Undergraduate Seminar: Deviance and Conformity in the American Past** R. L. Moore. Not offered 1975-76.]

American Literature

Africana Studies and Research Center

321 History of Afro-American Literature

322 Modern Afro-American Literature

English

361 Early American Literature M. J. Colacurcio.

362 The American Renaissance M. J. Colacurcio.

363 The Age of Realism S. C. Strout.

364 American Literature in the Twentieth Century W. J. Harris.

[**365 The Negro in American Literature** Not offered 1975-76.]

366 The Earlier American Novel: Brockden Brown to James D. McCall.

367 The Modern American Novel D. McCall.

[**460 The Political Novel in America** S. C. Strout. Not offered 1975-76.]

465 Black Literature W. J. Harris.

466 The International Theme in American Writing S. C. Strout.

[**467 Political Religion in America** S. C. Strout. Not offered 1975-76.]

468 Seminar in American Culture: Literature and Technology R. H. Elias.

[**469 Seminar in American Culture: The 1930s** R. H. Elias. Not offered 1975-76.]

[**661 The Puritan Tradition** M. J. Colacurcio. Not offered 1975-76.]

662 American Transcendentalism M. J. Colacurcio.

663 Twain, Howells, James, and the American Character R. H. Elias.

664 American Naturalism: Howells to Dreiser R. H. Elias.

[**666 Intellectual Origins of the Modern Consciousness in America** S. C. Strout. Not offered 1975-76.]

668 American Novelists: Hemingway, Fitzgerald, Faulkner A. M. Mizener.

[**690 Studies in the Psychoanalytic Tradition in Literature and History** S. C. Strout. Not offered 1975-76.]

Theatre Arts

335 American Drama and Theatre L. Eilenberg.

Anthropology

T. F. Lynch, chairman; R. Ascher, R. A. Borker, D. R. DeGlopper, V. R. Dyson-Hudson, D. J. Greenwood, L. W. Hazlehurst, J. S. Henderson, C. F. Hockett, K. A. R. Kennedy, A. T. Kirsch, B. Lambert, M. E. Meeker, J. V. Murra, J. T. Siegel, R. J. Smith.

Two majors are offered by the Department: (1) a major in anthropology and (2) a major in social relations.

Major in Anthropology

To fulfill requirements for a major in anthropology a student must take two of the following: Anthropology 101, 102, or 103 and an additional thirty-two hours chosen at the 200 level or above. Eight of these hours may be taken at a comparable level in related fields outside the Department with the approval of the adviser.

The student's developing interests may lead to a concentration in the humanistic, social, or natural science aspects of anthropology, which as a broad

field includes the subdivisions of archaeology, social anthropology, linguistics, psychological anthropology, and physical anthropology. The specific program of courses in the major and related subjects is designed by the student in consultation with the major adviser.

Students also are directed to pertinent course offerings in archaeology, biological sciences, and linguistics.

Major in Social Relations

The major in social relations is offered jointly by the Department of Anthropology and the Department of Sociology. It provides the student with basic competence in cultural anthropology, social psychology, and sociology, and gives particular emphasis to the common methods of research in these disciplines. The student is expected to obtain a grasp of the common interests and unique insights of the three disciplines, and in the senior Social Relations Seminar is expected to integrate aspects of their theory and data.

Prerequisites

The candidate must apply to the Committee on Admission to the Social Relations Major, offering the following: (a) either Anthropology 201 or Sociology 101, (b) either Psychology 101 or 102, or Sociology 280, and (c) Industrial and Labor Relations 210 or the equivalent.

Requirements

The social relations major calls for a minimum of thirty-six hours of course work as follows:

1. Three pairs or other combinations of related four- or five-hour courses (300 and 400 level), to be selected in consultation with the major adviser. These six courses must include two from each of the following disciplines: anthropology, social psychology, and sociology.
2. At least one course in methods, to be selected from the following: anthropological methods, techniques of experimentation (psychology), methods in sociology, advanced psychological statistics, the philosophy of science or of social science, advanced statistics (such as Industrial and Labor Relations 311).
3. At least one course in theory which is related to social relations.
4. The senior seminar in social relations (Sociology 497 or Anthropology 495).

A list of courses that may be used to satisfy the requirements for the major in social relations is available from any major adviser. Students seeking admission to the major should apply to the chairman of the Social Relations Committee. Robin M. Williams, Jr., Department of Sociology.

Human Biology Program

Human biology is a program of study offered by the

Department of Anthropology in order to train students in a broad variety of subjects within the area of human biology. Such subjects include human evolution, ecology, genetics, behavior, anatomy, physiology, etc. The Program is offered as a concentration to undergraduate students.

Application

All inquiries about the concentration should be directed to the Department of Anthropology. Applicants will be assigned a biological anthropologist to serve as a temporary adviser with whom they may discuss their plans.

Requirements

The requirements for the concentration in human biology are designed to ensure sufficient background in the physical sciences and mathematics to enable the student to pursue a wide range of interests in the area of modern biology. In the freshman year, two semesters of biology (Biological Sciences 101-103 and 102-104), two semesters of general chemistry (Chemistry 207-208), and two semesters of calculus (Mathematics 111-112, 111-122, or 107-108) will normally be completed. One lecture course in organic chemistry and one organic chemistry laboratory (Chemistry 253-251, or 357-358 and 301 or 251), a course in genetics (Biological Sciences 281), and a course in biochemistry (Biological Sciences 431 or 531-532) are requirements which can be completed by the middle of the sophomore year. Two semesters of physics (Physics 101-102 or 207-208) are required and should be completed early in the student's program.

The concentration in human biology requires a total of fourteen credit hours selected from the following: Anthropology 101, 102, 204, 221, 275, 372, 373, 374, 471, 472, and Biological Sciences 273, 361, and 476 (Section of Ecology, Evolution, and Systematics). Biological science courses included in the concentration requirement may not simultaneously be used to fulfill the breadth requirement.

Breadth requirements, designed to ensure that the student in human biology is familiar with areas of biology outside the concentration, specify that each student must pass a course in two of the following categories: (1) developmental biology (Biological Sciences 347); (2) ecology and evolution (Biological Sciences 361, 476); (3) geology (Geological Sciences 101); (4) microbiology (Microbiology 290A); (5) morphology (Biological Sciences 311, 313, 316, 345); (6) neurobiology and behavior (Biological Sciences 321, 421); (7) physical sciences and mathematics (Chemistry 287, 289, 300; Mathematics 213, 221; Statistics 510); (8) physiology (Biological Sciences 242 or 340, 410, 414); (9) taxonomy (Biological Sciences 273, 316, 344, 371; Entomology 212; Plant Pathology 309).

Facilities

Cornell has a modern physical anthropology laboratory with a collection of osteological and fossil cast

materials. Facilities for serology, anthropometry, primate dissection, and work physiology studies are available. Calculators and a statistical and reference library are maintained in the laboratory as well as drafting and photographic equipment.

Special Programs

Specialized individual study programs are offered in Anthropology 497-498 (Topics in Anthropology), open to a limited number of juniors and seniors. Consent of the instructor is required.

The Department of Anthropology holds colloquia throughout the academic year. Faculty from Cornell and other universities participate in discussion of current research and problems in anthropology; students are encouraged to attend.

The Honors Program

Students majoring in anthropology who seek admission to the Department's Honors Program should apply on a form available in the department office before preregistration in the spring term of their junior year. Those admitted to the Program preregister in Anthropology 391 for the fall term of their senior year. This course is supervised by the Department's Honors Committee composed of three faculty members.

In the spring term of the senior year students register for Anthropology 492 in which they write an honors thesis under the supervision of a faculty member. Further details of the Program may be obtained at the time of application.

Distribution Requirement

The distribution requirement in social sciences can be met by any two courses in the Department of Anthropology, or by Archaeology 100 and any anthropology course listed under the Archaeology Concentration (See page 29). Courses cross-listed from other departments do not satisfy the distribution requirement.

Freshman Seminars

Courses 108, 143, and 150 are freshman seminars. Check *Arts College Bulletin* for additional seminars. 600-level courses are open to undergraduates who have fulfilled the prerequisites or by consent of the instructor.

Introduction to Archaeology (Archaeology 100)

101-102 Nature, Culture, and Human History: An Introduction to Anthropology 101 fall term; 102 spring term. Credit four hours per term. This is an integrated two-semester course, but either semester can be taken independently. K. A. R. Kennedy and A. T. Kirsch.

Anthropology is the study of human origins and diversity in biological, cultural, and historical perspec-

tive. This course applies these perspectives to the major topics listed below and directly addresses a variety of popular ideas held about human beings. Fall term focus: culture and biology; human origins. Topics include human aggression and territoriality; ecology and human evolution; the human capacity for culture; language origins, symbols, and realities; ethnocentrism; the human "animal."

Spring term focus: culture and biology; human diversity. Topics include sex differences, the incest taboo; the food quest; the family; the formation of human groups; symbols, religious systems, and "truth;" cultural evolution.

Introduction to the Scientific Study of Language (Linguistics 101-102)

[103 Introduction to Cultural Anthropology

Either term. Credit three hours. Not offered 1975-76.]

108 Man's Place in Nature Spring term. Credit three hours. C. F. Hockett.

A comprehensive approach to the question, "What is man's place in nature?"

143 China in Western Eyes: 1300-1976

Spring term. Credit three hours. D. R. DeGlopper.

Six centuries of occidental travelers to China and what they thought they saw there.

150 The Discovery of America Fall term. Credit three hours. T. F. Lynch.

A consideration of the discovery of the New World, beginning with American Indian origins in Asia and ending with the intellectual discovery by European adventurers, chroniclers, and travelers. Special attention will be given to Norse exploration and settlement in the North Atlantic from the tenth through fifteenth centuries, the first Spanish encounters with the American land and people, and the exchange of flora and fauna.

Subsistence Agriculture in Transition (Rural Sociology 157, College of Agriculture and Life Sciences)

201 Social Anthropology Fall term. Credit four hours. D. R. DeGlopper.

Intended primarily for those not majoring in anthropology, the course will focus on the intellectual and cognitive problems of understanding alien cultures. Several attempted solutions to the basic problem will be examined.

202 Language and Culture Fall term. Credit four hours. C. F. Hockett.

A survey of the field of linguistics as a branch of anthropology.

203 Prehistoric Archaeology Spring term. Credit : four hours.

A study of prehistory from the origins of human society and culture through the beginnings of civilization. Emphasis will be given to the early African Stone Age, the origins and diffusion of

agriculture, and the prehistoric background of Western civilization.

204 Biological Anthropology Spring term. Credit four hours.

Man's origin, evolution, and present-day biological variability are examined from an adaptive perspective. The first half of the course examines contemporary diversity within the human species utilizing an ecological and microevolutionary approach. The second half of the course is concerned with primate and human evolution.

Introduction to Art History: Beginnings of Civilization (History of Art 210).

221 Human Biology Spring term. Credit three hours. R. Dyson-Hudson, K. A. R. Kennedy.

A survey of important biological characteristics of the human species, with emphasis on evolution, anatomy, growth and development, and variation. The differences and similarities of humans and other animal species, and the functional relationships of human organs and organ systems in both contemporary and evolutionary contexts will be emphasized. The effects of natural selection and environmental factors on human variation will be discussed.

230 Ethnology of Native North America

Spring term. Credit four hours. B. Lambert.

A general survey of the ethnography of North America, with emphasis on problems and topics to which the North American materials are most relevant. Selected cultures will be considered in some detail. Contemporary developments will be discussed, with an emphasis on Pan-Indianism and nativist revivals.

275 Ecology and Human Biology Fall term.

Credit four hours. R. Dyson-Hudson.

An analysis of human interactions with the physical, biological, and social environment, based on the principles of general ecology. Evolutionary changes in human interactions with the environment will be discussed, as well as differences in adaptive strategies of contemporary human groups living in similar and different environments.

Individual Study in Archaeology and Related Fields (Archaeology 300)

[305 Psychological Anthropology Fall term.

Credit four hours. Not offered 1975-76.]

313 Urban Anthropology Spring term. Credit four hours. R. J. Smith.

An examination of sociocultural structure and process in urban settings, with emphasis on the role of rural migrants, the relationship of urbanism to political and economic development, the role of voluntary associations, and the adjustment of family and kinship groups to urban life. Emphasis on Asian, African, and Latin American urban centers.

[314 Applied Anthropology Spring term. Credit four hours. Not offered 1975-76.]

316 Human Biology for Performing Arts (also Theatre Arts 316) Fall term. Credit five hours.

K. A. R. Kennedy and J. Kosstrin.

A laboratory course of anatomy, physiology, and kinesiology for students of dance, physical education, performing arts, fine arts, and anthropology. Body systems and functions are studied from an evolutionary perspective.

321 The Anthropology of Women (also Women's Studies 321) Fall term. Credit four hours.

R. A. Borker.

Explores insights anthropology can provide for the study of women. Focus on a number of problems regarding aspects of women's position in society and culture and the ways in which these problems can be approached.

322 Comparative Religious Systems

Spring term. Credit four hours.

A survey of anthropological perspectives on religion and associated phenomena.

323 Kinship and Social Organization Fall term.

Credit four hours. B. Lambert.

The development of kinship studies, analysis of the family, unilineal and bilateral systems of kinship and marriage. The study of kinship terminology. Kinship in small-scale and complex societies. Political, economic, and religious aspects of kinship organization.

324 Comparative Society Fall term. Credit four

hours. L. W. Hazlehurst.

A survey of primitive and modern social institutions and ideologies. Special attention will be given to the comparison and analysis of major features of clan, caste, and class societies and the world views associated with literate and nonliterate peoples.

326 Economic Anthropology Spring term. Credit

four hours. D. J. Greenwood.

Comparison of capitalist and non capitalist economies and analysis of the cultural foundations of Western economic concepts.

329 Politics and Culture Fall term. Credit four

hours. M. E. Meeker.

The study of politics in the social sciences is to a great extent based upon universalized conceptions of human motivations and their place in a social order. The limitations of these conceptions are explored by considering the cultural context of politics. This problem is raised by a study of the particular concepts of polity in diverse traditions. An understanding of politics in relation to the generic expressive forms of a tradition is also considered.

332 Ethnology of South America Fall term.

Credit four hours. Prerequisite: an introductory course in anthropology or any course dealing with social organization.

A descriptive survey and analysis of native cultures concentrating on a number of theoretical problems, including the nature of South American cultural his-

tory, the ecology of hunters and agriculturalists, the causes and consequences of aboriginal warfare, the nature of patterns of kinship and dual organization, and the structure of religion. Representative groups from all culture areas are considered, but primary attention is directed toward the South American lowlands.

333 Ethnology of the Andean Region

Spring term. Credit four hours.

Cultural continuities in the development of Andean societies. The ecologic, archaeological, ethnohistoric, and contemporary ethnological record. The Andean heritage as a resource for "modernization."

[334 Ethnology of Island Southeast Asia.

Spring term. Credit four hours. Not offered 1975-76.]

335 Ethnology of Mainland Southeast Asia

Fall term. Credit four hours. A. T. Kirsch.

A survey of the peoples and cultures of mainland Southeast Asia from prehistoric to contemporary times.

[336 Ethnology of Oceania

Fall term. Credit four hours. Not offered in 1975-76]

337 Ethnology of the Near East

Spring term. Credit four hours. M. E. Meeker.

An introduction to the social and political traditions of tribal and peasant peoples of North Africa and the Near East. Considerable attention will be devoted to the oral traditions of these peoples and the value of these traditions for providing an understanding of their religion, politics, and society.

338 Ethnology of Africa

Spring term. Credit four hours. R. A. Borker.

Introduction to the societies of sub-Saharan Africa, with a focus on social organization, politics, and religion. Course will examine the changes in African studies from colonialism through independence with special emphasis on the changes and the problems of the nation state.

341 Culture and Society in South Asia

Fall term. Credit four hours. L. W. Hazlehurst

A study of the mythological, legendary, and historical sources of South Asian civilization and their relationship to contemporary social and cultural life.

343 Traditional Chinese Society and Culture

Fall term. Credit four hours. D. R. DeGlopper.

Chinese society in the nineteenth and early twentieth centuries is considered as a complex, premodern society. Major topics include family and kinship; villages and their integration into local systems; voluntary and formal organizations; social stratification and mobility; and religion, ideology, and values.

[344 Modern Chinese Society

Spring term. Credit four hours. Not offered 1975-76.]

345 Japanese Culture and Society

Fall term. Credit four hours. R. J. Smith.

A survey of the social structure of Japan and a discussion of trends in urban and rural life during the past century. Topics to be emphasized include the family, ancestor worship, community and social organization, and urbanism and modernization.

348 Iberian Culture and Society

Spring term. Credit four hours. D. J. Greenwood.

A topical survey of the anthropology of Spain: municipal and regional social structure; customary and national law; ethnicity and regionalism. Attention is given to Catholicism, folk religion, witchcraft, the Inquisition, cryptojudaism, rural exodus, and international tourism.

350 The Earliest Civilizations

Spring term. Credit four hours. J. S. Henderson.

An archaeological approach to non-Western civilizations. Emphasis will be upon the beginnings of civilization in Mesopotamia, Egypt, the Indus Valley, and China; the emergence of complex societies in Mesoamerica and the Andes will also be discussed. Consideration will be given to the problems of defining and recognizing civilizations archaeologically, and explaining their emergence.

[354 Archaeology of the Americas I

Fall term. Credit four hours. Not offered 1975-76.]

355 Archaeology of the Americas II

Spring term. Credit four hours. J. S. Henderson.

A consideration of the origins, development, and spread of the native civilizations of North and South America. Emphasis will be upon the prehistoric cultural developments in Mesoamerica and the Andes from the emergence of settled village life to the European discovery of the New World.

356 Mesoamerican Thought and Culture

Fall term. Credit four hours. Prerequisite: Anthropology 355 or consent of instructor. J. S. Henderson.

A consideration of those aspects of Mesoamerican culture revealed in the surviving pre-Columbian documents, especially religion, astrology, and astronomy. The historical and ethnohistorical sources will also be considered.

[372 Human Biological Variation

Spring term. Credit four hours. Not offered 1975-76.]

[373 Physical Anthropology of the Living

Fall term. Credit four hours. Not offered 1975-76.]

374 Human Palaeontology

Fall term. Credit four hours. K. A. R. Kennedy.

A broad survey of the fossil evidence for human evolution with special attention to skeletal-dental anatomy, geological contexts, palaeoecology, dating methods, archaeological associations, and current theories of primate phylogeny.

Theories of Personality (Sociology 385)

391 Senior Seminar Fall term. Credit to be arranged. Enrollment limited. R. Ascher, R. A. Borker, R. Dyson-Hudson.

An in-depth examination of about twelve topics of interest to students and faculty members representing different approaches in anthropology.

[412 Contemporary Anthropological Theory Fall term. Credit four hours. Not offered 1975-76.]

[413 The History of Anthropology in the United States Fall term. Credit four hours. Not offered 1975-76.]

414 Anthropology and History Fall term. Credit four hours. D. J. Greenwood and R. J. Smith. A perspective on cultural anthropology as an historical discipline. The 1975-76 topic is the city and the country in history.

415 Classic Ethnographies Spring term. Credit four hours. Enrollment limited to undergraduates majors and graduate students in the Department of Anthropology. D. R. DeGlopper. The reading and reanalysis of some major ethnographies.

Pre-Columbian Art and Archaeology (History of Art 415)

416 Explorations in General Anthropology Fall term. Credit four hours. D. J. Greenwood. Recent major works aimed at a synthesis of biological, historical, evolutionary, and cultural approaches to the study of *Homo sapiens* are evaluated.

417 Social Thought and Social Studies Fall term. Credit four hours. M. E. Meeker. The seminar is designed to provide an opportunity to read during one semester a number of the books which have had an important influence on current sociological and anthropological thought. These readings will be drawn from the works of de Tocqueville, Durkheim, Marx, Weber, and Freud. They will be compared and discussed with the aim of understanding the variety of problems that have been raised by these authors as well as how these problems persist in current sociological and anthropological studies.

418 Ethnohistory Spring term. Credit four hours. Prerequisites: Anthropology 101 or 102 or 103, and at least one areal ethnology course. The utilization in historical research of concepts derived from field anthropology such as status lineages, rights-in-land, ethnogenesis, structural time or dual division. Problems in evaluating African, Mesoamerican and Andean oral traditions. The use of early European eyewitness reports.

422 Special Problems in the Anthropology of Women (also Women's Studies 422) Spring term. Credit four hours. R. A. Borker. Each year this seminar will focus on a particular area of concern within the anthropology of women, building upon the work done in Anthropology/Women's Studies 321. The basic orientation of the course will be research and exploration.

424 Myth, Ritual, and Symbol Fall term. Credit four hours. B. Lambert.

This course is concerned with the nature of consciousness of those peoples usually studied by anthropologists. The starting point is the analysis of ritual, especially rites of passage, and of conceptions of time. Topics such as myth, curing rites, and millenarianism will be considered in the light of various interpretations.

437 Islam and Islamic Societies Spring term. Credit four hours. M. E. Meeker.

The historical and sociological study of societies with strong Islamic traditions has tended to focus upon certain problems more or less uniquely associated with these societies. The seminar examines the Islamic tradition in the light of these problems. Readings include interpretations of Islamic thought, some Islamic literature, and historical and sociological studies of Islamic societies.

448 The Anthropology of the Nation State Fall term. Credit four hours. R. A. Borker.

Anthropological models of complex society, especially the articulation between local and national levels in a number of social and cultural domains.

451 Anthropological Boundaries Fall term. Credit four hours. S-U grades only. Prior knowledge of anthropology not required. Enrollment limited to twenty students. Graduate students interested in this approach should consider Anthropology 651. R. Ascher.

In this course, the division of art and science is systematically ignored. Contributions to the key problem of anthropology — namely, understanding the human condition — are drawn, for example, from the works of film makers, engineers, historians, architects, and science fiction writers. Represented are creations by Diane Arbus, Saul Bellow, Robert Flaherty, and Ursula LeGuin. American culture is stressed: one reading is about a civilization fabricated from junk, another is about the excavation of a slave cabin in Georgia. Comparative materials are drawn from Africa, South America, and the Middle East. Students are required to write several critical reviews and to make an intensive study of some small segment of Earth.

453 Constructions and Visualizations Spring term. Credit four hours. S-U grades only. Enrollment limited. Graduate students interested in this approach should consider Anthropology 653. R. Ascher. This course is limited to original projects. The projects must be attempts to express or rediscover anthropological ideas through three-dimensional constructions, tapes, drawings, dance, photographs, and other essentially nonwritten forms. Examples are an abstract sculpture about the idea of kinship, a photographic essay on an aspect of United States ethnology, and a working model of an ancient instrument. A work plan by one person or a few people intending to work together should be submitted any time before the start of the term or on the first day the class meets. After refinement, these plans become the syllabus of the course. Class meetings are devoted to

critical discussions of work in progress and to possible relationships that link the projects.

464 Contemporary Archaeological Theory

Spring term. Credit four hours. S. C. Saraydar. Consideration of the theoretical underpinnings of modern archaeology. Attention is given to the application of systemic models, experimental methods of archaeological research, including theoretical and physical model building, numerical taxonomies, sampling theory, and the creation of research designs.

[471 Laboratory and Field Methods in Biological Anthropology I Fall term. Credit five hours. Not offered 1975-76.]

[472 Laboratory and Field Methods in Biological Anthropology II Spring term. Credit five hours. Not offered 1975-76.]

475 Physical Anthropology: History and Theory

Spring term. Credit four hours. K. A. R. Kennedy. A survey of the historical background of present-day concepts of man's evolutionary variations and adaptations in space and time. The formation of biological anthropology as an area of scientific inquiry within the social sciences.

[476 Human Social Behavior: An Anthropological Perspective Spring term. Credit four hours. Not offered 1975-76.]

492 Honors Thesis Spring term. Credit four hours. Prerequisite: Anthropology 391 or consent of Honors Committee. Staff.

[493 Seminars in Archaeology Fall term. Credit to be arranged. Not offered 1975-76.]

[494 Seminars in Archaeology Spring term. Credit to be arranged. Not offered 1975-76.]

495 Social Relations Seminar (also Sociology

497) Spring term. Credit four hours. Open only to seniors majoring in social relations. Staff.

497-498 Topics in Anthropology 497 fall term; 498 spring term. Credit to be arranged. Prerequisite: consent of the instructor. Staff.

Graduate Seminars

For complete descriptions of courses numbered 600 or above, consult the graduate faculty representative.

Southeast Asia Seminar: Indonesia (Asian Studies 601)

Southeast Asia Seminar: Vietnam (Asian Studies 602)

[603 Human Biology and Cultural Behavior Fall term. Credit four hours. Not offered 1975-76.]

607-608 Special Problems in Anthropology 607 fall term; 608 spring term. Credit to be arranged. Staff.

[610 The Anthropological Study of Art Spring term. Credit four hours. Not offered 1975-76.]

612 History of Anthropological Thought Spring term. Credit four hours. A. T. Kirsch.

613 Contemporary Anthropological Theory Spring term. Credit four hours. B. Lambert.

[617 Conceptual Systems in Anthropology Fall term. Credit four hours. Not offered 1975-76.]

619 Anthropological Approaches to the Study of Buddhism in Asia Fall term. Credit four hours. A. T. Kirsch and R. J. Smith.

[620 Ethnolinguistics Spring term. Credit four hours. Not offered 1975-76.]

[622 The Ethnography of Communication Fall term. Credit four hours. Not offered 1975-76.]

[623 Social Systems: The Anthropology of Face-to-Face Interaction Spring term. Credit four hours. Not offered 1975-76.]

[628 Political Anthropology: Historiography of non-Western Peoples Spring term. Credit four hours. Not offered 1975-76.]

[631 Middle America Fall term. Credit four hours. Not offered 1975-76.]

[632 Tribal Peoples of Lowlands South America Spring term. Credit four hours. Not offered 1975-76.]

633 Andean Research Fall term. Credit four hours.

[635 Southeast Asia: Readings in Special Problems Spring term. Credit to be arranged. Not offered 1975-76.]

640 South Asia Spring term. Credit four hours. L. W. Hazlehurst.

[641-642 South Asia: Readings in Special Problems Either term. Not offered 1975-76.]

648 Comparative Study of Complex Societies Spring term. Credit four hours. L. W. Hazlehurst.

651 Anthropological Boundaries: Graduate Spring term. Credit four hours. R. Ascher.

653 Constructions and Visualizations: Graduate Fall term. Credit four hours. R. Ascher.

664 Problems in Archaeology: Europe Spring term. Credit four hours. T. F. Lynch.

[666 The Discovery of America Spring term. Credit four hours. Not offered 1975-76.]

[667 Origins of Mesoamerican Civilization Fall term. Credit four hours. Not offered 1975-76.]

Architecture in its Cultural Context (Architecture 667-668)

[673 Human Adaptation Fall term. Credit four hours. Not offered 1975-76.]

[676 Physical Anthropology: Problems, Methods, and Theory Spring term. Credit four hours. Not offered 1975-76.]

677 Seminar in Ecological Anthropology: Food Production and Social Organization Spring term. Credit four hours. R. Dyson-Hudson.

[678 Palaeoanthropology: South Asia Spring term. Credit four hours. Not offered 1975-76.]

[698 The Teaching of Anthropology Fall term. Credit two hours. Not offered 1975-76.]

699 The Teaching of Anthropology Spring term. Credit two hours. K. A. R. Kennedy.

Macrosocial Accounting (Rural Sociology 715, College of Agriculture and Life Sciences)

Peasants, Water, and Development (Rural Sociology 754, College of Agriculture and Life Sciences)

901-902 Field Research 901 fall term; 902 spring term. Either or both terms. Credit to be arranged. Staff.

Archaeology

A. Ramage (history of art) chairman; A. L. Bloom (geological sciences), J. E. Coleman (Classics), W. W. Cummer (architecture), R. T. Farrell (English), J. S. Henderson (anthropology), S. W. Jacobs (architecture), T. F. Lynch (anthropology), J. V. Murra (anthropology), G. W. Olson (soil science), D. I. Owen (Semitics), I. Rabinowitz (biblical and Hebrew studies), J. F. Scott (history of art).

Archaeology at Cornell is an interdisciplinary subject. The concentration draws upon the teaching and research interests of faculty from many departments in order to present a broad view of the archaeological process. Undergraduates can elect a concentration in archaeology in addition to their major. The concentration will provide an adviser to help the student in choosing courses that will give a strong basic understanding of the field. To concentrate in archaeology the student must complete Archaeology 100 with a grade of C or better and at least four advanced courses in archaeology chosen from the offerings of two or more departments. In addition, every student will be

expected to have some practical experience in archaeological field work on a project approved by the concentration adviser. The Hirsch bequest enables the concentration to offer a limited number of grants for travel and subsistence to students working at excavations sponsored either by Cornell University or other approved institutions.

Distribution Requirement

The distribution requirement can be satisfied in the social sciences, humanities, or expressive arts by taking Archaeology 100 and a second archaeological course chosen from the College of Arts and Sciences' courses listed below. Specifically the distribution requirement in the social sciences can be fulfilled with Archaeology 100 and any one of the following: Anthropology 150, 303, 350, 354, 355, 356, 493, 494, 664, 666, 667; in the humanities with Archaeology 100 and any one of the following: Classics 220, 221, 320, 629, 630; Semitics 243, 244, 282, 330, 345; and in the expressive arts with Archaeology 100 and any one of the following: History of Art 210, 215, 315, 316, 322, 323, 324, 415, 424, 431, 488.

[100 Introduction to Archaeology Spring term. Credit three hours. Open to all students whether or not they elect the concentration. Not offered 1975-76.]

Methodology and Interdisciplinary Approaches

300 Individual Study in Archaeology and Related Fields Credit to be arranged. Prerequisites: Archaeology 100 and consent of instructor. Concentration advisers. With the guidance of a faculty member, the student pursues topics of particular interest.

Geomorphology (Geological Science 345)

The Earliest Civilizations (Anthropology 350)

Use of Soil Information and Maps as Resource Inventories (Agronomy 506)

Architectural Problems in Archaeological Field Work (Architecture AAR 540, College of Architecture, Art, and Planning)

Introduction to Architectural Aspects of Archaeological Field Work (Architecture AAR 541, College of Architecture, Art, and Planning)

Design and Conservation (Architecture AAR 545, College of Architecture, Art, and Planning)

Documentation for Preservation Planning (Architecture AAR 546, College of Architecture, Art, and Planning)

Glacial and Quaternary Geology (Geological Science 642)

New World Archaeology

The Discovery of America (Anthropology 150)

[Pre-Columbian Art (History of Art 315) Not offered 1975-76.]

Ethnology of the Andean Region (Anthropology 333)

[Archaeology of the Americas I (Anthropology 354) Not offered 1975-76.]

Archaeology of the Americas II (Anthropology 355)

Mesoamerican Thought and Culture (Anthropology 356)

Seminar in Pre-Columbian Art and Archaeology (History of Art 415)

[Problems in Archaeology: (Anthropology 664) Not offered 1975-76.]

[The Discovery of America (Anthropology 666) Not offered 1975-76.]

[Origins of Mesoamerican Civilization (Anthropology 667) Not offered 1975-76.]

Old World Archaeology

Prehistoric Archaeology (Anthropology 203)

Introduction to Art History: Beginnings of Civilization (History of Art 210)

[Introduction to Art History: The Classical World (History of Art 215) Not offered 1975-76.]

Introduction to Classical Archaeology (Classics 220)

Minoan-Mycenaean Art and Archaeology (Classics 221)

History of Ancient Israel: From Earliest Times to the Babylonian Exile (Semitics 243)

History of Ancient Israel: From the Babylonian Exile Through the Fall of Masada and the Bar Kochba Rebellion (Semitics 244)

History of Preindustrial Building (Architecture AAR 244, College of Architecture, Art and Planning)

Ancient Near Eastern Literature (Semitics 282)

[Art of the Ancient Near East (History of Art 316) Not offered 1975-76.]

The Archaeology of Classical Greece (Classics 320)

Arts of the Roman Empire (History of Art 322)

Painting in the Greek and Roman World (History of Art 323)

[Architecture in the Greek and Roman World (History of Art 324) Not offered 1975-76.]

The Literature of Ancient Israel (Semitics 330/Comparative Literature 323)

The Ancient Near East (Architecture AAR 340, College of Architecture, Art, and Planning)

[The Classical World (Architecture AAR 341, College of Architecture, Art, and Planning) Not offered 1975-76.]

Age of the Patriarchs (Semitics 344)

History of the Ancient Near East in Biblical Times (Semitics 345)

Numismatics (History of Art 424)

[Greek Sculpture (History of Art 431) Not offered 1975-76.]

[Traditional Arts in Southeast Asia (History of Art 488) Not offered 1975-76.]

[Problems in Minoan and Mycenaean Archaeology (Classics 629) Not offered 1975-76.]

[Seminar in Classical Greek Archaeology (Classics 630) Not offered 1975-76.]

Seminar in the Architecture of the Ancient Near East (Architecture AAR 640, College of Architecture, Art, and Planning)

[Seminar in Greek Architecture (Architecture AAR 641, College of Architecture, Art, and Planning) Not offered 1975-76.]

Problems in Archaeology: Europe (Anthropology 664)

Asian Studies

C. A. Peterson, acting chairman; B. R. Anderson, D. E. Ashford, M. J. Barnett, M. G. Bernal, N. C. Bodman, K. Brazell, R. D. Colle, D. R. DeGlopper, A. T. Dotson, J. M. Echols, E. C. Erickson, R. T. Freeman, J. W. Gair, M. D. Glock, F. H. Golay, A. B. Griswold, D. G. E. Hall, L. W. Hazlehurst, F. E. Huffman, R. B. Jones, E. H. Jorden, G. McT. Kahin, G. B. Kelley, K. A. R. Kennedy, A. T. Kirsch, T. C. Liu, J. B. Long, R. D. MacDougall, J. McCoy, T. L. Mei, J. W. Mellor, G. M. Messing, D. P. Mozingo, S. J. O'Connor, T. J. Pempel, J. T. Siegel, R. J. Smith, J. U. Wolff, O. W. Wolters, K. M. Wong, D. K. Wyatt, M. W. Young

The applicant for admission to the major in Asian studies must have completed at least one course

selected from among those listed under the Department of Asian Studies and must be recommended by the instructor in charge of that course. The student must have received a minimum grade of C in this course and in all other courses taken in the Department. The candidate for the A.B. degree with a major in Asian studies is required to complete two courses at the 200 level in one of the Asian languages offered at Cornell. The major consists of at least thirty additional hours (which may include further language work) selected by the student in consultation with his or her adviser from among the courses listed under the Department of Asian Studies numbered 300 and above. Majors normally concentrate their work in at least one of the disciplines and in one of the following areas: China, Japan, South Asia, Southeast Asia. The student may also consider a double major combining Asian studies with one of the disciplines.

Honors Program

Candidates for honors must maintain a cumulative average of B in courses in the humanities and social sciences and in Department courses. Candidates should take at least one of the seminars listed below selected in consultation with their adviser. Students may, with the approval of their adviser, substitute for this requirement an advanced course in which they complete a considerable body of independent work. Honors candidates will also take Asian Studies 402 in which they write the senior essay. They may also enroll in Asian Studies 401 in the senior year but this course is not required. At the end of the junior year, students should consult with the professor with whom they plan to write their paper.

Distribution Requirement

The distribution requirement in the humanities may be satisfied in Asian studies by six hours of any 300-level courses, which form a sequence, listed under Asia, Literature, and Religion.

Concentration in Southeast Asia Studies

A candidate for the Bachelor of Arts or Bachelor of Science degree at Cornell may take a concentration in Southeast Asia studies by completing fifteen hours of course work, including a history course and three courses or seminars at the intermediate or advanced level, two of which may be Southeast Asian language courses. Students taking a concentration in Southeast Asia studies are members of the Southeast Asia Program and are assigned an adviser from the Program faculty. Such students are encouraged to commence work on a Southeast Asian language and to take advantage of summer intensive language training.

Intensive Language Program (FALCON)

For those students desiring to accelerate their acquisition of Chinese or Japanese language, Cornell is

offering a Full-Year Asian Language Concentration Intensive Language Program. Students in this program will spend six hours a day for the full academic year studying nothing but language and will be able to compress approximately four years of study into one.

Freshman Seminars

101 Ideas and Images in Japanese Culture

Fall term. Credit three hours. K. Brazell.

An introduction to traditional Japanese culture through such topics as: the Shinto view of man and nature, the way of the warrior, court ladies and courtesans, and Zen and the arts.

[Freshman Seminar in Japanese Studies (Government 133) Not offered 1975-76.]

Asia—Literature and Religion Courses

201 Introduction to Hinduism Fall term. Credit four hours. J. B. Long.

An introduction to the beliefs and practices in Hinduism from the beginning to the present time.

202 Introduction to Buddhism Spring term. Credit four hours. J. B. Long.

A study of the development of the various systems of thought and practice in India, China, and Japan.

203 Introduction to the History of Religions

Fall term. Credit four hours. J. B. Long.

A study of various theories (anthropological, historical, psychological, phenomenological, etc.) about the nature and function of religion. Includes readings on myths, rituals, and symbols from the world's religions.

[371 Chinese Philosophical Literature Fall term. Credit four hours. T. L. Mei. Not offered 1975-76.]

372 Chinese Imaginative Literature Spring term. Credit four hours. K. M. Wong.

Readings in English translation of poetry, classical prose, fiction, and drama.

373 Twentieth-Century Chinese Literature

Fall term. Credit four hours. K. M. Wong.

A study of the modern vernacular that has reflected and promoted political, social, and cultural change in China.

[375 Japanese Poetry and Drama Fall term. Credit four hours. K. Brazell. Not offered 1975-76.]

376 Modern Japanese Fiction Spring term.

Credit four hours. K. Brazell.

A study in English translation of the major novelists and short story writers of the twentieth century.

377 Japanese Narrative Literature Fall term.

Credit four hours. K. Brazell.

A study in English translation of major narratives from *The Tale of Genji* to *Saikaku*.

[379 Southeast Asian Literature in Translation
 Fall term. Credit four hours. J. M. Echols.
 Not offered 1975-76.]

400 Japanese Nō Theater Spring term. Credit four hours. Prerequisite: consent of instructor. K. Brazell.
 A study of Nō as a performing art.

[405 Issues and Problems in Indian Philosophy
 Fall term. Credit four hours. J. B. Long.
 Not offered 1975-76.]

[406 Paths of Liberation in the *Bhagavad Gītā*
 Spring term. Credit four hours. J. B. Long. Not offered 1975-76.]

410 Myths and Symbols in Indian Religion
 Spring term. Credit four hours. J. B. Long.
 An investigation into the nature of myth per se and an analysis of the major mythic traditions in Hinduism-Vishnu, Krishna, Shiva, and the goddess.

Asia—General Courses

401 Asian Studies Honors Course Fall term. Credit four hours. Staff.
 Intended for seniors who have been admitted to the Honors Program. Supervised reading and research on the problem selected for Honors work.

402 Asian Studies Honors: Senior Essay Either term. Credit four hours. Prerequisite: admission to the Honors Program.
 The student, under faculty direction, will prepare an Honors essay.

403-404 Asian Studies Supervised Reading
 Either or both terms. Credit to be arranged. Prerequisite: consent of the instructor. Open to majors and other qualified students.
 Provides the opportunity to read intensively under the direction of a member of the staff.

Economics of Agricultural Development (Agricultural Economics 464, College of Agriculture and Life Sciences)

Food, Population, and Employment (Agricultural Economics 660, College of Agriculture and Life Sciences)

Communication in the Developing Nations (Communication Arts 524, College of Agriculture and Life Sciences)

Comparative Mass Media (Communication Arts 526, College of Agriculture and Life Sciences)

Phillippine Agricultural Development: Policy and Administration (International Agriculture 601, College of Agriculture and Life Sciences)

Applications of Sociology to Development Programs (Rural Sociology 751, College of Agriculture and Life Sciences)

Architecture and Planning in the Orient (Architecture 345-Planning 403, College of Architecture, Art, and Planning)

The seven courses listed above will count as College of Arts and Sciences credit for Asian Studies majors only.

Urban Anthropology (Anthropology 313)

Comparative Religious Systems (Anthropology 322)

Politics and Culture (Anthropology 329)

Anthropological Approaches to the Study of Buddhism in Asia (Anthropology 619)

Politics and Modernization (Government 338)

Chinese Government and Politics (Government 347)

[Politics of Industrial Societies (Government 348)
 Not offered 1975-76.]

Political Role of the Military (Government 349)

Comparative Revolutions (Government 350)

[The United States and Asia (Government 387)
 Not offered 1975-76.]

Seminar in the Politics of Communalism (Government 642)

Seminar in Comparative Communism (Government 646)

Seminar in the International Relations of Asia (Government 687)

Introduction to Asian Civilization: Origins to 1600 (History 190)

Introduction to Asian Civilizations: from 1600 (History 191)

Supervised Reading (History 703-704)

Introduction to Art History: Asian Traditions (History of Art 280)

Studies in Indian and Southeast Asian Art (History of Art 386)

[Ceramic Art of Asia (History of Art 482)
 Not offered 1975-76.]

[Studies in Buddhist Art (History of Art 483)
 Not offered 1975-76.]

[Problems in Asian Art (History of Art 580)
 Not offered 1975-76.]

Supervised Readings (History of Art 591-592)

China—Area Courses**Traditional Chinese Society and Culture (Anthropology 343)**

[**Modern Chinese Society (Anthropology 344)**
Not offered 1975–76.]

[**The Foreign Policy of China (Government 390)**
Not offered 1975–76.]

History of China up to Modern Times (History 393)

History of China in Modern Times (History 394)

Undergraduate Seminar in Medieval Chinese History (History 492)

Self and Society in Late Imperial and Twentieth-Century China (History 493)

Undergraduate Seminar: The First Chinese Revolution, 1880–1930 (History 494)

Chinese Historiography and Source Materials (History 691)

Problems in Modern Chinese History (History 693-694)

Seminar in Medieval Chinese History (History 791-792)

Seminar in Modern Chinese History (History 793-794)

Art of China (History of Art 383)

[**Chinese Painting (History of Art 385)**
Not offered 1975–76.]

[**Problems in Chinese Art (History of Art 586)**
Not offered 1975–76.]

Studies in Chinese Painting (History of Art 586)

Sino-Tibetan Linguistics (Linguistics 662)

Other courses dealing extensively with China are Anthropology 313, 322, 329; Government 338, 347, 348, 350, 387, 646, 687; History 190, 191; History of Art 280, 482, 483, 580; Architecture 345, Planning 403 (College of Architecture, Art and Planning).

China—Language Courses

Basic Course (Chinese 101–102)

Cantonese Basic Course (Chinese 111–112)

Intermediate Chinese I (Chinese 201–202)

Chinese Conversation (Chinese 203–204)

Intermediate Cantonese (Chinese 211–212)

Introduction to Classical Chinese (Chinese 213–214)

Intermediate Chinese II (Chinese 301)

Intermediate Chinese III (Chinese 302)

Chinese Conversation—Intermediate (Chinese 303–304)

[**Chinese Philosophical Texts (Chinese 314)**
Not offered 1975–76.]

[**T'ang and Sung Poetry (Chinese 320)**
Not offered 1975–76.]

History of the Chinese Language (Chinese 401–402)

Linguistic Structure of Chinese: Phonology and Morphology (Chinese 403)

[**Linguistic Structure of Chinese: Syntax (Chinese 404)** Not offered 1975–76.]

Chinese Dialects (Chinese 405)

Readings in Modern Chinese Literature (Chinese 411–412)

Classical Chinese Prose (Chinese 413)

[**Pre-T'ang Poetry (Chinese 416)** Not offered 1975–76.]

[**Chinese Poetic Drama (Chinese 418–419)**
Not offered 1975–76.]

Traditional Fiction (Chinese 420)

Directed Study (Chinese 421–422)

[**Readings in Shorter Works of Fiction (Chinese 423)** Not offered 1975–76.]

[**Readings in Literary Criticism (Chinese 424)**
Not offered 1975–76.]

Readings in Folk Literature (Chinese 430)

[**Seminar in Chinese Poetry and Poetics (Chinese 603)** Not offered 1975–76.]

Seminar in Chinese Fiction (Chinese 605)

Seminar in Chinese Folk Literature (Chinese 609)

Advanced Directed Reading (Chinese 621–622)

Japan—Area Courses

Japanese Culture and Society (Anthropology 345)

[Freshman Seminar on Japanese Studies (Government 133) Not offered 1975-76.]

[Politics in Contemporary Japan (Government 346) Not offered 1975-76.]

[Political Modernization and Japan (Government 649) Not offered 1975-76.]

[Art of Japan (History of Art 384) Not offered 1975-76.]

Masters of Japanese Prints (History of Art 481)

Other courses dealing extensively with Japan are Anthropology 313, 322, 329; Government 348, 387, 687; History 190, 191; History of Art 280, 481, 482, 483, 580; and Architecture 345-Planning 403 (College of Architecture, Art, and Planning).

Japan—Language Courses

Basic Course (Japanese 101-102)

Intermediate Japanese I (Japanese 201-202)

Japanese Conversation (Japanese 203-204)

Intermediate Japanese II (Japanese 301-302)

Japanese Conversation—Intermediate (Japanese 303-304)

Introduction to Literary Japanese (Japanese 305-306)

Advanced Japanese (Japanese 401-402)

[Linguistic Structure of Japanese (Japanese 404) Not offered 1975-76.]

Intermediate Literary Japanese (Japanese 405-406)

Directed Readings (Japanese 421-422)

Introduction to Japanese Reading for Students of Chinese (Japanese 432)

Intensive Course (FALCON 161-162)

Seminar on the Traditional Japanese City (Society for the Humanities 420)

Seminar on Edo-Tokyo (Society for the Humanities 421)

South Asia—Area Courses

Culture and Society in South Asia (Anthropology 341)

Seminar: South Asia (Anthropology 640)

[South Asia: Readings in Special Problems (Anthropology 641-642) Not offered 1975-76.]

[Palaeoanthropology: South Asia (Anthropology 678) Not offered 1975-76.]

Architecture in its Cultural Context (Architecture 667-668, College of Architecture, Art, and Planning)

Studies in Indian and Southeast Asian Art (History of Art 386)

India as a Linguistic Area (Linguistics 341)

Dravidian Structures (Linguistics 440)

Indo-Aryan Structures (Linguistics 442)

Comparative Indo-European Linguistics (Linguistics 631-632)

Elementary Pali (Linguistics 640)

Elementary Sanskrit (Linguistics 641-642)

Comparative Indo-Aryan (Linguistics 644)

[Comparative Dravidian (Linguistics 646) Not offered 1975-76.]

Seminar (Linguistics 700)

Directed Research (Linguistics 701-702)

Other courses dealing extensively with South Asia are Anthropology 322; Asian Studies 201, 202, 203, 405, 406, 410; Government 338, 387, 687; History 190, 191; History of Art 280, 386, 482, 483, 580; Agricultural Economics 464; Communication Arts 524, 526; and Rural Sociology 751 (College of Agriculture and Life Sciences).

South Asia—Language Courses

Basic Course (Hindi-Urdu 101-102)

Hindi Reading (201-202)

Composition and Conversation (Hindi 203-204)

Readings in Hindi Literature (Hindi 301-302)

Advanced Composition and Conversation (Hindi 303-304)

Advanced Hindi Readings (Hindi 305-306)

History of Hindi (Hindi 401)

Seminar in Hindi Linguistics (Hindi 700)

Basic Course in Sinhala (Sinhalese 101-102)

Sinhala Reading (Sinhalese 201-202)

Composition and Conversation (Sinhalese 203-204)

Basic Course (Tamil 101-102)
Offered on demand.

[**Basic Course (Telegu 101-102)** Not offered 1975-76.]

[**Telegu Reading (Telegu 201-202)** Not offered 1975-76.]

Southeast Asia—Area Courses

[**Ethnology of Island Southeast Asia (Anthropology 334)** Not offered 1975-76.]

Ethnology of Mainland Southeast Asia (Anthropology 335)

[**Conceptual Systems in Anthropology (Anthropology 617)** Not offered 1975-76.]

Southeast Asia: Readings in Special Problems (Anthropology 635)

601 Southeast Asia Seminar: Indonesia Fall term. Credit four hours. B. R. Anderson.

602 Southeast Asia Seminar: Vietnam Spring term. Credit four hours. O. W. Walters.

676 Southeast Asia Research Training Seminar

[**Economic Policy and Development in Southeast Asia (Economics 365)** Not offered 1975-76.]

Process of Economic Development (Economics 371/571)

[**Economic Growth in Southeast Asia (Economics 678)** Not offered 1975-76.]

[**304 Indochina (also Government 331)** Fall term. G. McT. Kahin. Not offered 1975-76.]

Government and Politics of Southeast Asia (Government 344)

Political Problems of Southeast Asia (Government 652)

Southeast Asian History to the Fourteenth Century (History 395)

Southeast Asian History from the Fifteenth Century (History 396)

Undergraduate Seminar in Southeast Asia in the Nineteenth Century (History 497)

Undergraduate Seminar in Southeast Asian History 498)

The Historiography of Southeast Asia (History 695-696)

Supervised Reading (History 703-704)

Seminar in Southeast Asian History (History 795-796)

Studies in Indian and Southeast Asian Art (History of Art 386)

[**Traditional Arts in Southeast Asia (History of Art 488)** Not offered 1975-76.]

[**Old Javanese (Linguistics 651-652)** Not offered 1975-76.]

Seminar in Southeast Asian Languages (Linguistics 653-654)

Malayo-Polynesian Linguistics (Linguistics 655-656)

Seminar: Mon-Khmer Linguistics (Linguistics 657)

Directed Research (Linguistics 701-702)

Thai Dialectology (Linguistics 751)

Comparative Thai (Linguistics 752)

Tibeto-Burman Linguistics (Linguistics 753)

Other courses dealing extensively with Southeast Asia are Anthropology 313, 322, 329, 518; Government 338, 348, 350, 387, 687; History 190, 191; History of Art 280, 482, 483, 580; Agricultural Economics 464; Communication Arts 524, 526 (College of Agriculture and Life Sciences); and Architecture 345-Planning 403 (College of Architecture, Art, and Planning).

Southeast Asia—Language Courses

Basic Course (Burmese 101-102)

Burmese Reading (Burmese 201-202)

Composition and Conversation (Burmese 203-204)

Advanced Burmese Reading (Burmese 301-302)

Basic Course (Cambodian 101-102)

Cambodian Reading (Cambodian 201-202)

Composition and Conversation (Cambodian 203-204)

Advanced Cambodian (Cambodian 301-302)

Directed Individual Study (Cambodian 401-402)

Structure of Cambodian (Cambodian 404)

Basic Course (Cebuano Bisayan 101-102)

Basic Course (Indonesian 101-102)**Indonesian Reading (Indonesian 201-202)****Composition and Conversation (Indonesian 203-204)**

[Linguistic Structure of Indonesian (Indonesian 300) Not offered 1975-76.]

Readings in Indonesian and Malay (Indonesian 301-302)

[Advanced Indonesian Conversation and Composition (Indonesian 303-304) Not offered 1975-76.]

Advanced Readings in Indonesian and Malay Literature (Indonesian 401-402)**Elementary Javanese (Javanese 131-132)****Intermediate Javanese (Javanese 133-134)****Basic Course (Tagalog 101-102)****Tagalog Reading (Tagalog 201-202)**

[Linguistic Structure of Tagalog (Tagalog 300) Not offered 1975-76.]

Basic Course (Thai 101-102)**Thai Reading (Thai 201-202)****Composition and Conversation (Thai 203-204)****Advanced Thai (Thai 301-302)****Thai Literature (Thai 303-304)****Directed Individual Study (Thai 401-402)****Basic Course (Vietnamese 101-102)****Vietnamese Reading (Vietnamese 201-202)****Composition and Conversation (Vietnamese 203-204)****Advanced Vietnamese (Vietnamese 301-302)****Vietnamese Literature (Vietnamese 303-304)****Directed Individual Study (Vietnamese 401-402)**

Astronomy

M. O. Harwit, chairman; F. D. Drake, P. J. Gierasch, T. Gold, J. R. Houck, J. Rankin, C. E. Sagan, E. E. Salpeter, S. Shapiro, Y. Terzian, J. Veverka

Undergraduates interested in graduate work in astronomy should major in either physics or mathematics and take astronomy courses as electives. Graduate students must register with the in-

structor in charge of the desired course on regular registration days at the beginning of each term.

Distribution Requirement

The distribution requirement in physical sciences is met in Astronomy 101-102 or 111-112.

101 The World: Universe, Earth, Environment

Fall term. Credit four hours. Prerequisite: high school algebra. Includes laboratory. J. Rankin. Determination of the size, mass, and shape of the galaxy and the universe. The behavior of light and matter due to the large scale evolution of the universe. The evolution of stars and the formation of chemical elements.

102 The World: Universe, Earth, Environment

Spring term. Credit four hours. Prerequisite: high school algebra. Includes laboratory. Staff. Formation of the solar system. Environments and internal structures of the planets. Formation and structure of the earth and its atmosphere. Evolution of the earth's surface and climate. Origin of life. The effect of man on his planet. The existence of life and intelligence in the universe.

103-104 The World: Universe, Earth,

Environment 103 fall term only; 104 spring term only. Credit three hours each term.

This course is identical to 101-102 except without the laboratory. See description above. (This course does not satisfy the distribution requirement in physical sciences.)

111 Theories of the World: The Solar System,

Planets, and Life Fall term. Credit four hours. Intended for engineering and physical sciences freshmen. Prerequisite: introductory calculus or coregistration in Mathematics 111 or 191. Includes laboratory. Staff.

The origin and formation of the solar system, celestial mechanics. The evolution of planetary atmospheres. Prebiology and the origin of life. The detection of life elsewhere in the universe.

112 Theories of the World: Stars, Galaxies, and

Cosmology Spring term. Credit four hours. Intended for engineering and physical sciences freshmen. Prerequisite: Introductory calculus or coregistration in Mathematics 111 or 191. Includes laboratory. Staff. The formation and evolution of stars. Special relativity. Supernovae, pulsars, quasars, and black holes. The interstellar medium. The structure and evolution of galaxies. Cosmology.

332 Elements of Astrophysics

Fall term. Credit three hours. Prerequisites: calculus and a course in modern physics. Y. Terzian.

Physical laws of radiation. Size, mass, and age of stars, galaxies, and the universe; stellar evolution and the formation of heavy chemical elements; interstellar matter and star formation. Pulsars and quasars. An introduction to cosmology. This course is of particular value to students in fields related to astronomy and space science.

340 Special Topics in Astronomy Either term. Credit two to four hours. Prerequisite: consent of the instructor. Staff.

Instruction in selected topics for qualified students according to their needs and preparation. Observational techniques and instrumentation. Binary stars, orbital computation, coordinate measurement, photometry, and spectroscopy. Special attention to the problems of science teachers.

431 Introduction to Astrophysics and Space Science Fall term. Credit three hours. Prerequisites: Physics 214 and 318 or the equivalent. There are no astronomy course prerequisites. Staff. Dynamics of planetary and stellar systems. Interstellar magnetic fields, cosmic rays, and radio emission. Comets, meteorites, and micrometeorites. This course is intended for advanced undergraduate and new graduate students who intend to pursue careers in astronomy and space science.

432 Introduction to Astrophysics and Space Science Spring term. Credit three hours. Prerequisite: Astronomy 431 or consent of instructor. Staff. Interstellar dust and gas. Evolution of the Strömgren sphere. Star formation. Stellar structure and evolution. Binary, variable, and peculiar stars. Nuclear synthesis in stars. Stellar atmospheres. Abundance of the chemical elements. Interplanetary gas and dust. This course is intended for advanced undergraduate and new graduate students who intend to pursue careers in astronomy and space science.

490 Senior Seminar Spring term. Credit two hours. Intended primarily for physical science majors in their senior year. Prerequisites: Physics 214 and 318 or equivalent. Staff. Selected topics of solar system and stellar astronomy; topics of high energy astrophysics and cosmology.

For complete descriptions of the following graduate courses see the *Announcement of the Graduate School: Course Descriptions*. If the course is not included there consult the graduate faculty representative.

509 General Relativity (Physics 553)

[510 **General Relativity (Physics 554)**. Not offered 1975–76.]

511 High Energy Astrophysics

515 Cosmology

516 Galactic Structure and Stellar Dynamics

520 Observational Radio and Infrared Astronomy

521 Radio and Infrared Astronomy: Interstellar Medium, Pulsars, Galaxies, Quasars

530 Nuclear Astrophysics

550 Radiative Transfer, Stellar and Solar Atmospheres

560 Theory of Stellar Structure and Evolution

570 Physics of the Planets

571 Planetary Rotation, Tides, and Physics of Interiors

575 Motions in Planetary Atmospheres

579 Celestial Mechanics

620 Seminar: Advanced Radio Astronomy

633 Infrared Astronomy

640 Advanced Study and Research

660 Plasma Astrophysics

671 Special Problems in Planetary Astronomy

670 Seminar: Planetary Studies

673 Seminar: Current Problems in Planetary Fluid Dynamics

675 Solar System Magnetohydrodynamics

678 Interplanetary Matter

680 Seminar: Cosmic Rays and High Energy Astrophysics (Physics 680)

699 Seminar: Current Problems in Theoretical Astrophysics

Biological Sciences

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Visek, B. Wallace, J. Whitlock, R. Whittaker, H. Williams, D. Wilson, W. Wimsatt, L. Wright, R. Wu, S. Zahler, D. Zilvesmit

Students will be provisionally accepted in the biological sciences specialization as established by the Division of Biological Sciences during their freshman or sophomore years: application should be made to the Division of Biological Sciences Office. Prior to the junior year the students must have written approval from the Division of Biological Sciences of their admission to the major. Final admission to the specialization will require superior performance in the completion of:

- (1) a year of biology (Biological Sciences 101–102 and 103–104 or 105–106; advanced placement may be allowed at the student's choice, on receipt of a score of 5 in the Advanced Placement Test of the College Entrance Examination Board or a score of 4 and completion of Biological Sciences 107);
- (2) a year of general chemistry (preferably Chemistry 207–208 or 215–216);
- (3) a year of college mathematics including at least one semester of calculus (Mathematics 105–106, 111–112).

Whenever possible, the students should include the above three subjects in their freshman schedule and complete organic chemistry in the sophomore year. A student is not encouraged to undertake a specialization in biological sciences unless performance in the above courses gives evidence of capacity to do superior work at a more advanced level. In addition to the introductory courses in chemistry, biological sciences, and mathematics, each specializing student must complete the following:

- (1) Chemistry 253–251 (or 251 and 357–358, or 253–300–301, or 357–358–301);
- (2) a year of physics (Physics 101–102 or 207–208);
- (3) Biological Sciences 281 (Genetics);
- (4) Biological Sciences 431 or 432 (Biochemistry);
- (5) the breadth requirement outlined below;
- (6) one of the concentration areas outlined below; and
- (7) a minimum of six hours of college credit in a modern foreign language. Qualification in a Foreign Language, as defined by the College of Arts and Sciences, meets the division's language requirement.

Students anticipating a concentration in biochemistry should contact an adviser in biochemistry as soon as possible.

The breadth requirement is designed to ensure that each major student becomes familiar with a minimum number of different aspects of modern biology. In fulfillment of this requirement, each student must pass one of the listed courses in two of the following nine categories, not including the student's area of concentration:

- (1) *Neurobiology and Behavior*: Courses 321, 421, Psychology 201, 323
- (2) *Development Biology*: courses 347, 385
- (3) *Ecology and Evolution*: courses 261, 301, 361, 476
- (4) *Microbiology*: course 290

- (5) *Morphology*: courses 273, 313, 316, 345, plant pathology 309
- (6) *Physical Science and Mathematics*: courses Chemistry 389 or 288, Geology 101, Math 214, 216 and 218 or 221, Physics 360, Statistics 407, 408 or 501, Computer Science 101, 102, 211
- (7) *Physiology*: courses 242, 340, 410, 414, Vet. Med. 346, 347
- (8) *Taxon-oriented courses*: 371, 344, 470, 471, 473, 474, Entomology 212
- (9) *Courses*: History 288

The concentration requirement is designed to help students achieve depth in some area of biology of their own choosing. It permits maximum flexibility, while ensuring that the selection of advanced courses will form a coherent and meaningful unit. The student should seek the advice of his or her adviser in selecting the course to be taken in fulfillment of both the breadth and concentration requirements. No more than four credit hours of research courses can be used for completion of the requirements in the area of concentration. The possible concentration areas are:

- (1) *Animal Physiology and Anatomy*: Biological Sciences 273 and one course each from list A and list B with the provision that one laboratory course has to be included in the choice from list B (e.g. a student could take Veterinary Medicine 346 without taking 348 laboratory but then would need to take Biological Sciences 414 or Biological Sciences 410 and 411).
List A: Histology, the Biology of Tissues (Biological Sciences 313), four hours; Developmental Biology I (Biological Sciences 385), three hours, plus Animal Embryology Laboratory (Biological Sciences 389), two hours; Vertebrate Anatomy (Veterinary Medicine 700), three hours; Invertebrate Zoology (Biological Sciences 316), four hours.
List B: General Physiology (Biological Sciences 410), three hours; General Physiology Laboratory (Biological Sciences 411), two hours; Mammalian Physiology (Biological sciences 414), six hours; Introductory Physiology (Veterinary Medicine 346), three hours; Introductory Physiology Laboratory (Veterinary Medicine 348), one hour; Fundamentals of Endocrinology (Animal Science 425), four hours.
- (2) *Neurobiology and Behavior*: Biological Sciences 321, and twelve hours, including a second course in neurobiology, to be selected in consultation with the adviser.
- (3) *Biochemistry*: Chemistry 300 must be taken (except for students who have completed Chemistry 215–216) together with one of the following laboratory sequences: Chemistry 301–302 or Chemistry 251–252–302 or Chemistry 301 or Chemistry 251–252. In addition, the student must take Chemistry 389–390 (or Chemistry 287–288) and Biological Sciences 530 (or 430 or 437–438.) It is recommended that students take Chemistry 357–358, Physics 207–208, and a third semester of calculus.
- (4) *Botany*: Biological Sciences 242 (or 340), 345, 347, and 371.

- (5) Ecology and Systematics: At least thirteen hours including courses 361 and 476; three or more credit hours from 400 or higher level courses in Ecology, Systematics and Evolution, and a physiology course. At least four laboratory courses must be included, but students may count two courses taken for breadth requirement as laboratory requirement. Students planning graduate study are strongly urged to take a course in statistics (ILR 210 or 311).
- (6) Genetics and Development: Nine hours usually selected from the following courses: 280, 347, 385, 386, 389, 440, 441, 476, 480, 484, 485, 486, 488; Animal Science 419; Statistics 501, Plant Breeding 505.
- (7) Students who, for good reason, wish to undertake a course of studies not covered by these six concentration areas may petition for permission to do so.

Students interested in teaching biology in secondary schools are urged to consult an adviser in the field of Education during their freshman year.

The Honors Program offers a student an opportunity to do independent work under the supervision of a member of the faculty. This entails independent laboratory work on a project in addition to writing a thesis. Candidates for this program must have at least a 3.0 cumulative average, although the committee will entertain petitions for special cases. The student must also obtain a sponsor in a biology-oriented basic or applied science within the University. An Honors candidate will ordinarily enroll for credit in a research course under the direction of the faculty member acting as the Honors supervisor. No more than four credit hours of research courses can be used for completion of the requirements in the area of concentration. Recommendation to the faculty that a candidate graduate with Honors will be the responsibility of the Honors Program Committee. Students interested should consult their adviser for further details, preferably during the first term of the junior year.

Students interested in the Honors program must register with the office of the Division no later than the first term of the senior year. The final report of the student's work must be in the hands of the Committee not later than the first day of the study period to the week of the final examinations.

Many decisions pertaining to curriculum, to division-wide requirements, and to depth and breadth areas, are made by the Curriculum Committee of the Division. The committee has faculty and elected student members, and welcomes advice and suggestions from all interested parties. The division office will supply information on committee affairs. Student advising and counseling are available in the Biology Center in Stimson Hall G. 20.

General Courses

101-102 Biological Sciences Throughout the year. Credit two hours a term. Must be taken concurrently with 103 and 104 (Laboratory). Biological Sciences 101 is prerequisite to 102, unless special permission is obtained from the instructor. 101-102 can-

not be taken for credit after 105-106, or 107, or 109-110. Two preliminary examinations will be offered each term at 7:30 p.m. K. Adler.

Designed both for students who intend to specialize in biological sciences and for those specializing in other subjects, such as the social sciences or humanities, who want to obtain a thorough knowledge of biology as part of their general education. Plant and animal materials are considered together rather than in separate units. The fall semester covers scientific methodology, cellular biology, metabolism, tissue and organ function, and behavior. The spring semester covers genetics, reproduction and development, evolution, and ecology. Each topic is considered in the light of modern evolutionary theory.

103-104 Biological Sciences, Laboratory

Throughout the year. Credit two hours a term. Must be taken concurrently with 101 and 102. One three-hour laboratory each week and a weekly lecture section for discussions, special lectures, etc.

J. Glase and assistants.

This is a laboratory course with a main emphasis on student design and execution of investigations in biology. In preparation for performing research, students are exposed to basic biological concepts, research methods, relevant statistical ideas, instrumentation, and laboratory techniques. Research projects include experimental design, data analysis, and communication of investigative results and conclusions. Each student-initiated investigation leads to the production of a written research report.

105-106 Introductory Biology Throughout the year. Credit four hours a term (or less by arrangement with the instructor). Prerequisite: permission of instructor. K. Arms and P. Camp.

Designed for students who intend to specialize in the biological sciences and for nonmajors. Also open to transfer students who may need fewer than six credit hours in introductory biology. Course material is divided into core units which must be completed by all students and optional units of which students can choose to complete a variable number, depending upon the grade they are working for. The course offers an introduction to cellular structure, function and chemistry, plant and animal physiology and anatomy, heredity, evolution, ecology, and behavior. In addition, some areas of biology of particular interest for their social and cultural implications are identified and some are studied in detail in particular units of coursework. An autotutorial format is used and students are expected to schedule their hours in the learning center at their convenience. Laboratory work is an integral part of the course.

107 Biological Discovery Fall term. Two lectures and two laboratories weekly. Open to freshmen who achieve a grade of 4 or 5 on either the biology advanced placement exam of the College Entrance Examination Board or an advanced placement exam administered during freshman Orientation Week. Permission of instructor required. Limited to sixty students. Not open to students who have credit for more than one semester of introductory biology or to stu-

dents who have credit for 101-102, 105-106, or 109-110. Passing 107 comprises fulfillment of introductory biology requirements in terms of (1) electing more advanced biology courses, and (2) fulfilling the biology distribution requirement for nonmajors. Students with advanced placement grades of 5 receive eight credits for previous work in biology and are permitted to exempt all introductory courses including 107. If they take and pass 107, they receive an additional four credits. Students with advanced placement grades of 4 receive four credits for previous work in biology plus four credits for passing 107. J. M. Camhi.

Designed to instruct students in the ways that scientists ask questions about living things, and design and carry out observations or experiments to answer these questions. In the laboratory, students work in small groups on extended research problems which they help design. Instruction is highly individualized and aims at improving each student's ability to ask meaningful questions, organize and quantify observations, analyze research data, and relate results to previously reported biological findings. Specific research techniques will be introduced when need arises.

Lectures are intended to expand the scope of the laboratory experience, treating the conceptual and technical underpinnings of biological science and illustrating these with examples from diverse animal and plant disciplines. Biological content stresses properties and processes common to a wide range of living organisms, rather than focusing narrowly upon specific topics. It is hoped that this course will be useful to both potential scientists and others wishing to attain a deeper insight into the nature of biological science.

108 Interactive Computing for Students of

Biological Sciences Spring term. Credit one hour. Lecture every other week. H. C. Howland.

An introduction to computing using the interactive language FOCAL with a discussion of other algebraic computing languages such as BASIC and elementary FORTRAN. Students will be issued tickets for five hours of computing time at the Division of Biological Sciences interactive computing facility. Applications to problems in the biological sciences will be emphasized. Not open to students with prior courses in computing.

109-110 Biology for Nonmajors

Throughout the year. Credit three hours a term. Limited to 680 students. This course can be used to fulfill the distribution requirement in the Colleges of Arts and Sciences, Human Ecology, and Agriculture and Life Sciences, but may not be used as an introductory course for the major in biological science. *Note that this course may not always satisfy as a prerequisite to second- and third-level courses in biology.* Attendance in 109 is requisite for registration in 110, except by special consent. May not be taken after 101-102 or 105-106. Each student must attend a laboratory on alternate weeks. Two preliminary examinations will be given each term at 7:30 in the evening. Students who do not plan to major in biology have

the opportunity of taking this broad introductory course in modern biology without the necessity of the more detailed study normally required. Nevertheless, it is not a course in social biology but addresses itself to biological principles with academic rigor. The content is designed to appeal to anyone who seeks a comprehensive knowledge of biology as part of his or her general education. Laboratory sections enable small groups of students to meet with the course staff, and will be used for problem-solving experiments, demonstrations and discussion.

206 Biomedical Ethics

Fall term. Credit three hours. Open to sophomores and upperclassmen, graduate students by permission. S. Brown. An elucidation and analysis of certain fundamental ethical concepts by application to biomedical examples. The ethical concepts will include justice, basic goods, individual freedom, self-respect, utility, and survival. The biomedical examples will include population limitation, experimentation on human beings, organ transplants, genetic defects, and prolonging the life of the aged, the grossly defective, and the dying.

301 Laboratory Methods in Biology

Fall or spring term. Credit three hours. Limited to juniors, seniors, and graduate students; twenty students per section. Prerequisites: 101-102 or equivalent and permission of instructor. Scheduled period consists of lecture and demonstration of work for the following week. Additional periods covered by leaving laboratory open at all times. The equivalent of at least one laboratory period per week required and sometimes several depending on the nature of the work. No formal examinations. Grade is based on required work, turned in at the end of the semester. L. D. Uhler.

For students who intend to teach or follow some phase of biology as a profession. Subjects covered: collection, preservation, and storage of materials; the preparation of bird and mammal study skins; injection of circulatory systems with latex; clearing and staining of small vertebrates; and the preparation and staining of squashes, smears, whole mounts, and sections.

309 Minicourse in Laboratory Methods

Intersession. One to four credits. Prerequisites: preregistration in an independent research program (419, 429, 439, 449, 479, or 489) and permission of instructor. Enrollment limited. These minicourses are designed via audio-visual materials and actual experience to teach students techniques needed for independent research and Honors' projects. The following minicourses are available with additional areas to be developed: a) simple biochemical techniques, b) techniques in animal handling and surgery, c) biological literature and scientific writing, and d) biochemical experimental methods. One or more minicourses may be taken concurrently if time permits.

401 Teaching Biology

Either term. Credit variable. S-U grades optional. Enrollment limited. Prerequisite: permission to register.

403 Laboratory Design Fall term. Credit two-four hours. Enrollment limited. Prerequisite: permission to register.

Designed to enable qualified students to obtain laboratory teaching experience by actual involvement in the design and teaching of biology laboratories. To determine the prerequisites for enrollment, students wishing to take this course should contact the professor in charge of the laboratory.

405 Optics in Biology Fall term. Credit two hours. Enrollment limited to twenty. Prerequisites: Chemistry 104 or 208, Mathematics 108 or 111, and Physics 102 or 208, or consent of instructor. R. K. Clayton.

Lectures, problems, demonstrations, and laboratory experience in applications of optics to biology. Topics will include geometrical optics as applied to illumination systems, methods for studying biological effects of light, and analytical uses of optical absorption and fluorescence.

409 Research in Biology Either term. Credit to be arranged. Undergraduates must attach to their pre-registration material written permission from the staff member who will supervise the work and assign the grade. Staff.

Practice in planning, conducting, and reporting independent laboratory and/or library research programs.

503 Electron Microscopy for Biologists Fall term. Credit three hours. S-U grades optional. Open to graduate students, with preference given to students who have thesis problems requiring electron microscopy. Permission of instructor required. Preregistration recommended. Enrollment limited to eight. M. V. Parthasarathy.

Principles of electron microscopy, histological techniques for electron microscopy such as ultrathin sectioning, negative staining and metal shadowing, and interpretation of results. A brief introduction to scanning electron microscope is also included.

504 Advanced Electron Microscopy for Biologists Spring term. Credit three hours. S-U grades optional. Prerequisites: 503 and consent of instructor. Enrollment limited to six. M. V. Parthasarathy.

Animal Physiology and Anatomy

313 Histology: The Biology of the Tissues

Fall term. Credit four hours. Prerequisite: a two-semester introductory biology sequence; a background in vertebrate anatomy and organic chemistry or biochemistry desirable. W. A. Wimsatt. Provides the student with a basis for understanding the microscopic, fine structural and functional organization of vertebrates, and the methods of analytic morphology at the cell and tissue levels. The dynamic interrelations of structure, composition, and function in cells and tissues are stressed.

314 Ecological Animal Physiology Fall term. Credit four hours. Prerequisite: one year of introductory biology. Each laboratory section is limited to

twelve students. W. N. McFarland and F. H. Pough. An introductory course for students interested in ecology and physiology. The characteristics of the physical environment that are important to organisms are discussed and physiological, behavioral, and morphological adaptations of vertebrate and invertebrate animals to environment are analyzed.

316 Invertebrate Zoology Either term. Credit four hours. Prerequisite: at least one year of biological science or permission of instructor. Two lectures and two laboratories per week. J. M. Anderson and assistant.

Lectures on selected topics in the development, structure, function, and interrelations of invertebrate animals, with particular attention to phylogenetic aspects. Intensive laboratory work on representative invertebrates, utilizing living or fresh specimens wherever possible. Each student will be expected to do a significant amount of independent work and a term paper may be required.

410 General Animal Physiology: A Quantitative Approach, Lectures Spring term. Credit three hours. S-U grades optional. Prerequisites: one year of biology and physics; courses in chemistry, organic chemistry, biochemistry and computing desirable. H. C. Howland.

The principles of animal physiology are developed through consideration of the functioning of cells, tissues, and organs. Specific topics discussed include respiration, metabolism, circulation, excretion, body mechanics, muscle contraction, nerve action, sensory reception, and central nervous system function. A quantitative, systems-theoretical approach is emphasized.

411 General Animal Physiology Laboratory

Spring term. Credit two hours. Prerequisite: 410 or equivalent must be taken concurrently. H. C. Howland.

Students are introduced to basic techniques utilized in the study of the physiology of animal tissues. Experiments cover topics dealing with respiration, properties of muscle, circulation, activity of nerves, and osmotic phenomena.

412 Special Histology: The Biology of the Organs

Spring term. Credit four hours. Offered in alternate years. Enrollment limited to eighteen students. Prerequisite: 313 or consent of instructor. W. A. Wimsatt.

A continuation of course 313. The microscopic and ultrastructural organization of the principal vertebrate organ systems are studied in relation to their development, functional interaction, and special physiological roles. Courses 313 and 412 together present the fundamental aspects of the microscopic and submicroscopic organization of the vertebrate. The organization of the course involves student participation in lecture-seminars, and the prosecution of independent project work supplementary to the regular work of the laboratory. The latter enables students to gain practical experience with histological and histochemical preparative techniques.

414 Mammalian Physiology Spring term. Credit six hours. Students desiring registration are requested to file written application form at 438 Morrison Hall. Prerequisite: a year of biological sciences; courses in biochemistry, histology, and gross anatomy desirable. W. J. Visek, A. Bensadoun, W. Hansel, and H. Kasprzak.

This course for advanced undergraduate and graduate students emphasizes laboratory experience in advanced experimental methods dealing with the physiology of circulation, cardiac function, respiration, renal function, acid-base balance, endocrinology, and the nervous system. A background in experimental methods is desirable. Although the lectures parallel and supplement the laboratory exercises, students must allocate significant periods of time for outside reading and for preparation of written reports that interpret data they derive from laboratory exercises designed to demonstrate physiological principles in mammals.

418 Seminar in Anatomy and Physiology Either term. Credit one hour. S-U grades. Topics to be arranged. Limited to juniors and seniors. Organizational meeting first Tuesday of each semester 7:30 p.m. Staff.

419 Research in Animal Physiology and Anatomy Fall or spring term. Credit to be arranged. Undergraduates must attach to their preregistration material, written permission from the staff member who will supervise the work and assign the grades. Staff.

Practice in planning, conducting, and reporting independent laboratory and/or library research programs.

[512 Comparative Physiology Spring term. Credit two hours. Students are encouraged to enroll in 513 concurrently. Offered in alternate years. Not offered 1975-76.]

[513 Comparative Physiology Laboratory Spring term. Credit two hours. Limited to twelve students. Prerequisites: concurrent enrollment in 512 and consent of instructor. Not offered in 1975-76.]

Introductory Parasitology and Symbiology (Veterinary Medicine 330) Spring term. Credit three hours. Prerequisite: one year of biology.

J. H. Whitlock and J. R. Georgi.
A study of unrelated species living together in intimate physiological association. Parasitoses which result in disease in the host are presented as important and special cases of the symbiotic spectrum. Emphasis is placed on an integrative study of the causation of disease in human beings and cultivated and natural populations of plants and animals. The biological functions of disease and the impact of human activities on the disease structure of populations is examined. Laboratory exercises will involve a broad range of symbiotes and pathogens from viruses to nemas and arthropods. (W. F. Mai, J. P. Kramer, and J. H. Gillespie will collaborate in certain aspects of the course.)

Introductory Animal Physiology (Veterinary Medicine 346) Spring term. Credit four hours. Prerequisites: one year of biology, college chemistry, and mathematics. D. N. Tapper and others.
A course taught from the perspective of organ systems and homeostatic control in mammals with emphasis on human physiology where possible. Approximately one-third deals with basic membrane and cell properties and the nervous system; a second third with blood and circulation, respiration, and renal physiology. The last third covers energy and intermediary metabolism, endocrinology, and reproductive physiology.

Introductory Physical Biology (Veterinary Medicine 347) Fall term. Credit three hours. Prerequisites: basic biology, chemistry, and calculus, or permission of instructor. R. H. Wasserman.
A basic treatment of the application of physical principles to physiological problems. Coverage includes: mathematical approach to physiological problems; principles of tracers; kinetics; systems analysis and control theory; physicochemical principles; flow of energy in living systems; flow of mass in living systems; contractility.

Introductory Animal Physiology Laboratory (Veterinary Medicine 348) Spring term. Credit one hour. Prerequisites: V.M. 346 or enrollment in V.M. 346 concurrently. D. N. Tapper.
Seven laboratory sessions, each attended once every two weeks. Designed to supplement V.M. 346. Limited to 100 students with priority of registration given to animal physiology concentrators. Laboratory sessions will consist of demonstrations, instructor-assisted experiments and student-run experiments covering the nervous, pulmonary, renal, circulatory, and gastrointestinal systems.

Special Projects in Anatomy (Veterinary Medicine 600) Fall or Spring. By permission of instructor only.

Vertebrate Morphology (Veterinary Medicine 700) Spring term. Credit three hours. H. E. Evans.

Animal Embryology (Biological Sciences 386)

Comparative Physiology of Reproduction of Vertebrates (Animal Science 428)

Developmental Anatomy and Histology (Veterinary Anatomy 507)

Fundamentals of Endocrinology (Animal Science 427)

General Photobiology (Biological Sciences 547)

Neuroanatomy (Veterinary Anatomy 505)

Elementary Neurophysiology (Biological Sciences 326)

Optics in Biology (Biological Sciences 405)

Insect Morphology (Entomology 322)

Sensory Function (Biological Sciences 427)**Vision (Biological Sciences 425)****The Vertebrates (Biological Sciences 273)****Neurobiology and Behavior**

321 Neurobiology and Behavior Fall term. Credit three hours. Prerequisite: one year of introductory biology for majors. T. Eisner, M. E. Eldefrawi, and staff.

Evolution of behavior, cueing of behavior; social and nonsocial behavior; neuroanatomy; neurophysiology; neurochemistry; neural networks; memory.

322 Physiological Psychology Laboratory (also Psychology 322) Spring term. Credit three hours. Prerequisites: 321, Psychology 201, concurrent or prior registration in 323. Consent of instructor required. May be taken on an S-U basis with consent of instructor. B. P. Halpern.

Experiments will be done on physiological aspects of learning conditioning in vertebrates and invertebrates, memory, chemical communication, interactions between hormones and behavior, and effects of brain modification on perceptual and alimentary behavior. A final original experiment will be planned and carried out.

323 Physiological Psychology (also Psychology 323) Spring term. Credit three hours. Prerequisites: one year of introductory biology for majors or equivalent and introductory chemistry; Psychology 201 or a 300-level course in psychology; Chemistry 103-104 or its equivalent; 321 is strongly recommended. B. Halpern.

Selective examination of neural, endocrine, and biochemical functions related to emotion, memory, learning, perception, hunger, thirst, and sleep.

[324 Animal Social Behavior Spring term. Credit four hours. Prerequisite: 101-102 or 105-106. Not open to students who have already taken 523. Not offered in 1975-76.]

325 Cellular Organization of the Nervous System Spring term. Credit three hours. Prerequisites: one year of introductory biology for majors and 321; the latter may be waived by permission of the instructor. M. M. Salpeter. Special emphasis is on development, functional relationships, and ultrastructure.

326 Elementary Neurophysiology Fall term. Credit three hours. Prerequisite: 325 or permission of the instructor. T. R. Podleski.

Lectures will examine the biophysical and biochemical properties of the excitable membranes of nerve cells and muscle. Topics to be studied include the origin of bioelectric potentials, excitability, synaptic transmission, neural circuits, the specificity of neural membranes, and possible mechanisms for plasticity.

[328 Behavioral Maturation (also Psychology 328) Fall term. Credit three hours. Prerequisites: one year of college biology and one physiological psychology course or its equivalent. E. H. Lenneberg. Not offered 1975-76.]

420 Principles of Neurobiology Laboratory (also Psychology 420) Spring term. Credit four hours.

Prerequisite: Biological Sciences 326, or 427, or 428 (may be taken concurrently) or permission of instructors. Enrollment limited to thirty-six students. B. Halpern, T. Podleski, D. Tapper, Z. Wiesenfeld, and staff. Laboratory practice with neurobiological preparations and experiments, designed to teach the students the techniques, experimental designs, and research strategies used to study biophysical and biochemical properties of excitable membranes, sensory receptors, the central nervous system, transformation of afferent activity, the characteristic composition and metabolism of neural tissue. The course will be divided into two segments: an initial segment (approximately six weeks) in which fundamental techniques will be learned and used in experiments by all students; a second segment (approximately eight weeks) in which students will learn and use more specialized techniques for experiments in either elementary neurophysiology of excitable membranes, or sensory function, or neurochemistry.

421 Comparative Vertebrate Ethology Fall term. Credit three hours. Prerequisites: 101-102 or 105-106, and 321, and permission of instructor. S-U grades optional. W. C. Dilger.

A survey of the methods and principles of vertebrate ethology including such topics as aggression, fear, sex, feeding, and other normal activities. Emphasis is placed on the causation, function, biological significance, and evolution of species-typical behavior. The laboratories are designed to give first-hand knowledge of the material covered in lectures.

423 Animal Communication Fall term. Credit four hours. Enrollment limited to thirty-two students. Prerequisites: Biological Sciences 321 and Physics 101-102 or 207-208. R. R. Capranica and R. Hoy. The functional aspects of biological signals, their physical properties, and the physiological mechanisms underlying their generation and reception. Lectures will examine in detail selected biological communication problems from each of the known sensory modalities. Discussion will cover signal analysis, transmission properties, and the limitation of each type of communication. Laboratories will include behavioral observations under both field and captive conditions, and individual experience with the techniques of signal recording and analysis.

[424 Brain and Behavior Fall term. Credit three hours. Prerequisite: familiarity with theories of perception, memory, and physiological psychology, or permission of instructor. Not offered 1975-76.]

[425 Vision Fall term. Credit two hours. Prerequisites: Chemistry 104 or 108, Mathematics 108 or 111, Physics 102 and 208, or consent of instructor; con-

current or previous enrollment in Biological Sciences 405 recommended. R. K. Clayton. Not offered in 1975-76.]

426 Neuropharmacology Spring term. Credit three hours. Prerequisites: 431 or 432 and 321, or consent of instructor. M. E. Eldefrawi. Deals with drugs that affect the nervous system, both central and peripheral. Emphasis will be on mechanisms of drug action whereby basic biochemical processes and neurophysiological and behavioral phenomena are bridged. Among the topics discussed are stimulants, anesthetics, hallucinogens, and neurotoxins. Topics covered will also include drug addiction, psycho-pharmacology, endocrine pharmacology, and the biochemical basis of the therapeutic uses of drugs in diseases of the nervous system.

[427 Sensory Function Fall term. Credit three hours. Prerequisite: 321 or the equivalent. B. P. Halpern and D. N. Tapper. Offered in alternate years. Not offered 1975-76.]

[428 Neurochemistry Fall term. Credit three hours. Prerequisites: 321 and 431 or 432. Enrollment approximately 50-100 students. Not offered 1975-76.]

429 Research in Neurobiology and Behavior Either term. Credit to be arranged. Undergraduates must attach to their preregistration material written permission from the staff member who will supervise the work and assign the grade. S-U grades optional. Staff. Practice in planning, conducting, and reporting independent research projects.

[520 Chemical Communication Spring term. Credit three hours. Offered in alternate years. Enrollment limited to thirty seniors and graduate students. Prerequisites: 101-102 or equivalent; Organic Chemistry 357-358 or equivalent; 231 or equivalent. T. Eisner, J. Meinwald, and W. Roelof. Not offered 1975-76.]

[522 Behavioral Neurogenetics Spring term. Credit three hours. Offered in alternate years. Prerequisites: 321 (Intro. Neurobiology) and 281 (Genetics); Developmental biology is recommended but not required. R. Hoy. Not offered 1975-76.]

523 Vertebrate Social Behavior Fall term. Credit three hours. Course given in alternate years (next offering 1975). Prerequisites: course work in animal behavior and ecology, and permission of instructor. S. T. Emlen. A discussion of vertebrate social behavior, with emphasis upon: behavioral adaptations to the environment; ecological significance of diverse social systems; advantages of territoriality, coloniality, and nomadism; evolution of cooperative and communal social organizations; feeding and flocking strategies; ecological constraints on monogamous, polygamous, and promiscuous mating systems; role of social behavior in population regulation.

524 Behavioral Neurophysiology Spring term. Credit three hours. Prerequisite: 321 or equivalent. Recommended: 326. Enrollment limited to twenty-five students. J. M. Camhi. The overall subject is the determinants of motor outputs. Topics to be considered include peripheral innervation patterns, interactions among motoneurons, interneuron-motoneuron relationships, interactions among interneurons, etc. Simpler systems, such as invertebrates, will be stressed and will serve as model systems for understanding more complex problems of vertebrates. Most readings will be research papers which will be analyzed in the weekly discussion.

525 Behavioral Neurophysiological Laboratory Spring term. Credit two hours. Enrollment limited to ten students. Course 524 must be taken concurrently. J. M. Camhi. After learning basic techniques students will work on extended research projects under direction of the staff.

[526 Functional Organization of the Mammalian Nervous System (Lecture) Fall term. Credit three hours. Offered in alternate years. Prerequisite: two years of biological science. Courses in biochemistry, physics, and neural anatomy are desirable. E. L. Gasteiger. Not offered 1975-76.]

[527 Functional Organization of the Mammalian Nervous System, Laboratory Fall term. Credit three hours. Concurrent registration in 526 requisite. E. L. Gasteiger. Not offered 1975-76.]

528 Bioelectric Systems Spring term. Credit three hours; four hours with laboratory. Prerequisite: 423 or 427 or 524, or Physics 360, or Electrical Engineering IEE 312. Permission of instructor required for laboratory. R. R. Capranica and M. Kim. The application of systems techniques to biological problems. Electrical activity of nerve cells; generation and propagation of nerve impulse; voltage clamp technique. Hodgkin-Huxley model; electrical excitability and transfer function of neuromuscular systems; synaptic transmission; models of nerve cells and control system analysis of oscillatory activity. Nerve nets; evoked activity; spontaneous activity; simulation and computer analysis. Functional neuroanatomy of brain; transfer characteristics of sensory receptors; sensory encoding and processing in the peripheral and central nervous systems; neural mechanisms for vision and hearing. Projects for the optional laboratory sessions to be arranged. Possible topics include: measurement of EKG and EEG, digital computer simulation and systems analysis of electrophysiological data; design of electronic instrumentation for biological and medical experiments.

620 Seminar in Neurobiology and Behavior Either term. Credit one hour. Primarily for undergraduates. Organizational meeting, first Monday of semester, 8 p.m. Caldwell 100. S-U grades optional. Staff.

In most semesters at least three seminars on different topics will be offered. Topics and instructors will be listed in the Catalog Supplement at beginning of semester.

[622 Seminar in Ecological Animal Behavior] Spring term. Credit two hours. Open to qualified graduate and undergraduate students who have taken courses in animal behavior and ecology, and who have secured permission of the instructor. Enrollment limited to twelve students. Not offered 1975-76.]

[623 Graduate Seminar in Vertebrate Social Behavior] Fall term. Credit two hours. Given in alternate years (next offering 1976). Prerequisites: permission of instructor; enrollment limited. Intended as a graduate-level follow-up to Biological Sciences 523. Students should have had course work in animal behavior, ecology, and evolutionary theory. S. T. Emlen. Not offered 1975-76.]

624 Field Methods in Animal Behavior Spring term. Credit four hours. Prerequisites: 101-102, 321, and 421 or 523, or equivalent, and permission of instructor. Enrollment limited to twenty. Lectures, laboratory, and required independent project. It will be mandatory for enrolled students to participate in all of these aspects of the course and no partial credit will be given. R. Buskirk.
A practically oriented course for seniors and first-year graduate students who will be pursuing field studies. Lecture-discussion areas include the scope and design of field behavior projects, sources of variability, and evaluation of relevant publications. Laboratory periods are devoted to introduction, demonstration, and practice of techniques and to individual field work.

629 Advanced Topics in Neurobiology and Behavior Either term. A seminar course for graduate students and selected undergraduates. Topics and credit, to be arranged. Staff and students.
Designed to provide several study groups each semester on specialized topics. A group may meet for whatever period is judged adequate to enable coverage of the selected topics. Ordinarily, topics will be selected and circulated during the preceding semester. Suggestions for topics should be submitted by faculty or students to the chairman of the section of Neurobiology and Behavior.

Biochemistry

130 Orientation Lectures in Biochemistry Spring term. Noncredit. Primarily for freshmen, sophomore, and transfer students. Lectures and demonstrations covering modern research and training in biochemistry and molecular and cell biology. First three Saturdays of term. 9:05-10:30. Section chairperson and staff.

[131 Introductory General Biochemistry] Credit six hours. A terminal course. Offered only in Summer Session. A. L. Neal.
Lectures, demonstrations, and recitations dealing with selected fundamental principles of general, organic, and biochemistry with emphasis on biochemistry.]

231 Introductory Biochemistry Fall term. Credit three hours. Prerequisite: Chemistry 104 or 208, or the equivalent. May not be taken for credit by students who have completed a more advanced course in this section. A. L. Neal.
A brief survey of organic chemistry as related to biological compounds and a discussion of selected biochemical topics and reactions associated with the metabolism of animals, plants, and microorganism. Especially designed as a general course for four-year students.

430 Basic Biochemical Methods Either term. Credit four hours a term or four hours for two terms or two hours a term. Prerequisites: 431 or 432, and permission of instructor. Lecture-discussion F 1:25 for all students. R. R. Alexander, L. D. Wright, and V. Utermohlen.
Students must preregister with instructor by the last day of preregistration.
A modular course designed to meet the practical biochemical needs of students concentrating in other disciplines. Choice of modules emphasizing clinical biochemistry, nutritional biochemistry, plant biochemistry, and analytical biochemistry. Students enrolled for four credits will go into more depth and will complete more modules than students enrolled for two credits.

431-432 Principles of Biochemistry NOTE: During 1975-76 Biological Sciences 431-432 will be given in two formats: lectures (431) and individualized instruction (432). *Lectures will be given fall term only. Individualized instruction will be offered to a maximum of 150 students each term.* All students intending to take 431-432 in the fall should attend the first class meeting, M 10:10, September 1. See specific listings below.

431 Principles of Biochemistry (Lectures) Fall term. Credit four hours. Prerequisite: Chemistry 253 or the equivalent. G. W. Feigenson and R. E. McCarty.
A basic course dealing with the chemistry of biological substances and their transformations in living organisms.

432 Principles of Biochemistry (Individualized Instruction) Either term. Credit four hours. Prerequisite: Chemistry 253 or the equivalent. Students must have one of the following free: M W F 8 or M W F 10:10. First meeting in fall, M 10:10 September 1. R. Wu, J. M. Griffiths and staff. First meeting in spring, M 10:10, January 26. J. M. Calvo, J. M. Griffiths, and staff.
The focal point for this course is a study center where students find materials, get help, participate in discussions, and take exams. The study center will be

open mornings, afternoons, and evenings. Students are required to master a minimum body of core material. The pace at which this material is assimilated will, to a large extent, be self-determined. Students who wish to go beyond core material will have available a wide range of electives including discussions of research papers, independent study of a variety of problems, *Scientific American* articles, and original research literature. There are no formal lectures. Grades will be determined primarily by the amount of elective work satisfactorily completed and by a final exam. Each group of twenty-five students will have contact with an instructor, a teaching assistant, and an undergraduate assistant.

435-436 Undergraduate Biochemistry Seminars

Either term. Credit one hour each term. Juniors and seniors only. Enrollment limited. Prerequisite: Biological Sciences 431 or 432 or consent of instructor. First meeting of each term is on the first Tuesday at 4 p.m. Fall term. V. Utermohlen. Spring term, J. Fessenden-Raden.

A group of selected papers from the literature will be critically evaluated during six or seven two-hour meetings. A term paper will probably be required. Fall term, biochemistry of immunological processes; spring term, role of cyclic AMP as a regulatory molecule.

437 Cell Biology Spring term. Credit three hours. Intended primarily for juniors and seniors. Some knowledge of biochemistry assumed. A. J. Gibson and R. E. MacDonald.

communities. The concepts of cell growth, structure, and differentiation in prokaryotic and eukaryotic communities will be examined and compared with emphasis on cellular dynamics and interactions.

438 Laboratory in Cell Biology Spring term.

Credit three hours. Prerequisites: coregistration in 437 and permission of instructor. Enrollment limited. A. J. Gibson and R. E. MacDonald.

An introduction to techniques of handling cells in the laboratory. Cell material will vary to give the students the widest practical experience in the problems inherent in different systems.

439 Research in Biochemistry Either term. Credit hours to be arranged. For undergraduate students concentrating in biochemistry. Prerequisite: adequate ability and training for the work proposed. Undergraduates must attach to their preregistration material, written permission from the staff member who will supervise the work and assign the grade.

Special work in any branch of biochemistry on problems under investigation by individual members of the staff of the section. Arranged jointly by the section chairperson and the research adviser.

530 Intermediate Biochemical Methods

Spring term. Credit four hours. Prerequisites: Chemistry 358 and 431 or 432, or concurrent registration in 532. J. W. Roberts, D. B. Wilson and staff.

Intended for undergraduates majoring in biochemistry and for graduate students with a minor in biochemis-

try. Preregistration must be made with an instructor by October 31. Selected experiments on carbohydrates, proteins, amino acids, and metabolism (cellular particulates, kinetics, general enzymology) will be given to illustrate basic biochemical principles. The course will emphasize quantitative aspects rather than qualitative identifications.

531-532 Intermediate Biochemistry (Lectures)

531 fall term only; 532 spring term only. Credit four hours a term. Prerequisites: Chemistry 357-358 and 431 or 432, or consent of instructor. Calculus and physical chemistry highly desirable. Examinations, optional background or advanced lectures, and discussion sections will be scheduled W 9:05. Fall term. J. K. Moffat. Spring term. P. C. Hinkle.

The major areas of biochemistry and molecular biology will be covered in detail. Fall term: proteins and the nature of enzymatic catalysis; biosynthesis of informational macromolecules. Spring term: carbohydrate, nitrogen, and lipid metabolism; bioenergetics.

534 Biochemistry of the Vitamins and

Coenzymes Spring term. Credit two hours. Offered in alternate years. Prerequisites: Chemistry 353 and Biological Sciences 431 or 432 or their equivalents. D. B. McCormick.

The chemical, biochemical, and nutritional aspects of the vitamins and coenzymes.

535 Advanced Biochemical Methods I

Fall term. Credit six hours. Limited to graduate students majoring in biochemistry. E. B. Keller and staff.

536 Advanced Biochemical Methods II

Spring term. Credit six hours. Limited to graduate students in the field of biochemistry. S-U grades only. Staff.

537 Basic and Applied Science Coordination

Course in Biochemistry Fall term. Credit one hour. Prerequisite: Biological Sciences 431 or 432 or equivalent. E. Racker.

631-632 Research Seminar in Biochemistry

Either term. Credit one hour each term. S-U grades only. E. Racker.

Required of all graduate students (first-year students excepted) majoring in biochemistry. The course may be repeated for credit.

633-638 Advanced Biochemistry

Throughout the year. Lectures and seminars on specialized topics, three topics per term. Credit one hour per topic. Prerequisite: 532 or consent of instructor. May be repeated for credit.

633 Structure of Biological Membranes

Fall term 1975. First four and one-half weeks of term. D. B. Zilversmit.

634 Regulatory Aspects of Photosynthesis

Spring term 1976. First four and one-half weeks of term. R. E. McCarty.

635 Structure and Function of Mitochondrial and Chloroplast Membranes Fall term 1975. Middle four and one-half weeks of term. E. Racker.

636 Crystallography of Macromolecules Spring term 1976. Middle four and one-half weeks of term. J. K. Moffat.

637 Chemistry of Nerve Transmission Fall term 1975. Last four and one-half weeks of term. G. P. Hess.

638 Transport Across Membranes Spring term 1976. Last four and one-half weeks of term. P. Hinkle.

639 Biochemistry Seminar Fall and spring terms. Noncredit. Staff.

See also, for optional credit in Biochemistry:

Biological Science 548 Plant Physiology: Aspects of Metabolism

Veterinary Medicine 512 Vertebrate Biochemistry

Botany

145 Plant Biology Fall term. Credit three hours. Limited to 96 students. Prerequisite: Biological Sciences 101-102 or equivalent. Maximum sixteen students in each laboratory. H. P. Banks and assistants. Introductory botany for those who plan to specialize in some aspect of, or to make some utilization of the plant sciences. Emphasizes structure, reproduction, and classification of angiosperms, and the history of life on earth. Emphasis in laboratory is placed on the development of skills in handling plant materials, including identification and several field trips.

242 Plant Physiology Spring term. Credit five hours. Primarily for undergraduates in the agricultural sciences. Prerequisite: 101-102 and introductory chemistry. Lectures, conference, and laboratory. Conference and laboratory must be on same day. The laboratory is the same as for course 340. P. J. Davies and R. M. Spanswick.

Plant physiology as applied to plants growing in communities. Examples will deal with crop plants or higher plants where possible, though not exclusively. Topics will include cell structure and function; soil-plant-water relations; water uptake, transport and transpiration; irrigation of crops; sugar transport; mineral nutrition of crops; respiration and photosynthesis; light relations in crops; growth and development-hormones, flowering, fruiting, dormancy, and abscission; chemical control of plant growth.

340 Plant Physiology Spring term. Credit three hours. Prerequisite: 101-102 and organic chemistry. Must be accompanied by 342 except by permission of the instructor. A. T. Jagendorf. The behavior, growth, transport processes, and environmental response of plants. Topics will include membrane properties, solute and water transport,

function of osmotic forces; mineral and organic nutrition; stress resistance; growth and hormonal action; metabolism including photosynthesis and respiration; responses to gravity, light, photoperiod, and temperature.

342 Plant Physiology Laboratory Spring term. Credit two hours. Must be accompanied by 340. Conference and laboratory must be on the same day. A. T. Jagendorf and R. M. Spanswick.

344 Phycology Spring term. Credit four hours. J. M. Kingsbury. An introduction to freshwater and marine algae including consideration of their ecology as members of the plankton and benthos and their importance to man. The laboratory, utilizing field material and cultures from an extensive living collection, is designed to illustrate lecture topics, provide familiarity with algae in the field, and introduce the student to techniques used in isolating, culturing, and studying algae in the laboratory.

345 Plant Anatomy Fall term. Credit four hours. Prerequisite: 101-102. Limited to forty-eight students. D. J. Paolillo.

A descriptive course with equal emphasis on development and mature structure. Lecture, laboratory, and reading are integrated in a study guide. The laboratory offers the opportunity to develop the practical skills required to make anatomical diagnoses and to write anatomical descriptions. This course is not intended for general education. Students who are in doubt about the level of their preparedness or the role of this course in their curricula are encouraged to consult the instructor before registering.

347 Cytology Fall term. Credit four hours. Prerequisite: 101-102 or the equivalent; 281 recommended. C. H. Uhl.

A study primarily of the structure of cells and their components and the relation of these to function and to heredity. Special attention is given to chromosomes. Both plant and animal materials are used.

350 Plants and Man Spring term. Credit three hours. S-U grades optional. D. M. Bates. A consideration of the role of plants in the human environment and in the evolution of civilizations. Intended for students in all colleges. Emphasis is on ethnobotanical considerations and on historical to present-day utilization of plants in nutrition, housing, clothing, medicine, religion, and the arts.

440 Cytogenetics Spring term. Credit three hours. Offered in alternate years. Prerequisite: courses 347 and 281 or the equivalent. C. H. Uhl.

Deals mainly with the cellular mechanisms of heredity, including recent research in cytology, cytogenetics, and cytotaxonomy.

441 Plant Growth and Development Fall term. Credit three hours. Offered in alternate years. Prerequisites: course 242 or 340 and 345, or equivalent, or permission of instructor. P. J. Davies and D. J. Paolillo.

This course explores the changes that occur during growth and development of plants and their control: morphological and anatomical changes in apices, tissue differentiation, organ formation, embryo development, nucleic acid and protein synthesis, gene regulation, hormone action and interaction, the influence of light in development, flowering, fruiting, dormancy and abscission, senescence.

[444 Comparative and Developmental Morphology of the Embryophyta] Spring term. Credit four hours. Offered in alternate years. Prerequisite: 345. D. J. Paolillo. Not offered in 1975-76.]

448 Plants and Time (Paleobotany) Spring term. Credit three hours. Offered in alternate years. Prerequisite: plant anatomy and plant morphology recommended (may be concurrent), or permission of instructor. H. P. Banks.

A survey of the evolutionary history of the major groups of plants. Emphasis will be placed on a consideration of the geologic time of appearance of major innovations in the plant kingdom and their subsequent adaptive radiations.

449 Research in Botany Fall or spring term. Credit to be arranged. Undergraduates must attach to their preregistration material written permission from the staff member who will supervise the work and assign the grade. Staff.

Students engaged in special problems or making special studies may register in this course. They must satisfy the instructor under whom the work is to be taken that their preparation warrants their choice of problem.

543 Plant Physiology, Advanced Laboratory Techniques Fall term. Credit four hours. Primarily for graduate students doing work in plant physiology, but open to others if space permits. Prerequisites: organic chemistry, biochemistry, course 242 or 340, or the equivalent. A. T. Jagendorf.

[545 Photosynthesis] Fall term. Credit two hours. Prerequisites: Chemistry 104 or 208, Math 108 or 111, and Physics 102 or 208, or consent of the instructor. Concurrent or previous enrollment in 405 recommended. R. K. Clayton. Not offered 1975-76.]

547 General Photobiology Fall term. Credit two hours. Open to undergraduate students. Prerequisites: same as for 545. Concurrent or previous enrollment in 405 recommended. R. K. Clayton. A study of the major interactions between light and living matter as encountered in photosyntheses, vision, regulation of physiology and development, bioluminescence, and damage by ultraviolet and visible light.

548 Aspects of Plant Metabolism Spring term. Credit three hours. Offered in alternate years. Prerequisites: 242 or 340, and 431 or 432; Chemistry 353, or the equivalent. A. T. Jagendorf; R. E. McCarty, J. F. Thompson, and staff. Selected areas of plant biochemistry will be reviewed

in the context of the plant life cycle and responses to the environment. Topics include: metabolism of lipids, carbohydrates, organic acids, proteins and pigments; nitrogen and sulfur assimilation; hormone metabolism; respiration, photosynthesis, development and replication of chloroplasts; cell wall composition and properties. Attention will be paid to operation of control mechanisms.

[549 Transport of Solutes and Water in Plants] Fall term. Credit three hours. Offered in alternate years. Prerequisite: 340 or equivalent. R. M. Spanswick. Not offered in 1975-76.]

[642 Topics in Ultrastructure of Plant Cells] Spring term. Credit three hours. Offered in alternate years. Prerequisites: (for upperclassmen): 345 or 347 and permission of the course coordinator. Staff (Coordinator—M. V. Parthasarathy). Not offered 1975-76.]

643 Plant Physiology Seminar Fall and spring terms. Noncredit. Required of graduate students taking work in plant physiology. R. M. Spanswick.

645 Current Topics in Plant Physiology Fall and spring terms. Credit two hours per term. Course may be repeated for credit. A. T. Jagendorf.

647 Special Topics in Plant Taxonomy Fall and spring terms. Credit one hour per term. Prerequisite: permission to register. D. M. Bates, W. J. Dress, J. W. Ingram, and H. E. Moore.

A series of four topics, one presented each term, designed to provide professional background in biosystematics, literature of taxonomic botany, nomenclature, and tropical families of phanerogams.

[(1) Fall term. Nomenclature. W. J. Dress. Not offered 1975-76.]

[(2) Spring term. Biosystematics. D. M. Bates. Not offered 1975-76.]

(3) Fall term. Families of Tropical Phanerogams. The families of flowering plants encountered solely or chiefly in tropical regions will be considered in lectures, discussions, and demonstrations with the aim of providing basic points of recognition for and an understanding of diversity and relationships in these families for the student venturing into the tropics. H. E. Moore.

(4) Spring term. Literature of Taxonomic Botany. A survey of the basic reference works in taxonomy from the pre-Linnaean literature drawn on by Linnaeus to contemporary publications with comments on the peculiarities of the books (when appropriate) on publication dates, typographic devices, and intricacies of bibliographic citation. Lectures, demonstrations, discussions, and problems. J. W. Ingram.

649 Seminar in Systematic Botany Fall term. Credit one hour. Course may be repeated for credit. D. M. Bates.

Lectures and discussion led by staff, visitors, and students on topics of current importance to systematic botany.

Evolution, Taxonomy, and Ecology of Vascular Plants (Biological Sciences 371, 466, 663, 669)**Plant Ecology (Biological Sciences 464, 465)****Advanced Mycology (Plant Pathology 579)****Taxonomy of Fungi (Plant Pathology 599)****Current Topics in Mycology (Plant Pathology 649)****Introductory Mycology (Plant Pathology 309)****Optics in Biology (Biological Sciences 405)****Ecology, Systematics, and Evolution**

261 Introductory Ecology Fall and spring terms. Credit three hours. Prerequisite: college biology or a score of 5 on the advanced placement examination. Special projects or discussion by arrangement. Fall, staff. Spring, L. C. Cole.

Ecological principles studied and reinforced using current examples of environmental problems and their solutions. Topics include energy in ecological systems and the energy crisis; recycling in ecosystems and waste production and degradation; limiting factors and impact of pollutants on life; population dynamics, human numbers and world food supply; competition, predation, parasitism and biological control; biotic communities and the use of natural resources; population dispersal; ecosystems and land and water use; succession and supply-demand economy within biotic communities and the economics of pollution control. The relationship of ecology to other sciences and the need of multidisciplinary approaches to both biological and environmental problems will be emphasized.

273 The Vertebrates Spring term. Credit five hours. Laboratory enrollment limited to twenty each section. Prerequisite: 101-102 or equivalent. One preliminary examination will be given at 7:30 p.m. Midterm examination will be given in the evening. T. J. Cade and staff.

An introduction to the evolution, classification, comparative anatomy, life history, and behavior of vertebrate animals. Laboratory dissection, experimentation, and demonstration are concerned with structure, classification, systematics, biology of species, and studies of selected aspects of vertebrate life.

361 General Ecology Fall and spring terms. Credit three hours. For students with concentration in ecology or related subject. Not open to freshmen. Prerequisite: 101-102 or equivalent. Fall, P. L. Marks and P. P. Feeny. Spring, B. F. Chabot. Principles concerning the interactions between organisms and their environment; influence of competition, predation, and other factors on population size and dispersion; analysis of population structure and growth; processes of speciation; interspecific competition and the niche concept; succession and community concepts; influence of climate and past events on the diversity and stability of communities in

different regions of the world; role of energy flow and biogeochemical cycling in determining the structure and productivity of ecosystems. Modern evolutionary theory will be stressed throughout and attention given to conflicting ecological hypotheses.

364 Introduction to Marine Science Summer, by special application. Credit five hours. S-U grades only. Prerequisite: a full year of college biology or geology. A special course offered at the Shoals Marine Laboratory of Cornell University, Appledore Island, Isles of Shoals, off Portsmouth, New Hampshire. The faculty includes up to fifty lecturers from academic institutions, marine industry, governmental agencies, and fishermen. J. M. Kingsbury and staff. Living material and habitats are emphasized in introducing students to the major disciplines of marine biology and oceanography and in rounding out the student's knowledge of these topics as presented at inland locations. Shipboard demonstrations of oceanographic tools and techniques are conducted, and the North Atlantic fisheries are examined with the participation of commercial trawlers and fishermen from the Gloucester fleet and the National Marine Fisheries Service. Presented cooperatively by Cornell University, the University of New Hampshire, and the State University of New York, and carries transcript credit at the participating universities. For more details see the *Announcement of the Summer Session*; for information and applications, consult the Office of Marine Biology, 202 Plant Science Building.

371 Taxonomy of Vascular Plants Fall term. Credit four hours. Prerequisite: 281 or permission of the instructor. In 1976-77 this course will be offered only in the spring semester. R. T. Clausen. An introduction to the evolution and classification of vascular plants, with attention to principles, methods of identification, and literature. In the first part of the term trips are held in laboratory periods.

460 Systems Ecology Spring term. Credit three hours. S-U grades optional. Enrollment limited to thirty students. Prerequisites: 361, calculus, and permission of instructor. C. Hall and D. Goodman. An introduction to the quantitative study of populations, communities, and ecosystems, and their interacting components. The emphasis will be on the development and validation of models based on component interactions and entire systems. Topics covered will include relevant ecological principles, system diagramming, rudimentary mathematical techniques, simulation modeling, and the use of analog and digital computers. The format will include student presentations and guest lectures describing individual case histories in which a variety of methods were used for ecological analysis, simulation, or prediction.

461 Oceanography Fall term. Credit three hours. Prerequisite: 261, 361, or consent of the instructor. J. P. Barlow. Physical and chemical aspects of the marine environment and interactions with marine communities. Laboratories devoted to demonstrations of field tech-

niques, and interpretation and analysis of typical oceanographic data.

462 Limnology, Lectures Spring term. Credit three hours. Prerequisite: 261, 361, or permission of instructor. G. E. Likens.
A study of the interaction of biological communities and their aquatic environment. Lectures deal with the physical, chemical, and biological dynamics of freshwater ecosystems.

463 Limnology, Laboratory Spring term. Credit two hours. Prerequisite: concurrent enrollment in 462. One all-day field trip. G. E. Likens
Laboratories devoted to both field studies and experiments on model ecosystems.

464 Plant Ecology, Lectures Fall term. Credit three hours. Prerequisite: two advanced-level courses in biology including 361, or consent of instructor. P. L. Marks.
Principles of plant-environment interactions in relation to the evolution, distribution, structure, and functioning of plant communities. Students should enroll in both 464 and 465.

465 Plant Ecology, Laboratory Fall term. Credit one hour. Prerequisite: concurrent enrollment in 464 or an equivalent background in plant ecology. P. L. Marks.
Laboratory and field exercises in plant ecology. Field study of plant communities and techniques for the analysis of community data are emphasized.

466 Evolution and Ecology of Vascular Plants Spring term. Credit four hours. Prerequisite: 371 or permission of instructor. R. T. Clausen. Not offered in 1976-77.
A study of the variation, evolution, and ecological distribution of vascular plants. Laboratory periods in the later part of the term are devoted to study of natural populations in the field.

[467 Chemical Ecology Spring term. Credit two hours. Primarily for seniors and graduate students. S-U grades optional. Offered in alternate years. Prerequisites: Chemistry 353 or 357-358, course 101-102 or permission of instructor. P. P. Feeny, M. Alexander, T. Eisner, J. Meinwald, W. L. Roelofs, and R. H. Whittaker. Offered in alternate years. Not offered 1975-76.]

[468 Species Distribution and Abundances Fall term. Credit three hours. Prerequisite: 361; introductory statistics strongly recommended. Field projects by arrangement. P. F. Brussard. Not offered 1975-76.]

470 Ichthyology Fall term. Credit five hours. Prerequisites: 273, 477, and permission of instructor. Offered in alternate years.
Lectures on advanced aspects of the biology of fishes including systematics, ecology, life history, and literature. Laboratory studies of the orders, major families, and principal genera, and of systematic

procedures. Field studies of the ecology and life history of local species.

471 Mammalogy, Lectures Fall term. Credit three hours. Prerequisite: 101-102. J. W. Hudson and M. E. Richmond.
Lectures on the evolution, classification, distribution, and adaptations, both physiological and morphological, of mammals.

472 Mammalogy, Laboratory Fall term. Credit two hours. Prerequisite: concurrent enrollment in 471. J. W. Hudson and M. E. Richmond.
Laboratory and field work on ecology, behavior, physiology, and the taxonomy of recent mammals, with emphasis on the North American fauna.

473 Ornithology Fall term. Credit four hours. Prerequisite: 273 or equivalent work in vertebrate biology and permission of instructor. T. J. Cade.
Lectures cover various aspects of the biology of birds, including anatomy, physiology, classification, evolution, migration and orientation, behavior, ecology, and distribution and are fully integrated with laboratory studies. Laboratory includes studies of external and internal morphology, pterylosis, molts and plumages, specimen identification of birds of New York, and families of birds of the world. Several demonstration periods emphasize hybridization, evolution, adaptive radiation, mimicry, and geographic variation. Occasional field trips and special projects are also included.

474 Herpetology Spring term. Credit five hours. Prerequisite: 273 or equivalent experience in vertebrate zoology. Lectures, laboratory, and several required evening field trips and at least one Saturday field project. Some of the laboratory work requires measurements to be made at intervals during the day and evening. Each laboratory section limited to twelve students. F. H. Pough. Not offered in 1976-77.
Lectures on the evolution, distribution, and adaptations of reptiles and amphibians. Emphasis on zoogeography, ecology, behavior, and physiology. Laboratory and field work on systematics, ecology, behavior, and physiology.

475 Herpetology, Lectures Spring term. Credit three hours. Prerequisite: permission of instructor. F. H. Pough. Not offered 1976-77. The lecture portion of 474.

476 Organic Evolution Fall term. Credit four hours. Prerequisites: 281 and a working knowledge of elementary algebra and logarithms. Also desirable is a course with some taxonomic content in botany or zoology, or experience in making and maintaining a collection of some plant or animal group. W. L. Brown.
Lectures and class discussions on organic evolution, with primary emphasis on the mechanisms of animal speciation and adaptation. The course begins with a few lectures on taxonomic methodology.

[477 Biology of Fishes, Lectures Spring term. Credit three hours. Prerequisite: 273 or equivalent

experience in vertebrate zoology with permission of the instructor. Offered in alternate years. Not offered 1975-76.]

[478 Biology of Fishes, Laboratory Spring term. Credit two hours. Prerequisite: 273 or equivalent and concurrent enrollment in 477. Offered in alternate years. Not offered 1975-76.]

479 Research in Ecology, Evolution, and Systematics Fall or spring term. Credit to be arranged. Undergraduates must attach to their pre-registration material written permission from the section chairperson and faculty who will supervise the work and assign the grade. Practice in planning, conducting, and reporting independent laboratory and/or library research programs.

[561 Quantitative Ecology Fall term. Credit four hours. Prerequisites: one year of biology and permission of instructor. Organic chemistry and some college mathematics are desirable. L. C. Cole. Not offered in 1975-76.]

562 Ecology of Pest Management Spring term. Credit three hours. Registration by permission. Special problem required. D. Pimentel and staff. The focus will be on the ecology of pest management for the development of safe, economical population control measures. The "systems approach" to the management of pests (insects, algae, weeds, animal and plant pathogens, birds, and mammals) will be emphasized.

565 Limnology Seminar Fall term. Credit one hour; may be repeated for credit. Primarily for graduate students. Prerequisite: consent of instructor required for undergraduates. G. E. Likens.

566 Marine Ecology Spring term. Credit three hours. Enrollment limited. Prerequisites: 361, 461. J. P. Barlow. Lectures will present a survey of current topics in biological oceanography, including biogeography, ecosystems, marine resources, and environmental problems.

661 Seminar in Population and Community Ecology Fall term. Credit one hour. Course restricted to graduate students. Prerequisite: permission of instructor. May be repeated for credit. S. A. Levin, P. F. Brussard, and R. B. Root.

663 Seminar in Evolution and Ecology of Vascular Plants Fall term. Credit one hour. Prerequisites: 466 and Statistics 501 or equivalent, or permission of instructor. R. T. Clausen. Not offered 1976-77. A consideration of primary problems concerned with the classification, evolution, and environmental relationships of vascular plants.

665 Autecology Fall term. Credit three hours. B. F. Chabot and staff. Offered in alternate years. Not offered 1976-77.

666 Population Ecology Spring term. Credit three hours. Prerequisite: graduate standing with some background in calculus, statistics, ecology, and evolutionary theory plus consent of instructor. P. F. Brussard and S. A. Levin. Offered in alternate years. Not offered 1976-77.

[667 Community Ecology Fall term. Credit three hours. Prerequisite: 666 or permission of instructor. R. H. Whittaker. Offered in alternate years. Not offered 1975-76.]

[668 Ecosystems Spring term. Credit three hours. Prerequisite: 667 or consent of instructor. Not offered 1975-76.]

669 Plant Ecology Seminar Fall and spring terms. Credit one hour. S-U grades optional. Suggested for students majoring or minoring in plant ecology. B. F. Chabot and P. L. Marks. A seminar course including review of current literature, student research, and selected topics of interest to participants.

671 Graduate Seminar in Vertebrate Biology Fall and spring terms. Credit one hour. Prerequisite: graduate status. Advanced undergraduates admitted only with permission of the instructor. Topics to be arranged. May be repeated for credit. Vertebrate biology staff.

Insect Biology (Entomology 212)

Ecological Animal Physiology (Biological Sciences 314)

Invertebrate Zoology (Biological Sciences 316)

Advanced Soil Microbiology (Agronomy 606)

Soil Microbiology Lectures (Agronomy 406)

Soil Microbiology Laboratory (Agronomy 407)

Microbial Ecology (Microbiology 492)

Phycology (Biological Sciences 344)

Bionomics of Fresh-Water Invertebrates (Entomology 471)

Introductory Insect Taxonomy (Entomology 331)

Advanced Insect Taxonomy (Entomology 531, 532, 533, 534)

Introductory Parasitology (Entomology 361)

Advanced Parasitology (Entomology 551)

Ecological Aspects of Animal Behavior (Biological Sciences 523)

Genetics, Development, and Physiology

280 Human Genetics Spring term. Credit three hours. Prerequisite: 101-102 or 109-110 or equivalent. Students who have taken 281 may register only with permission of the instructor. Limit of twenty-five each section. A. M. Srb.

An introduction to biological heredity through consideration of the genetics of man. Advances in the science of genetics are having a profound effect on man's understanding of himself and on his potential for influencing his present and future well-being. The course is intended primarily to contribute to the student's general education in these matters and, although certain aspects of genetics will be considered with some rigor, the course is not designed to serve as a prerequisite to advanced courses in genetics.

281 Genetics, Lectures Fall or Spring term. Credit five hours. Prerequisite: 101-102 or 107 or equivalent. Students who have taken 280 may register only with permission of the instructor. No freshman will be allowed in fall semester. Preliminary examinations may be scheduled in the evening. Laboratory assignments will be made at the end of the first lecture period. Fall, P. Bruns. Spring, G. R. Fink. R. J. MacIntyre and H. T. Stinson (Laboratory), and assistants.

A general study of the fundamental principles of genetics in eucaryotes and procaryotes. Discussions of gene transmission, gene action and interaction, gene linkage and recombination, gene structure, gene and chromosome mutations, genetic aspects of differentiation, genes in populations, breeding systems, extrachromosomal inheritance. In the laboratory, students perform experiments with microorganisms and conduct an independent study of inheritance in *Drosophila*. Students do not preregister for laboratory sections.

385 Developmental Biology I Fall term. Credit three hours. Prerequisite: Biological Sciences 281. A. W. Blackler, R. L. Hallberg and staff. An introduction to the developmental biology of animals and plants as manifest in its morphogenetic, physiologic, genetic, and molecular aspects. Emphasis will be placed primarily on descriptive aspects of development.

386 Developmental Biology II Spring term. Credit three hours. Prerequisites: Biological Sciences 385 and 431 or 432 (may be taken concurrently). R. L. Hallberg, A. W. Blackler and staff. A continuation of Biological Sciences 385. Emphasis will be placed on the molecular processes associated with the development of eukaryotic organisms.

389 Animal Embryology Laboratory Fall term. Credit two hours. Prerequisite: Biological Sciences 385 or concurrent registration. Limited to forty students, with preference given to seniors. A. W. Blackler and staff. Laboratory with a strong anatomical theme, princi-

pally emphasizing the developmental anatomy of vertebrate embryos.

480 Population Genetics Spring term. Credit three hours. S-U grades optional. Offered in alternate years. Prerequisite: 281 or equivalent. B. Wallace. Not offered 1975-76.]

484 Molecular Evolution Spring term. Credit three hours. Offered in alternate years. Prerequisites: 281 and organic chemistry. R. J. MacIntyre. An analysis of evolutionary changes in proteins and nucleic acids and gene-enzyme variability in natural populations. The role of natural selection in effecting these changes and maintaining genetic variation at the molecular level will be critically examined. Theories on the evolution of the genetic code and the construction of phylogenetic trees from biochemical data will be discussed.

485 Microbial Genetics, Lectures Fall term. Credit two hours. S-U grades optional. Prerequisites: 281 and Microbiology 290A, or permission of the instructor. For upperclassmen and graduate students. S. A. Zahler. Genetics of bacteria and their viruses, with emphasis on the mechanisms of genetic phenomena.

486 Microbial Genetics, Laboratory Fall term. Credit three hours. Limited to twenty students. Prerequisites: 485 (may be taken concurrently) and permission of the instructor. Primarily for upperclassmen. S. A. Zahler. Problem solving in bacterial genetics.

488 Genetics of Lower Eucaryotes Spring term. Credit three hours. S-U grades optional. Prerequisites: 281 and a course in organic chemistry. P. J. Bruns, G. R. Fink, and A. M. Srb. Genetic aspects of the biology of a few eucaryotic microorganisms, primarily yeast, *Neurospora*, and ciliated protozoa, with emphasis on the use of these organisms as experimental tools. Major topics to be covered include gene action, control mechanisms, cytoplasmic genetic systems, recombination and conversion, morphogenetic systems and evolutionary aspects of physiological systems. Extensive appropriate reading in the original literature of genetics is a primary component of the course.

489 Research in Genetics and Development Fall or spring term. Credit to be arranged. Undergraduates must attach to their preregistration material written permission from the staff member who will supervise the work and assign the grade. Staff. Practice in planning, conducting, and reporting independent laboratory and/or library research programs.

680 Current Topics in Genetics Throughout the year. Credit two hours a term. Open to graduate students, with preference given to majors in the Field of Genetics; undergraduates by permission only. No auditors: Enrollment limited to twenty students. Staff.

Animal Cytogenetics (Animal Sciences 419)

Cytology (Biological Sciences 347)

Cytogenetics (Biological Sciences 440)

Organic Evolution (Biological Sciences 476)

Physiological Genetics of Crop Plants (Plant Breeding 505)

Plant Growth and Development (Biological Sciences 441)

Statistical Methods I (Statistics 510)

Chemistry

M. E. Fisher, chairman; A. C. Albrecht, S. H. Bauer, J. M. Burlitch, B. K. Carpenter, W. D. Cooke, E. L. Elson, R. C. Fay, J. H. Freed, B. Ganem, M. J. Goldstein, G. G. Hammes, R. Hoffmann, P. L. Houston, R. E. Hughes, F. A. Long, G. M. Loudon, F. W. McLafferty, J. Meinwald, W. T. Miller, G. H. Morrison, E. L. Muetterties, R. F. Porter, H. A. Scheraga, F. R. Scholer, A. G. Schultz, M. F. Semmelhack, M. J. Sienko, D. A. Usher, B. Widom, J. R. Wiesenfeld, C. F. Wilcox.

Chemistry Major

A major in chemistry permits considerable flexibility in the detailed planning of a course program. The required courses can be completed in three years, leaving the senior year open for advanced and independent work in all areas of chemistry: physical, organic, inorganic, analytical, theoretical, bioorganic, biophysical. A major in chemistry can also provide the necessary basis for significant work in related areas such as molecular biology, chemical physics, geochemistry, chemical engineering, solid state physics, and medicine.

The courses are arranged as a progression with some courses (including mathematics and physics) prerequisite to those that are more advanced. During the first year the student should normally register for general chemistry (preferably but not necessarily Chemistry 215), mathematics, a Freshman Seminars course, a foreign language if necessary or, in some instances, physics. Although Chemistry 215-216 is preferred, students may begin their programs with Chemistry 207-208 or Chemistry 103-104-208. Chemistry 215-216 is a limited enrollment course for those students with excellent preparation; students who are uncertain as to their preparation should consult the instructor. In the second year the student should complete calculus, take physics and organic chemistry, Quantitative Chemistry 300, if needed, and Experimental Chemistry 301 and complete a course in distribution (see p. 00). Physical Chemistry 389 and 390 and Experimental Chemistry 302 and 303 should be completed in the third year along with courses in distribution if necessary. Advanced work

in chemistry and related subjects could be pursued in the fourth year and, to some extent, in the earlier years as well. The opportunity for independent research is also available. All students with questions about details of a major program are encouraged to consult with the chairman of the Department of Chemistry or the chairman's representative. Entering students exceptionally well prepared in chemistry may receive advanced placement credit for Chemistry 207-208 and proceed to a more advanced program.

Prerequisites for admission to a major in chemistry are (1) Chemistry 215-216 or 207-208 plus 300; or 103-104 plus 208 and 300; (2) Physics 207; and (3) Mathematics 111. Students are not encouraged to undertake a major in chemistry unless they have passed those prerequisite courses at a good level of proficiency. A knowledge of simple computer programming is essential. This may be achieved either by self-study (a syllabus is available) or by taking courses such as Computer Science 101 and 102. As a minimum the following additional courses must then be completed for a major in chemistry: (1) Chemistry 301, 302, 303, 357-358, 389-390; (2) Mathematics 112, 214, 215, 216, and 218; and (3) Physics 208. This sequence is a core program in chemistry. It is anticipated that the student will, through elective courses, extend it substantially in whatever direction suits his or her own needs and interests. It is particularly important that those going on to do graduate work in chemistry recognize that these requirements are minimal, and such students are strongly urged to supplement their programs, where possible, with Chemistry 404, 405, 605, 606, 607, 668, 681, and German (or Russian). Even students not planning graduate work in chemistry should consider advanced work in physics and mathematics, courses in the biological sciences, and advanced work in chemistry as possible extensions of the basic program.

The Honors Program

The Honors Program in chemistry offers superior students an opportunity to study independently in seminars and to gain additional experience by engaging in research during the senior year. It is particularly recommended to those who plan graduate work in chemistry. Prospective candidates should complete the introductory organic chemistry and physical chemistry sequences by the end of the junior year. However, failure to have completed those courses in the junior year does not in itself disqualify a student from the Honors Program. Completion of the Program at a high level of performance leads to the degree of Bachelor of Arts with honors in chemistry. The requirements for admission to the Honors Program are an above median cumulative average and permission of the Department. Prospective candidates should discuss their plans with their advisers by March 1 of their junior year. To be awarded honors, candidates must show outstanding performance in one of the following: 421, 433, 461, 477, and, in addition, 498.

Distribution Requirement

The distribution requirement in physical sciences is satisfied in chemistry by Chemistry 103, 207, or 215 and 104, 208, or 216.

General identification of the courses listed below is as follows:

Inorganic: 410, 421, 605, 606, 607, 716.

Analytical: 300, 433, 625, 627, 628.

Organic: 253, 357–358, 461, 665–666, 765, 766, 770, 774.

Physical and theoretical: 287–288, 289–290, 389, 390, 477, 678, 681, 789, 794, 796, 798.

Bioorganic and biophysical: 668, 672, 677, 686, 782.

Experimental: 251, 252, 301, 302, 303, 404, 405.

Environmental: 200.

Note: Students registered for laboratory courses who do not appear at the first meeting of the laboratory will forfeit their registration. Students and members of the teaching staff are required to wear safety glasses or approved eye-protective devices in all chemistry laboratories. Those who fail to cooperate with the safety program may be asked to leave the laboratories.

103–104 Introduction to Chemistry 103 fall term only; 104 spring term only. Credit three hours a term. Enrollment limited. Recommended for students who have not had high school chemistry and for those needing a less mathematical course than Chemistry 207–208. This course is not recommended for pre-medical and preveterinary programs. Chemistry 103 is prerequisite to Chemistry 104. Lectures and laboratory. Preliminary examinations will be held in the evening. Fall term, R. Hoffmann. Spring term, B. Ganem.

An introduction to chemistry with emphasis on the important principles and facts of inorganic and organic chemistry.

200 Man in His Chemical Environment Fall term. Credit three hours. Enrollment limited. Prerequisites: Chemistry 103–104 or 207–208. Lectures and discussion F. W. McLafferty.

The chemical aspects of the human environment including the composition and properties of materials as these affect man's environment. Chemical limitations on the balance between survival and quality of living.

207–208 General Chemistry 207 fall term only; 208 spring term only. Credit four hours a term. Enrollment limited. Recommended for those students who will take further courses in chemistry. Prerequisite: high school chemistry; Chemistry 207 or 103–104 is prerequisite to 208. Preliminary examinations will be held in the evening. Lectures and laboratory. Fall term, F. R. Scholer and E. L. Muettterties. Spring term, M. J. Sienko.

The important chemical principles and facts are covered, with considerable attention given to the quan-

titative aspects and to the techniques important for further work in chemistry. Second-term laboratory includes a systematic study of qualitative analysis.

Note: Entering students exceptionally well prepared in chemistry may receive advanced placement credit for Chemistry 207–208 by demonstrating competence in the Advanced Placement Examination of the College Entrance Examination Board, or in the departmental examination given at Cornell before classes start in the fall (see page 15).

215–216 General Chemistry and Inorganic Qualitative Analysis 215 fall term only; 216 spring term only. Credit: fall term, four hours; spring term, five hours. Enrollment limited. Recommended for students who intend to specialize in chemistry or in closely related fields. Prerequisites: high school chemistry and physics at a grade of 90 or higher. Chemistry 215 is prerequisite to 216. Coregistration in a calculus course at the level of Mathematics 111 or 191 and/or high school calculus is required. Preliminary examinations will be held in the evening. Fall term: lectures and one laboratory period. Spring term: lectures or recitations and two laboratory periods. Fall term, J. R. Wiesenfeld and P. L. Houston. Spring term, F. R. Scholer.

An intensive, systematic study of the laws and concepts of chemistry, with considerable emphasis on mathematical aspects. Laboratory work will cover both qualitative and quantitative analysis.

251 Introduction to Experimental Organic Chemistry Fall term. Credit two hours. Recommended for nonchemistry majors. Prerequisite or parallel: Chemistry 253 or 357, or consent of instructor. Preliminary examinations will be held in the evening. Lecture and laboratory. B. Ganem and B. K. Carpenter.

An introduction to synthesis and the separation and handling of materials including applications of many types of chromatography, simple and fractional distillation, crystallization, extraction, and others.

252 Elementary Experimental Organic Chemistry Spring term. Credit two hours. Recommended for nonchemistry majors. Prerequisite: Chemistry 251. Preliminary examinations may be held in the evening. One lecture and laboratory. A. G. Schultz
A continuation of Chemistry 251.

253 Elementary Organic Chemistry Either term. Credit four hours. Primarily for students in the pre-medical and biological curricula. Prerequisite: Chemistry 104 at a grade of C or better, or 208, or 216. Coregistration in Chemistry 251 is recommended. Preliminary examinations may be held in the evening. Fall term, D. A. Usher. Spring term, G. M. Loudon.

A study of the occurrence and properties of organic molecules and the mechanisms of organic reactions, including a brief introduction to the organic chemistry of biological systems. The student should determine the entrance requirements of the particular medical school he or she wishes to enter. Students may ob-

tain six hours credit by taking Chemistry 251–253 or eight hours credit by taking 253–301 or 253, 251, and 252.

287–288 Introductory Physical Chemistry 287

fall term only; 288 spring term only. Credit three hours a term. Prerequisites: Chemistry 208 or 216 and Mathematics 111–112 or consent of instructor. Chemistry 287 is prerequisite to 288. Lectures and recitation. Examinations may be given evenings. Fall term, B. Widom. Spring term, A. C. Albrecht. A systematic treatment of the fundamental principles of physical chemistry.

289–290 Introductory Physical Chemistry

Laboratory 289 fall term only; 290 spring term only. Credit two hours a term. Chemistry 289 is prerequisite to 290. Coregistration in Chemistry 287–288 is required. Laboratory lecture and two laboratory periods. Some laboratory time devoted to Chemistry 287 recitation.

The development of needed skills in the experimental aspects concerned with the fundamental principles of physical chemistry.

300 Quantitative Chemistry Fall term. Credit two

hours. Prerequisite: Chemistry 208 or advanced placement in chemistry. Lecture and laboratory. Organizational meeting of this course on first class day of semester, 12:20. J. M. Burlitch.

A laboratory course designed to emphasize practice with the more common quantitative procedures and techniques essential to laboratory work in the sciences. The relationship between theory and application will be stressed.

301 Experimental Chemistry I Spring term. Credit

four hours. Prerequisite: Chemistry 216 or 300, and Chemistry 253 or 357. Parallel registration with Chemistry 253 is not recommended. Preliminary examinations may be held in the evening. Lectures and two laboratory periods. C. F. Wilcox and B. K. Carpenter.

An introduction to synthesis and the separation and handling of materials including applications of many types of chromatography, simple and fractional distillation, crystallization, extraction, and others.

302 Experimental Chemistry II Fall term. Credit

four hours. Prerequisite: Chemistry 301. Preliminary examinations may be held in the evening. Lectures and two laboratory periods. M. F. Semmelhack and R. F. Porter.

A survey of the various aspects of qualitative and quantitative analysis of both inorganic and organic compounds including optical spectroscopy, NMR, mass spectroscopy, statistical analysis of data, and electrochemical methods.

303 Experimental Chemistry III Spring term.

Credit four hours. Prerequisites: Chemistry 302 and 389 and coregistration in Chemistry 390. A knowledge of computer programming is essential. Lectures and two laboratory periods. Each laboratory

section limited to eighteen students. S. H. Bauer and P. L. Houston.

An introduction to the techniques of vacuum line construction and operation; the principles and assembly of electronic measuring devices, optics, and kinetics.

357–358 Introductory Organic Chemistry 357 fall

term only; 358 spring term only. Credit three hours a term. Prerequisite: Chemistry 208, or 216, or advanced placement in chemistry. Chemistry 357 is prerequisite to Chemistry 358. Parallel registration in Chemistry 251 or 301 is recommended. Preliminary examinations may be held in the evening. J. Meinwald.

A systematic study of the more important classes of carbon compounds—reactions of their functional groups, methods of synthesis, relations, and uses.

389–390 Physical Chemistry I and II 389

fall term only. 390 spring term only. Credit four hours a term. Prerequisites: Mathematics 214, 215, 216, 218 or 221, Physics 208, Chemistry 208 or 216 or consent of the instructor. Chemistry 389 is prerequisite to 390. Evening examinations. Fall term, H. A. Scheraga. Spring term, J. H. Freed.

A study of the principles of physical chemistry from the standpoint of the laws of thermodynamics and kinetic theory. At the level of *Thermal Properties of Matter* by W. L. Kauzmann.

[404 Advanced Measurements Laboratory

Fall term. Credit four hours. Prerequisite: Chemistry 303. Not offered 1975–76.]

[405 Techniques of Modern Synthetic Chemistry

Spring term. Credit four hours. Enrollment limited. Selection will be based on grades in Chemistry 301, 302, and 303. Prerequisite: Chemistry 303. Not offered 1975–76.]

421 Introduction to Inorganic Research Either

term. Credit two to four hours. Prerequisites: Chemistry 303 and 389–390, or 287–288 and 289–290 with an average of B- or better, or consent of instructor. Selected faculty.

Informal advanced laboratory and library work, planned individually in consultation with a staff member, involving the preparation and characterization of inorganic substances. A written report is required.

433 Introduction to Analytical Research

Either term. Credit two to four hours. Prerequisites: Chemistry 303 and 390 with an average of B- or better, or consent of instructor. Selected faculty. Informal research in the field of analytical chemistry involving both laboratory and library work.

461 Introduction to Organic Research

Either term. Credit two to four hours. Enrollment limited to those having a record of B- or better in prerequisite courses. Prerequisites: Chemistry 302 and 358, or consent of instructor. Selected faculty. Informal research in the field of organic chemistry involving both laboratory and library work.

477 Introduction to Research in Physical Chemistry

Either term. Credit two to four hours. Prerequisite: Chemistry 390 at an average of B- or better and consent of instructor. Selected faculty. Informal advanced laboratory and library work in physical chemistry planned individually in consultation with a staff member.

498 Honors Seminar and Research Spring term. Credit four hours. Prerequisites: an outstanding performance in one of the following: Chemistry 421, 433, 461, or 477, and admission to the Honors Program. W. T. Miller.

The seminar will be an informal presentation and discussion of selected topics in which all members participate. Individual research will be on advanced problems in chemistry under the guidance of a staff member. A written report on the research results is required.

600 General Chemistry Seminar Throughout the year. No credit. Required of all graduate students except those majoring in organic or bioorganic chemistry. Open to qualified juniors and seniors.

605 Advanced Inorganic Chemistry I (Symmetry and Structure) Fall term. Credit four hours. Prerequisite: Chemistry 389-390 or consent of the instructor. R. C. Fay.

This is the first of a three-term sequence. Symmetry and structure of discrete molecules, translational symmetry of arrays of molecules in crystals. Group theory at the level of Cotton's *Chemical Application of Group Theory*, Schonland's *Molecular Symmetry*, and Hall's *Group Theory and Symmetry in Chemistry*. Applications include molecular orbital theory, hybridization, and molecular vibrations. Outside readings in the chemistry of nontransition elements at the level of Wilkinson's *Advanced Inorganic Chemistry* will be assigned.

606 Advanced Inorganic Chemistry II (Structure and Dynamics) Spring term. Credit four hours. Prerequisite: Chemistry 605 or consent of instructor. E. L. Muetterties.

The second of a three-term sequence. The development of a general background and systematics through which structure, stereochemistry, and reaction mechanism can be understood and anticipated. Outside readings at the level of Murrell, Kettle, and Tedder's *Valence Theory*, Ballhausen's *Introduction to Ligand Field Theory*, Basolo and Pearson's *Inorganic Reaction Mechanisms*, and Langford and Gray's *Ligand Substitution Processes*.

607 Advanced Inorganic Chemistry III (Structure and Properties) Fall term. Credit four hours. Prerequisite: Chemistry 605 or consent of instructor. M. J. Sienko.

The third of a three-term sequence. Introduction to ligand field theory and solid state structure and properties at the level of Figgis' *Introduction to Ligand Fields*, Krebs' *Fundamentals of Inorganic Crystal Chemistry* and Sach's *Solid State Theory*. Outside readings in transition metal chemistry will be

assigned at the level of Cotton and Wilkinson's *Advanced Inorganic Chemistry*.

[622 Chemical Communication] Spring term. Credit three hours. Offered in alternate years. Enrollment limited to thirty students. Intended primarily for research-oriented students. Prerequisites: Chemistry 358, Biological Science 102, and Biochemistry 231. Not offered 1975-76.]

625 Advanced Analytical Chemistry I Fall term. Credit four hours. Open to undergraduates with consent of the instructor. Prerequisite: Chemistry 288 or 390. Examinations will be held in the evening. W. D. Cooke.

[627 Advanced Analytical Chemistry II] Spring term. Credit three hours. Offered in alternate years. Primarily for graduate students. Prerequisite: Chemistry 288 or 390. Not offered 1975-76.]

628 Advanced Analytical Chemistry III Spring term. Credit three hours. Offered in alternate years. Primarily for graduate students. Prerequisite: Chemistry 288 or 390. G. H. Morrison.

650-651 Seminar in Organic Chemistry 650 fall term only; 651 spring term only. No credit. Required of all graduate students majoring in organic chemistry. Open to qualified juniors and seniors.

665 Advanced Organic Chemistry Fall term. Credit four hours. Primarily for graduate students and upperclass undergraduates. Prerequisites: Chemistry 253 or 358 and Chemistry 390 or consent of instructor. Evening examinations. M. J. Goldstein. An analysis of the simplest organic reactions. The principal aim is to provide the student with the skills and background needed to predict the reactivity patterns and stereochemical preferences of new molecules in a variety of experimental environments.

666 Synthetic Organic Chemistry Spring term. Credit four hours. Primarily for graduate students and upperclass undergraduates. Prerequisite: Chemistry 665 or consent of instructor. A. G. Schultz. Modern techniques of synthesis; applications of organic reaction mechanisms to the problems encountered in rational multistep synthesis, with particular emphasis on newer developments.

668 Chemical Aspects of Biological Processes Fall term. Credit four hours. Prerequisites: Chemistry 358 and 389-390 or 287-288 or their equivalents. G. M. Loudon.

Biochemical systems, bioenergetics, enzymes, metabolic pathways. This course forms the chemical basis for the graduate program in molecular biology.

672 Enzyme Catalysis Spring term. Credit four hours. Primarily for graduate students in chemistry and biochemistry. Prerequisites: Chemistry 357-358 and 389-390, or the equivalent, and a course in general biochemistry. D. A. Usher.

677 Chemistry of Nucleic Acids Spring term. Credit four hours. Offered in alternate years. Primarily for graduate students. Prerequisites: Chemistry 358 and 390. S-U grades only. E. L. Elson.

678 Thermodynamics Spring term. Credit four hours. Primarily for graduate students. Prerequisite: Chemistry 288 or 390. Lectures and discussions. R. F. Porter.

681 Physical Chemistry III Fall term. Credit four hours. Prerequisites: Chemistry 288 or 390; Mathematics 214, 215, 216, 218; and Physics 208. J. H. Freed. A discussion of advanced topics in physical chemistry, including an introduction to the principles of quantum theory and statistical mechanics, atomic and molecular spectra, and elementary valence theory.

[686 Physical Chemistry of Proteins Spring term. Credit four hours. Offered in alternate years. Primarily for graduate students. Prerequisite: Chemistry 288 or 390. Not offered 1975-76.]

700 Baker Lectures Either term. No credit. Fall term. D. Arigoni, E. T. H.

701-702 Introductory Graduate Seminar in Analytical, Inorganic, and Physical Chemistry 701 fall term only; 702 spring term only. No credit. Required of all first-year graduate students majoring in analytical, inorganic, physical, and theoretical chemistry, and molecular biology. J. R. Wiesenfeld.

[716 Selected Topics in Advanced Inorganic Chemistry Fall term. Credit three hours. Prerequisite: Chemistry 390. S-U grades only. Not offered 1975-76.]

765 Physical Organic Chemistry I Spring term. Credit four hours. Primarily for graduate students. Prerequisite: Chemistry 665 or consent of instructor. Evening examinations. M. J. Goldstein.

[766 Physical Organic Chemistry II Spring term. Credit three hours. Primarily for graduate students. Prerequisite: Chemistry 765 or consent of instructor. Not offered 1975-76.]

[770 Selected Topics in Organic Chemistry Fall term. Credit three hours. Primarily for graduate students. Prerequisites: Chemistry 665-666 or consent of instructor. Not offered 1975-76.]

[774 Chemistry of Natural Products Fall term. Credit three hours. Primarily for graduate students. Prerequisites: Chemistry 665-666. Not offered 1975-76.]

780 Principles of Chemical Kinetics Fall term. Credit four hours. Prerequisites: Chemistry 681 and 678 or consent of instructor. S. H. Bauer.

782 Special Topics in Molecular Biology Spring term. No credit. Primarily for graduate students.

[789 X-ray Crystallography Fall term. Credit four hours. Prerequisite: Physics 325 or consent of instructor. Not offered 1975-76.]

793 Quantum Mechanics I Fall term. Credit four hours. Prerequisites: Chemistry 681 and coregistration in Mathematics 421, and Physics 431 or equivalents, or consent of instructor. A. C. Albrecht.

794 Quantum Mechanics II Spring term. Credit four hours. Prerequisites: Chemistry 793 or the equivalent and coregistration in Physics 432 and Mathematics 422, or consent of instructor. R. Hoffmann.

796 Statistical Mechanics Spring term. Credit four hours. Primarily for graduate students. Prerequisite: Chemistry 793 or the equivalent. M. E. Fisher.

798 Selected Topics in Physical Chemistry Spring term. Credit three hours. B. Widom.

The Classics

F. M. Ahl, chairman; E. Asmis, A. Betensky, K. M. Clinton, J. E. Coleman, W. R. Johnson, G. M. Kirkwood, D. L. Malone, G. M. Messing, P. Pucci

The Department of the Classics offers majors in Classics, Greek, Latin, and Classical Civilization.

Classics

Those whose major study is in Classics must complete twenty-four hours of advanced courses in Greek or Latin (courses numbered above 201) and fifteen hours in related subjects, selected after a conference with the adviser.

Classical Civilization

Those whose major study is in Classical civilization must complete (a) qualification in Latin and Greek or proficiency in either; (b) twenty-four hours selected from the courses listed under Classical Civilization, Classical Archaeology, Latin, and Greek; and (c) fifteen hours in related subjects. Related subjects for this purpose may be any courses in the humanities selected in conference with the adviser.

Greek

Those whose major study is in Greek must complete twenty-four hours of advanced courses in Greek and fifteen hours in related subjects (including Latin). One or more courses offered by the Department of Comparative Literature may be counted towards the required twenty-four hours of Greek if students obtain the prior approval of their major adviser.

Latin

The major in Latin is parallel to the major in Greek.

Study Abroad

Cornell is a participant in the Intercollegiate Center for Classical Studies in Rome, which offers courses in Latin, Greek, ancient history, art, archaeology, and Italian. Cornell students receive regular credit. Detailed information on the Center is available in the Department of Classics office, 121 Goldwin Smith Hall.

The Honors Program

Candidates for the degree of Bachelor of Arts with honors in Classics, Greek, Latin, or Classical civilization must fulfill the requirements of the appropriate major study, as prescribed in the foregoing paragraphs, and must also complete successfully the special honors courses 370, 471, and 472. Credit for honors courses may be included in the hours required for the major study. Students who wish to become candidates for honors, who have a cumulative average of B- or better, and have demonstrated superior performance in Classics courses (Greek, Latin, and Classical civilization) should, after consulting a member of the department, submit an outline of their proposed honors work to the Honors Committee three weeks before preregistering for the second term of the junior year.

Greek Civilization, Roman Civilization

See pp. 163 and 164 at the end of the Courses of Instruction section.

Distribution Requirement

The distribution requirement in the humanities is satisfied in Classics by (a) any two courses in Greek beginning with 201 or in Latin beginning with 207 that form a reasonable sequence; or (b) any two of the following: Classics 119, 120, 200, 221, 222, 224, 225, 236, 300, 320, 331, 332, 336, 339, 430. This requirement is also satisfied by Archaeology 100 and any one of the courses listed under Classical Archaeology.

Greek

101 Greek for Beginners Either term. Credit four hours. Fall term. E. Asmis and K. Clinton. Spring term. G. M. Kirkwood. Introduction to Attic Greek. Designed to enable the student to read the ancient authors as soon as possible.

103 Attic Greek Either term. Credit three hours. Prerequisite: Greek 101 or equivalent. Fall term, D. L. Malone. Spring term, K. Clinton.

[**111 Modern Greek** Spring term. Credit three hours. Not offered 1975-76.]

201 Attic Authors: Plato, *Apology*; Euripides, *Medea* Fall term. Credit three hours. Prerequisite: Greek 103. J. E. Coleman.

Attention is given both to the exact understanding of the Greek texts and to relevant broad literary and historical questions.

203 Homer Spring term. Credit three hours. Prerequisite: Greek 103. P. Pucci.

Readings in Homeric epic; consideration of such literary problems as the authorship, unity, and style of the epics and their relation to oral and literary epic.

209-210 Greek Composition 209 fall term; 210 spring term. Credit two hours per term. Prerequisite: Greek 103 or the equivalent. Fall term, K. Clinton. Spring term, G. M. Kirkwood.

An exercise course to provide review and further study of the forms and, more especially, the syntax of ancient Greek. Recommended as a companion course to Greek 201 and 203. The second hour is devoted entirely to reading passages of Greek at sight.

301 Greek Historians Fall term. Credit four hours. Prerequisite: Greek 203 or the equivalent. G. M. Kirkwood.

302 Greek Tragedy Spring term. Credit four or five hours. An extra meeting once a week for an additional credit hour will be used for related reading in translation. Prerequisite: Greek 203 or the equivalent. K. Clinton.

[**305 Aristophanes and Attic Prose** Fall term. Credit four hours. Prerequisite: Greek 203 or the equivalent. Not offered 1975-76.]

[**306 Greek Melic, Elegiac, and Bucolic Poetry** Spring term. Credit four hours. Prerequisite: Greek 203 or the equivalent. Not offered 1975-76.]

401-402 Independent Study For qualified majors.

[**409 Advanced Greek Composition** Fall term. Credit two hours. Prerequisite: 209-210 or the equivalent. Not offered 1975-76.]

421 Advanced Readings in Greek Orators Spring term. Credit four hours. Prerequisite: two terms of Greek at the 300 level or consent of the instructor. W. R. Johnson.

671 Seminar Fall term. Credit four hours. G. M. Kirkwood. Sophocles.

672 Seminar Spring term. Credit four hours. P. Pucci. Euripides.

701-702 Independent Study for Graduate Students

Latin

Placement of freshmen in Latin courses is determined by an examination given by the Department of Classics during Orientation Week, or, if necessary, in the second half of the fall term. Tentative placement is made on the basis of the previous training listed below as prerequisite for each course and of College Board Achievement Test scores.

105 Latin for Beginners Fall term. Credit four hours. D. L. Malone.

An introductory course in the essentials of the Latin language, designed for rapid progress towards reading the principal Latin writers.

106 Elementary Latin Spring term. Credit three hours. Prerequisite: Latin 105 or placement by departmental examination. D. L. Malone. Continues the work of Latin 105, followed by readings from various authors.

107 (105-106) Intensive Latin Spring term. Credit seven hours. Instructor to be announced. This course combines in one semester Latin 105 and 106.

108 Freshman Course: Latin Letters Fall term. Credit three hours. Prerequisite: two years of high school Latin. A. Betensky. A comprehensive review of the fundamentals of Latin, followed by selections from Cicero's and Pliny's letters.

207 Catullus and Horace Fall term. Credit three hours. Prerequisite: Latin 106 or 108 or three years of high school Latin. P. Pucci. Selections from the poets will be read with emphasis on literary questions.

208 Literature and Life of Rome Spring term. Credit three hours. Prerequisite: Latin 108, 207 or 215, or the equivalent. E. Asmis. Readings from Ovid's *Metamorphoses*.

215 Roman Comedy Fall term. Credit three hours. Prerequisite: Latin 106 or 108 or three units of entrance Latin. G. M. Kirkwood. Plautus and Terence; at least one comedy of each playwright.

216 Vergil Spring term. Credit three hours. Prerequisite: Latin 207 or 215 or the equivalent. A. Betensky. Selections from Vergil's *Eclogues*, *Georgics*, and *Aeneid*.

[241-242 Latin Composition 241 fall term; 242 spring term. Credit two hours per term. Prerequisite: for 241, Latin 106 or 108 or consent of instructor; for 242, Latin 241 or consent of instructor. Not offered 1975-76.]

[315 Roman Satire Fall term. Credit four hours. Prerequisite: Latin 208 or 216. Not offered 1975-76.]

[316 Roman Philosophical Writers Spring term. Credit four hours. Prerequisite: Latin 315 or the equivalent. Not offered 1975-76.]

317 Roman Historiography: Sallust, Livy, Tacitus Spring term. Credit four hours. Prerequisite: Latin 318 or the equivalent. D. L. Malone.

318 Roman Elegy: Tibullus, Propertius, Ovid Fall term. Credit four hours. prerequisite: Latin 208 or 216. P. Pucci.

367-368 Medieval Latin Literature 368 fall term only. [367 fall term only, not offered 1975.] Credit four hours for 368 fall term. Prerequisite: three years of high school Latin or consent of instructor. Fall term. W. Wetherbee.

411 Advanced Reading in Latin Literature: St. Augustine Fall term. Credit four hours. For upper-classmen and graduate students. Prerequisite: two terms of Latin at the 300 level or consent of the instructor. W. R. Johnson.

441 Advanced Latin Composition Fall term. Credit two hours. For undergraduates who have completed Latin 241-242 and for graduate students. P. Pucci.

451-452 Independent Study For qualified majors.

679 Seminar Fall term. Credit four hours. A. Betensky. Vergil.

680 Seminar Spring term. Credit four hours. F. M. Ahl. Seneca and the Neronian age.

751-752 Independent Study for Graduate Students

Honors Courses

370 Honors Course Spring term. Credit four hours. To be taken in the junior year. F. M. Ahl. A program of readings and conferences centered on an author or topic chosen in accordance with the special interests of the students and instructor.

471 Honors Course Fall term. Credit four hours. To be taken in the senior year. W. R. Johnson. Continuation of 370, with change of author or topic.

472 Honors Course: Senior Essay Spring term. Credit four hours. For students who have successfully completed Classics 471. Topics must be approved by the honors adviser at the end of the first term of the senior year. F. M. Ahl.

Classical Linguistics

423 Vulgar Latin Fall term. Credit four hours. G. M. Messing.

424 Italic Dialects Spring term. Credit four hours. G. M. Messing.

[**425 Greek Dialects** Fall term. Credit four hours. Not offered 1975-76.]

Comparative Indo-European Linguistics (Linguistics 631-632)

Classical Archaeology

The following courses may be used toward satisfaction of the intercollege concentration in archaeology; see p. 29, where other courses dealing with Classical art and architecture are also listed.

220 Introduction to Classical Archaeology Fall term. Credit three hours. J. E. Coleman. Life in the Classical world as revealed by the archaeologist's spade, from the pioneering discoveries to the results of modern scientific excavation: market places and sanctuaries; everyday objects and dedications to the gods; tombs and their treasures.

221 Minoan-Mycenaean Art and Archaeology Spring term. Credit three hours. J. E. Coleman. The early age of Greece from the Neolithic period to the end of the Bronze Age, with special emphasis on Minoan and Mycenaean civilizations.

320 The Archaeology of Classical Greece Spring term. Credit four hours. J. E. Coleman. Detailed study of the monuments and crafts of Athens, from the Geometric to the Roman period; the Acropolis and the Agora, Attic poetry and sculpture, etc., considered within their cultural context. Lectures and student reports.

[**629 Problems in Minoan and Mycenaean Archaeology** Spring term. Credit four hours. Open to advanced students and by consent of the instructor. Not offered 1975-76.]

[**630 Seminar in Classical Greek Archaeology** Spring term. Credit four hours. Not offered 1975-76.]

Classical Civilization

No knowledge of Greek or Latin is needed for these courses.

119 Freshman Seminar in Greek Literature Either term. Credit three hours. Fall term, E. Asmis, G. M. Messing. Spring term, F. M. Ahl, A. Betensky.

120 Freshman Seminar in Latin Literature Either term. Credit three hours. Fall term, instructor to be announced. Spring term, instructor to be announced.

200 The Greek and Roman Experience Spring term. Credit three hours. A. Betensky. A general introduction to Greco-Roman civilization,

centered around a selected number of important works read in translation, including the *Iliad*, the *Aeneid*, a Platonic dialogue, several tragedies and comedies, historical writings, and others. While the approach to these readings will be largely cultural and literary, guest lecturers will provide background in history, art and archaeology, religion, and philosophy. There will be ample opportunity for student discussion.

220 Introduction to Classical Archaeology See above under Classical Archaeology.

221 Minoan-Mycenaean Art and Archaeology See above under Classical Archaeology.

224 Greek Philosophy Fall term. Credit three hours. E. Asmis. An introduction to the pre-Socratic philosophers and Plato.

225 Hellenistic and Roman Philosophy Spring term. Credit three hours. E. Asmis. Ancient Philosophy after Aristotle. A study of Stoic and Epicurean philosophy and the ancient Sceptics.

236 Greek Mythology (also Comparative Literature 236) Fall term. Credit three hours. Students who have had Classics 122 may register only with the permission of the instructor. W. R. Johnson. A survey of the Greek myths, with emphasis on myths that have entered the postclassical Western tradition. Of the aspects of mythology to be studied the following will be among the most important: what "myth" meant to the Greeks; the factors and influences involved in the creation of myths; and the significance of myths in daily life, religion, and thought. Comparison and contrast with Roman attitudes to myth.

[**300 Greek and Roman Drama (also Comparative Literature 300)** Spring term. Credit four hours. Not offered 1975-76.]

304 Introduction to Roman Law Fall term. Credit three hours. D. L. Malone. While based upon a history of the formal structure of Roman law from the XII Tables to the *Digest*, Classics 304 will deal with Roman law in its wider ramifications: law as a weapon in political strategy; law as it appears in Roman philosophy, rhetoric, education, and literature (comedy and satire); law as a mirror of society (the family, slavery, social classes, position of women).

320 The Archaeology of Classical Greece See above under Classical Archaeology.

[**331 Greek Foundations of Western Literature (also Comparative Literature 331)** Fall term. Credit four hours. Not offered 1975-76.]

[**332 Pagan and Christian at Rome (also Comparative Literature 332)** Spring term. Credit four hours. Not offered 1975-76.]

[336 Foundations of Western Thought (also Comparative Literature 336) Spring term. Credit four hours. Not offered 1975–76.]

[339 Ancient Wit: An Introduction to the Theory and Form of Comic and Satiric Writing in Greece and Rome (also Comparative Literature 339) Fall term. Credit four hours. Not offered 1975–76.]

363 Women in Classical Greece and Rome Spring term. Credit four hours. Instructor to be announced.

430 Genre and Period in Greek and Roman Literature (also Comparative Literature 430) Spring term. Credit four hours. Prerequisite: one upper division course in Classics, comparative literature, English, or the modern foreign languages; senior standing or consent of the instructor. W. R. Johnson. Readings in the theory of genre and the concept of the period in ancient literary criticism, with emphasis on the rhetoricians; analyses of ancient literary works in the light of these readings. Students with Greek or Latin will be encouraged to do some of their reading in the original.

711–712 Independent Study for Graduate Students

Classical Antiquity (History 261–262)

The Roman Revolution 146–44 B.C. (History 461)

[Early Imperial Rome 44 B.C.–A.D. 70 (History 462) Not offered 1975–76.]

Classical Greece, 510–404 B.C. (History 463)

[Classical Greece, 404–338 B.C. (History 464) Not offered 1975–76.]

Science in Classical Antiquity (History 481–482)

Seminar in Ancient Classical History (History 661–662)

Seminar in Latin Palaeography (History 664–665)

Arts of the Roman Empire (History of Art 322)

Painting in the Greek and Roman World (History of Art 323)

[Architecture in the Greek and Roman World (History of Art 324) Not offered 1975–76.]

Numismatics (History of Art 424)

Ancient Philosophy (Philosophy 211)

Topics in Ancient Philosophy (Philosophy 314)

Plato and Aristotle (Philosophy 413)

Ancient Philosophy (Philosophy 611)

Comparative Literature

W. W. Holdheim, chairman; W. J. Kennedy, B. Pedersen, R. Roopnaraine, E. Rosenberg (English and comparative literature).

Also cooperating: M. H. Abrams, F. M. Ahl, C. Morón-Arroyo, J. P. Bishop, E. A. Blackall, A. F. Caputi, P. J. Carden, M. A. Carlson, K. M. Clinton, D. D. Eddy, E. G. Fogel, S. L. Gilman, G. Gibian, R. O. González, P. A. Gottschalk, A. V. Grossvogel, T. L. Jeffers, W. R. Johnson, C. Kaske, R. E. Kaske, G. M. Kirkwood, G. Mazzotta, J. R. McConkey, E. P. Morris, D. I. Owen, I. Rabinowitz, B. O. States, A. W. Wood.

The Department of Comparative Literature offers no undergraduate major program. Certain of its courses may, however, be counted toward the major requirements of other departments, at their option. For information consult the Classics, English, French, German, and Russian sections in this *Announcement*. For information about other related courses, consult the offerings in Classics, English, German, Romance studies, Russian, Semitics, Asian studies, history, philosophy, the fine arts, music, and the theatre arts.

Distribution Requirement

The distribution requirement in the humanities may be satisfied by any of the 200- or 300-level courses in literature which form a sequence. Any of the 100-level courses may be used towards satisfying the freshman seminar requirement.

101 The Rhetoric of "No": Literature and Protest Either term. Credit three hours. Freshman humanities seminar. Staff.

The writer's alienation in society and the ways in which he or she calls its values into question. Readings will include Brecht, Solzhenitsyn, Doris Lessing. Films and plays may be considered when appropriate.

102 Tales of Mystery, Quest, and Self-discovery Either term. Credit three hours. Freshman humanities seminar. Staff.

On the premise that storytelling always begins with an appeal to the reader's curiosity, this course deals with three kinds of mystery and discovery: psychological fiction (how does a writer involve the reader in a character's discovery of his own nature?); detective stories (how does the writer tease or satisfy our curiosity about hidden events?); and allegorical narrative (how can a writer's creation of fantastic or terrifying worlds lead the reader to new perceptions about his own world?). Readings include *Oedipus Rex*, Dostoevsky, Edgar Allen Poe, and science fiction.

103 Inner Worlds, Outer Worlds, Other Worlds Either term. Credit three hours. Freshman humanities seminar. Staff.

Discussion of a series of dramatic and narrative works starting with the most "realistic" and moving towards various grotesque, fantastic, and romantic

forms. Such a progression raises the question of literary reality: how does the writer perceive the world and how does the writer's imagination function in transforming and deforming it? Readings include Cervantes, Kafka, theatre of the absurd. Nonliterary media (film, music, art) will also be incorporated.

213 Existentialism and Literature Fall term. Credit four hours. P. Gottschalk and A. Wood.

An exploration of several major technical issues of existentialist philosophy and of their treatment in drama and fiction. The course is taught jointly by a philosophy and an English professor and is thus also intended to show how two such different disciplines approach the same texts. The readings will include such philosophical works as Heidegger, *Being and Time*, and such literary works as Sartre, *Nausea*, Dostoevsky, *The Brothers Karamazov*, and Shakespeare, *Hamlet*.

[216-217 The Reshaping of Tradition in European Literature 216 fall term only; 217 spring term only. Credit three hours. W. J. Kennedy. Not offered 1975-76.]

226 Ancient Near Eastern Literature (also Semitics 282) Spring term. Credit four hours. D. I. Owen. Readings in translation from the major literary works of the Sumerians, Babylonians, Hittites, Canaanites, and Egyptians. Selected readings from the epic, religious, magical, and historical texts. Discussion of epic themes, Near Eastern mythology, and comparison of literary and mythological motifs with biblical and early Greek literature.

236 Greek Mythology (also Classics 236)

Fall term. Credit three hours. Students who have had Classics 122 may register only with the consent of the instructor. W. R. Johnson.

A survey of the Greek myths, with emphasis on myths that have entered the postclassical Western tradition. Of the aspects of mythology to be studied the following will be among the most important: what "myth" meant to the Greeks; the factors and influences involved in the creation of myths; and the significance of myths in daily life, religion, and thought. Comparison and contrast with Roman attitudes to myth.

[293 Aspects of Modern Fiction Fall term. Credit three hours. R. Roonparaine. Not offered 1975-76.]

312 Comedy Fall term. Credit four hours. W. J. Kennedy.

Discussion of comic styles (classical, colloquial, improvisational, absurd) and modes of comedy (satire, romance, farce, grotesque) in drama and narrative fiction from Aristophanes to Samuel Beckett, with special attention to Chaucer, Rabelais, Jonson, Molière, Nabokov, Grass, and Ionesco.

313 Science Fiction Spring term. Credit four hours. E. P. Morris.

Introduction to history and varieties of the genre. Relation of science fiction to changing sciences and societies; science fiction and "the mainstream"; science fiction's theory of itself; myth and narrative style

and convention. Texts from ancient and early modern times; Verne and Wells; major British and American writers of the Cold War years; Soviet novelists; recent cult-figures, prize winners, and others. All readings in English.

[319 The Humanities in Liberal Education (also Spanish 390) Fall term. Credit four hours. C. Morón-Arroyo. Not offered 1975-76.]

323 The Literature of Ancient Israel (also Semitics 330) Fall term. Credit four hours. Not open to freshmen. I. Rabinowitz.

The ancient Israelite beliefs and cultural assumptions needed to comprehend the texts as literature will be discussed. All readings in English.

343-344 Medieval Literature Credit four hours per term. 343 fall term only. R. E. Kaske. 344 spring term only. G. Mazzotta.

Fall term: analysis and interpretation of great medieval literary works in translation. Though readings will vary somewhat from year to year, a typical program would be *Beowulf*; *Chanson de Roland*; *Njáls saga*; a romance of Chrétien; Wolfram's *Parzival*; Gottfried's *Tristan*, and/or *Sir Gawain and the Green Knight*; *Pearl*; *Piers Plowman*. Spring term: Dante in translation.

352 Classic and Renaissance Drama (also Theatre Arts 325) Fall term. Credit four hours. A. F. Caputi.

Readings in world drama from the Greeks through Shakespeare, including such dramatists as Aeschylus, Sophocles, Aristophanes, Plautus, Seneca, Shakespeare, Marlowe, Johnson, Lope de Vega, and Calderón.

353 European Drama 1660-1900 (also Theatre Arts 326) Spring term. Credit four hours. M. A. Carlson.

Readings from major dramatists from Molière to Ibsen, including such authors as Racine, Congreve, Sheridan, Schiller, Goethe, Hugo, Büchner, Gogol, Turgenev, Zola, Hauptmann, and Chekhov.

354 Modern Drama (also Theatre Arts 327)

Spring term. Credit four hours. B. O. States. Readings from major dramatists of the twentieth century, including such authors as Shaw, Pirandello, Brecht, O'Casey, O'Neill, Williams, Miller, Lorca, Beckett, Ionesco, Genet, Pinter, Duerrenmatt, and Albee.

357 The Literature of Europe since the Renaissance Credit four hours. Spring term. T. L. Jeffers.

Reading of such representative novelists as Fielding, Goethe, Stendhal, Dostoevsky, and Sartre; and such representative dramatists as Byron, Ibsen, Chekhov, Shaw, and Ionesco. Emphasis will be on literary technique and the evolution of modern attitudes toward individualism from the Romantic period.

363-364 The European Novel Credit four hours a term. 363 fall term only. J. R. McConkey. 364 spring

term only. B. Pedersen.

Fall: readings of selected novels, romances, and autobiographical prose from 400 A.D. through the early nineteenth century. A typical listing of books to be read would include *The Confessions of Augustine*, *Tristan and Iseult*, *Don Quixote* (both volumes), *Candide*, *Les Liaisons dangereuses*, *The Sorrows of Young Werther*, and *The Charterhouse of Parma*. Though each work will be considered as an entity, certain recurrent themes provide a focus for the course, the most important being the effect of visionary insights upon the individual — a matter which brings up questions of personal identity, human meaning, and the seeming similarity between creative and destructive impulses.

Spring: the modern novel from Flaubert to Beckett. This course will discuss texts from the mid-nineteenth century to the present by such writers as Flaubert, Dostoevsky, Proust, Mann, Nabokov, and Beckett. Themes to be developed include realism and its breakdown, the criticism of the Novel (or of Literature) as an integral part of the novel itself, versions of irony and the grotesque, relations to society and history.

391 Readings in Modern Poetry Fall term. Credit four hours. Limited to twenty students. Prerequisite: German desirable, although for the most part the student will be using dual language texts. B. Pedersen.

Systematic study of theory and practice in modern poetry based on a reading of both programmatic writings and individual poems of Yeats, Eliot, Pound, Stevens, Rilke, Benn, Brecht.

[413 The Detective Story: Form and Function] Spring term. Credit four hours. R. R. Roopnaraine. Not offered 1975–76.]

[414 The Novella in World Literature] Spring term. Credit four hours. W. W. Holdheim. Not offered 1975–76.]

[417 James Joyce and the European Tradition] Spring term. Credit four hours. W. J. Kennedy. Not offered 1975–76.]

419–420 Independent Study Credit to be arranged. Staff.

422 Seminar on Literature as Negativity: Ressentiment in the Modern Novel (also Society for the Humanities 422) Fall term. Credit four hours. R. Weisberg.

The seminar discusses the theory of *ressentiment* in the works of Nietzsche and Max Scheler, and then reads texts in which the phenomenon has a central characterizational, thematic, and structural importance (*Hamlet* as prototype, various works of Dostoevsky, Melville, and Camus). The aim is not only to see *ressentiment* as curiously prevalent in the protagonists of otherwise dissimilar masterpieces but also to explore why the problems of a resentful, insecure, and usually literary or legal character may be peculiarly apropos for the novelist himself in Western society. Reading knowledge of French, German, or Russian required.

423 Seminar on Literature and the Law (also Society for the Humanities 423) Spring term.

Credit four hours. R. Weisberg.

An analysis of the use of the legal thematic in Sophocles, Shakespeare, Dickens, Dostoevsky, Melville, Kafka, Camus, and Solzhenitsyn. Legal materials will be employed to illuminate the individual body of law or tradition alluded to in each literary text. The interrelationship of the legal and literary type will be explored, a combination which frequently leads to the fullest expression of meaning in these authors.

425 Don Quijote, An Experiment with Methods (also Society for the Humanities 425) Spring term.

Credit four hours. C. Morón Arroyo.

We shall explore various approaches to this book embodying different methods of criticism: characterization, structure, the presentation of society, and the place of *Don Quijote* in the rise of the European novel. Knowledge of Spanish is not required.

429 Readings in the New Testament Fall term.

Credit four hours. Prerequisite: upper division standing. J. P. Bishop.

Close readings of representative texts from the New Testament in modern scholarly editions, with the help of appropriate commentary, introductory and specialized. In 1975 the focus will be on the narrative gospels of Mark and John. All readings will be in English, but some reference to the Greek original will be made. Students in other colleges especially should not feel inhibited from enrolling. The approach will be chiefly academic and literary but with the hope of staying open to scholarly and religious issues alike.

430 Genre and Period in Greek and Roman Literature (also Classics 430) Spring term. Credit four hours. W. R. Johnson.

Readings in the theory of genre and the concept of the period in ancient literary criticism, with emphasis on the rhetoricians; analyses of ancient literary works in the light of these readings. Students with Greek or Latin will be encouraged to do some of their reading in the original.

446 Allegory and Symbolism. Spring term. Credit four hours. C. Kasko.

Definitions and models drawn from the *Divine Comedy* will be related to a reading of works ranging from Classical to modern: the myths of Plato, the *Romance of the Rose*, mystical lyrics of St. John of the Cross, selections from *The Faerie Queene*, and *Faust, Part II*.

456 Utopias and Imaginary Voyages from the Renaissance to the Enlightenment Fall term.

Credit four hours. W. J. Kennedy.

Paradisical, utopian, and satiric visions of human society and human solitude with emphasis on European fiction between More and the Marquis de Sade, including works by Rabelais, Shakespeare, Swift, and Voltaire. Some consideration will be given to recurrent themes like the scientific transformation and educational stabilization of society, and to mythic

components like the island, the forest, the city, and the other world.

[458 Petrarch, Ronsard, and Donne Spring term. Credit four hours. W. J. Kennedy. Not offered 1975-76.]

[468 Three Novelists: Cervantes, Rabelais, Sterne Spring term. Credit four hours. Prerequisites: reading knowledge of French or Spanish. R. Roopnaraine. Not offered 1975-76.]

469 The History of the Book Fall term. Credit four hours. D. D. Eddy and H. P. Kahn. Bibliographical description and the aesthetic aspects of the book.

472 Ibsen and Strindberg (also Theatre Arts 442) Fall term. Credit four hours. B. Pedersen. A reading and discussion of selected plays by Ibsen and Strindberg, in English translation. This course will attempt to clarify formal and literary aspects of the two dramatists, their position in nineteenth-century Scandinavian literature and secondarily in the theatre, and their impact on twentieth-century drama.

473 Autobiography as a Literary Form Spring term. Credit four hours. W. W. Holdheim. The problem and development of autobiography as a literary form, illustrated by discussions on major examples of the genre. St. Augustine, Abélard, Dante, Cellini, Rousseau, Goethe, Stendhal, Henry Adams.

[479 Fiction and the Irrational Fall term. Credit four hours. Mainly for upperclass students; enrollment limited to twelve. E. Rosenberg. Not offered 1975-76.]

482 Seminar on European Drama and Dramatic Criticism (also Society for the Humanities 416) Fall term. Credit four hours. R. Peacock.

Two topics will be considered in conjunction with each other: (a) sociomoral themes and individual expression in European dramatists of the 1890's (nine to ten meetings); (b) T. S. Eliot's dramatic criticism in historical perspective (three to four meetings). In regard to the first subject the aim will be to define the extremely varied treatment by different authors of shared contemporary themes and to analyze in addition the highly subjective expressiveness involved. Texts by Ibsen, Wedekind, Shaw, Wilde, Hofmannsthal, and others, will be used as focal points. The second subject will take the form of a re-examination of T. S. Eliot's dramatic criticism both as general criticism and as a programme.

483 Masterpieces of a Decade Fall term. Credit four hours. E. Rosenberg. The aim of the course is to select a handful of novels written during the 1860s and to explore the different social and moral attitudes that are expressed concurrently in diverse Western literatures. Five or six novels from among the following: Turgenev, *Fathers and Sons*; Dickens, *Our Mutual Friend*; Tolstoy, *Polikushka*; Trollope, *Phineas Finn*; Dostoevsky, *Crime and Punishment* (or *The Devils*); Eliot, *Felix*

Holt; Zola, *Therese Raquin*; Flaubert, *L'Education sentimentale*.

490 Futurism: The Movement that Wasn't (also Italian 490) Spring term. Credit four hours. A. Grossvogel.

Poems, paintings, publicity, politics, and roses to Apollinaire, Picasso, Marinetti, Severini, Boccioni, Balla, Carrà, Palazzeschi, Govoni, Prampolini, Lucini, Valentine de Saint-Point.

495 Heidegger in Dialogue: A Reading of Being and Time (also Society for the Humanities 424) Fall term. Credit four hours. C. Morón-Arroyo. Heidegger's redefinition of the basic concepts of criticism: phenomenology, hermeneutics, knowledge, dread and guilt, time and history, in dialogue with Husserl, Marx, Freud, and Delthey.

[498 Dostoevsky, Mann, and Gide Fall term. Credit four hours. W. W. Holdheim. Not offered 1975-76.]

[499 Origins of the Avant Garde Spring term. Credit four hours. P. J. Carden. Not offered 1975-76.]

611 Studies in the Lyric: Dante, Sceve, and Yeats Spring term. Credit four hours. W. J. Kennedy.

683 The Historical Novel Fall term. Credit four hours. W. W. Holdheim.

684 Theories of Interpretation: the Marxist Perspective Spring term. Credit four hours. Limited to twenty students. Prerequisite: consent of instructor. R. Roopnaraine.

698 Topics in Literature: Kierkegaard and Nietzsche Fall term. Credit four hours. B. Pedersen.

699 Topics in Modern Literature: Problems of the Modern Novel Spring term. Credit four hours. B. Pedersen.

Chinese Imaginative Literature (Asian Studies 372)

Modern Japanese Fiction (Asian Studies 376)

Japanese Nō Theatre (Asian Studies 400)

Film and Novel as "Language" (French 390)

What is "Absurd" in the Theater of the Absurd? (French 391)

Anthropology and Literature (French 473)

Fact of Fiction (French 483)

Tales of Power (French 494)

Nietzsche, the Man and the Artist (German Literature 314)

Mozart, His Life, Works, and Times (German Literature 387)

The Modern German Novel in English Translation (German Literature 413)

The Modern Scandinavian Novel (German Literature 414)

The Monumentality of Early Lyric Poetry (Italian 348)

Dante's Minor Works (Italian 349)

The Novella (Italian 355)

Readings in Contemporary Italian Fiction (Italian 396)

The Shape of Fiction (Romance Studies 374)

Russian Literature (Russian 207)

Russian Literature (Russian 208)

Russian Theatre and Drama (Russian 332)

Society and Literature (Russian 336)

The Russian Novel in Translation (Russian 367)

The Israeli Short Story (Semitics 261)

The Israeli Novel (Semitics 264)

Seminar in Modern Hebrew Literature: The Enlightenment 1780-1880 (Semitics 362-363)

Seminar on Sixteenth Century Imagery (Society for the Humanities 414)

Seminar on Classicism in the Visual Arts (Society for the Humanities 415)

Seminar: The Status of Literature (Society for the Humanities 418-419)

Computer Science

G. Salton, chairman; G. Andrews, R. L. Constable, R. W. Conway, A. Demers, J. E. Dennis, Jr., D. Gries, S. P. Han, J. Hartmanis, J. E. Hopcroft, D. Kirkpatrick, C. G. Moore, J. Moré, R. Teitelbaum, J. H. Williams.

At Cornell, computer science is concerned with fundamental knowledge in automata, computability, and programming languages and systems programming, as well as with subjects such as numerical analysis and information processing that underlie broad areas of computer applications. Because of the wide implications of research in the field, the Department is organized as an intercollege department in the College of Arts and Sciences and the College of Engineering.

Even though there is as yet no formal undergraduate

major in computer science, the Department offers a comprehensive set of undergraduate and graduate courses from which students can select the appropriate sequences to fit their major interests.

It is possible to take a strong computer science minor through the Mathematics Department (option II), or to choose an independent major including computer science, that must include at least as much mathematics as the option II mathematics major, and must be approved by the Independent Major Board which oversees such projects. Small amounts of computer science may be used as part of an independent major with substantial work in other fields — as in the case of a sociology student who wants to learn to use computers.

Introductory courses: CS 100 is a first course in programming using PL/1; it is given during the first eight weeks of each semester. CS 101, 102, 104, and 106 are one-credit courses that rely on 100 but that can be taken the same term. Students can assemble a one-, two-, three-, or four-credit introduction to programming to fit their interests by appropriately selecting from this group. CS 211 is a foundations course in computers and programming that leads to more advanced courses.

Students taking CS 101, 102, 104, or 106 should register for these courses at the beginning of the term to avoid paying a late registration fee.

Students who want a strong minor in computer science should take the following courses: 211, 280, 314, 410, and two out of 321, 322, 414, 481, 482, 611, 612.

The complete six-digit course numbers for the computer science courses are listed in the *Engineering Announcements*.

100 Introduction to PL/1 Programming Either term. Credit two hours. First eight weeks of term only. Three evening quizzes M or Th 7:30. Elementary nonmathematical presentation of computer programming, using PL/1. No previous programming experience is assumed.

101 Implications of Computer Technology Either term. Credit one hour. Prerequisite: previous or concurrent registration in CS 100 or equivalent. Weeks nine through fourteen only. Two evening quizzes M or Th 7:30. A continuation of 100. Overview of computer capability and applications. Discussion of implications of computer technology on society.

102 Introduction to FORTRAN Programming Either term. Credit one hour. Prerequisite: previous or concurrent registration in CS 100 or equivalent. Weeks nine through fourteen only. Two evening quizzes M or Th 7:30. A continuation of 100. Introduction to programming in FORTRAN IV.

104 Introduction to APL Programming Either term. Credit one hour. Prerequisite: previous or concurrent registration in CS 100 or equivalent. Weeks five through eight only. Two evening quizzes

M or Th 7:30. Individual laboratory work on the computer. S-U grades only.

A continuation of 100. Introduction to interactive programming using APL.

105 The Computerized Society Fall term. Credit three hours.

The economic, political, and cultural impact of computers and computer-related technology. Seminar style with some lectures to provide background material. Specific topics: computer technology, the cashless society, systems approach to social problems, law enforcement, political campaigns, data banks and privacy, education, machine creativity, and machine intelligence.

106 Computer Solution of Mathematical

Problems Either term. Credit one hour. Prerequisite: previous or concurrent registration in CS 100 or equivalent. Weeks nine through fourteen only. Two evening quizzes M or Th 7:30.

A continuation of 100. An introduction to numerical computation. Topics are floating point representation, approximations and library functions, typical algorithms.

211 Computers and Programming Either term.

Credit three hours. Prerequisite: CS 100 or equivalent programming experience. Two evening exams T or Th 7:30.

An in-depth study of programming with a brief introduction to other areas of computer science. Topics include: analysis of speed of execution, procedures and recursion, proving programs correct, data structures, and machine organization. Programming and debugging on a computer are an essential part of this course.

280 Discrete Structures Fall term. Credit three hours. Prerequisite: CS 100 or 211.

Fundamental mathematical concepts relevant to computer science. Sets, relations, graphs, algebraic structures, partial orderings, lattices, and Boolean algebras. Theoretical and practical applications.

314 Introduction to Computer Systems and Organization Either term. Credit four hours. Pre-

requisite: CS 211 or equivalent programming experience.

Logical structure of digital computers. Representation of information, addressing mechanisms. Storage and peripheral hardware and their characteristics, the input-output channel, interrupts. Assembly language programming; format and basic instructions, the assembly process, macros. Brief description of operating systems, loaders, interpreters, and compilers. Programming and debugging assembly language programs on a computer are an essential part of this course.

321-322 Introduction to Numerical Analysis

Throughout the year. Credit four hours a term. Prerequisites: Math 222 or 294 and knowledge of a programming language such as FORTRAN, ALGOL, or PL/1.

Students solve representative problems by programming appropriate algorithms. Numerical methods for systems of linear equations, eigenvalues, interpolation, differentiation, least squares, Chebyshev solution to discrete and continuous systems, and integration. Numerical solution of differential equations and nonlinear equations in several variables.

410 Data Structures Fall term. Credit four hours. Prerequisite: CS 314 or the equivalent.

Lists, trees, graphs, and other forms of data structures. List operations including linear lists, circular lists, arrays, and multilinked structures. Binary tree representation, tree traversal, tree enumeration. Garbage collection and dynamic storage allocation. Search and sorting techniques.

411 Programming Languages Spring term. Credit four hours. Prerequisite: CS 410 or consent of instructor.

An introduction to the structure of programming languages. Specification of syntax and semantics. Properties of algorithmic, list processing and string manipulation languages: basic data types and structures, operations on data, statement types, and program structure. Macrolanguages and their implementation. Run-time representation of programs and data. Storage management techniques.

414 Systems Programming and Operating Systems Spring term. Credit four hours.

Prerequisite: CS 314 or consent of instructor.

The logical design of systems programs with emphasis on multiprogrammed operating systems. Loaders, input-output methods, interacting processes, basic resource control, main storage management, sharing, virtual computer systems, file systems. Case studies. Project involving the design and implementation of a small system.

481-482 Introduction to Theory of Computing

I, II Throughout the year. Credit four hours a term. Prerequisite: CS 280 or equivalent math, or consent of instructor.

Introduction to modern theory of computing. Covers results from automata theory, formal languages, effective computability, computational complexity, and analysis of algorithms. Includes finite automata, push-down automata, Turing machines, random access machines, regular sets, context-free languages, parsing algorithms, recursively enumerable sets, unsolvable problems, measures of complexity, data structures, depth first search, graph algorithms, sorting, recursion, dynamic programming, and introduction to reducibilities.

Graduate Courses

For complete descriptions of courses numbered 600 or above see the *Announcement of the Graduate School: Course Descriptions*. If a course is not included there, consult the graduate faculty representative.

611 Formal Specification of Programming Languages Fall term. Credit four hours. Prerequisite: CS 411 or equivalent.

612 Translator Writing Spring term. Credit four hours. Prerequisite: CS 611 or consent of the instructor.

613 Operating System Principles Fall term. Credit four hours. Prerequisite: CS 414 and 611 or consent of the instructor.

[615 Machine Organization Spring term. Credit four hours. Prerequisite: CS 314 or consent of the instructor. Not offered 1975-76.]

[616 Operations Research Models for Computer and Programming Systems Spring term. Credit four hours. Prerequisites: CS 611 and a course in probability (e.g. Math 371 or Engineering IOD 660) or consent of instructor. Not offered 1975-76.]

[618 Picture Processing Spring term. Credit four hours. Prerequisite: CS 611 or consent of the instructor. Not offered 1975-76.]

621-622 Numerical Analysis Throughout the year. Credit four hours a term. Prerequisites: Math 411 and knowledge of a programming language such as FORTRAN, ALGOL, or PL/1, or consent of instructor.

632 File Processing Fall term. Credit four hours. Prerequisite: CS 211.

635 Information Organization and Retrieval Spring term. Credit four hours. Prerequisite: CS 410 or the equivalent.

[641 Mathematical Symbol Manipulation Spring term. Credit four hours. Prerequisites: CS 410 and some knowledge of discrete mathematics, e.g. CS 280, 481, or Math 431. Not offered 1975-76.]

681 Theory of Algorithms and Computing I Fall term. Credit four hours. Prerequisite: CS 482 or consent of instructor.

682 Theory of Algorithms and Computing II Spring term. Credit four hours. Prerequisite: CS 481 or consent of the instructor.

709 Computer Science Graduate Seminar Either term. Credit one hour. Primarily for graduate students. Staff, visitors, and students.

712 Theoretical Aspects of Compiler Construction Spring term. Credit four hours. Prerequisites: CS 612 and 481.

719 Seminar in Programming Either term. Credit four hours. Prerequisite: CS 611 or consent of instructor.

721 Solutions of Nonlinear Equations and Non-linear Optimization Problems Fall term. Credit four hours. Prerequisite: CS 622 or consent of instructor.

[723 Numerical Solution of Ordinary Differential Equations and Integral Equations Fall term. Credit four hours. Prerequisite: CS 622 or consent of the instructor. Not offered 1975-76.]

725 Numerical Solution of Partial Differential Equations Spring term. Credit four hours. Prerequisite: CS 622 or consent of the instructor.

[727 Introduction to Approximation Theory Spring term. Credit four hours. Prerequisite: CS 622 or consent of the instructor. Not offered 1975-76.]

729 Seminar in Numerical Analysis Either term. Credit four hours. Prerequisite: consent of the instructor.

733 Selected Topics in Information Processing Same as IOE 789.

734 Seminar in File Processing Fall term. Credit to be arranged. Prerequisite: CS 733.

739 Seminar in Information Organization and Retrieval Either term. Credit four hours. Prerequisite: CS 635.

781 Advanced Theory of Computing Fall term of odd numbered years (1975, 1977, etc.). Credit four hours. Prerequisite: CS 682 or consent of the instructor.

[782 Advanced Topics in Algorithms Spring term of odd numbered years (1975, 1977, etc.). Credit four hours. Prerequisite: CS 682 or consent of the instructor.]

789 Seminar in Automata Theory Either term. Credit four hours. Prerequisite: consent of the instructor.

790 Special Investigations in Computer Science: Independent Research Either term. Prerequisite: consent of a computer science adviser.

890 Special Investigations in Computer Science: Master's Research Either term. Prerequisite: consent of a computer science adviser.

990 Special Investigations in Computer Science: Doctoral Research Either term. Prerequisite: consent of a computer science adviser.

Economics

E. Thorbecke, chairman; E. A. Blackstone, W. Brock, E. T. Burton, M. G. Clark, T. E. Davis, R. H. Frank, R. T. Freeman, W. Galenson, F. H. Golay, E. M. Gramlich, M. R. Haines, G. H. Hildebrand, W. Isard, A. E. Kahn, T. C. Liu, M. Majumdar, P. D. McClelland, D. C. Mueller, P. Pestieau, U. M. Possen, R. E. Schuler, S. M. Slutsky, G. J. Staller, S. C. Tsiang, J. Vanek, H. Y. Wan, Jr.

Students who wish to major in economics must have completed Economics 101-102 or its equivalent with an average of C or better. Students who have completed only one semester of the introductory course may be accepted as provisional majors provided their grade was at least C. Prospective majors should report to the Department of Economics office.

The requirements for a major are: (1) Economics 311 and 312; (2) twenty hours of other economics courses listed by the Department of Economics in this *Announcement*, except that, with the permission of the major adviser, two economics courses outside the College of Arts and Sciences may be used to fulfill this requirement; and (3) three courses above the introductory level in subjects related to economics selected, with the approval of the major adviser, from the offerings of the Departments of Anthropology, Asian Studies, Government, History, Mathematics, Philosophy, Psychology, and Sociology, and of the Center for International Studies.

In addition to the courses required for the major, many students will find it valuable to take statistics (the diverse possibilities include Agricultural Economics 310, Industrial and Labor Relations 210, Industrial Engineering 9170 and 9370, and Mathematics 370 and 371, 472, 475. Mathematics courses are not needed for an undergraduate major. However, students planning graduate work in economics are strongly advised to take mathematics at least through calculus and linear algebra.

The Honors Program

Candidates for the degree of Bachelor of Arts with honors in economics will enroll in the Honors Seminars 391 and 392. Candidates are expected to complete thirty-two hours of advanced courses in economics, including the Honors Seminars and all courses required of majors.

Students seeking admission to the Honors Program should consult their advisers and the professor in charge of the Program not later than the pre-registration period in the spring of their junior year. Application normally will not be considered from students whose cumulative average is less than B+ in both their general studies and their economics courses.

A comprehensive honors examination will be given to candidates at the end of their senior year. Candidates may be exempted from final examinations in their other economics courses at the end of their senior year.

Distribution Requirement

The distribution requirement in social sciences is satisfied in economics by Economics 101-102.

101 Introductory Economics Either term. Credit three hours. Lectures and discussion. Fall term: E. Gramlich, W. Galenson, P. D. McClelland, and assistants. Spring term: G. J. Staller and assistants. Analysis of aggregate economic activity in relation to the level, stability, and growth of national income. Topics discussed may include the determination and effects of unemployment, inflation, balance of payments deficits, and economic development, and how these may be influenced by monetary, fiscal, and other policies.

102 Introductory Economics Either term. Credit three hours. Lectures and discussion. Fall term: R. H. Frank and assistants. Spring term: E. A. Blackstone, E. T. Burton, H. Wan, and staff.

Explanation and evaluation of how the price system operates in determining what goods are produced, how goods are produced, and who receives income, and how the price system is modified and influenced by private organizations and government policy. Topics discussed may include the determination of prices and wages, the influence of business monopolies and labor unions, comparative economic systems, and the arguments about government action on such matters as poverty, pollution, and conservation.

General Courses

[301 Economics of Market Failure Fall term. Credit four hours. Prerequisite: Economics 102. Not offered 1975-76.]

302 The Impact and Control of Technological Change Spring term. Credit four hours. D. Nelkin. Examines social, environmental, and economic implications of technological change in the United States in the context of possible policies and strategies of control. Several specific cases will be considered in detail followed by a broader investigation of the problems of a modern technological society. Alternative political-economic solutions will be explored. The course is interdisciplinary and relies on weekly guest speakers. Students will participate in a research project to develop a case study.

[304 Economics and the Law Spring term. Credit four hours. Prerequisite: Economics 311 or consent of instructor. Not offered 1975-76.]

307 Economic Analysis of the Private Sector (also IIB 201, College of Engineering) Fall term.

Credit four hours. Prerequisite: one year of college-level mathematics. R. E. Schuler. Intended primarily for engineers, this course in microeconomics considers the behavior of individual households and firms; how individual agents combine under different market structures including competitive markets, monopoly, and monopsony; and concludes with the theory of distribution and general equilibrium. Most topics will receive both graphical and mathematical treatment.

308 Economic Analysis of Government (also IIB 202, College of Engineering) Spring term. Credit four hours. Prerequisites: one year of college-level mathematics and Economics 307 or 311. R. R. Schuler.

A continuation of Economics 307. Consideration of the welfare implications of various forms of economic organization and the rationale for government intervention in the microeconomy, and the theory underlying investment in government projects and environmental programs; followed by studies of national

economic constraints and aggregate behavior (macroeconomics) together with the impact of government activity on these aggregates. Mathematical as well as graphical tools of analysis will be used.

309 Capitalism and Socialism (also Industrial and Labor Relations 347) Fall term. Credit four hours. Prerequisites: Economics 101 and 102.

G. H. Hildebrand.
Capitalism as a type of economic organization and as an idea system. Smith's view and Marx's critique. The achievements of capitalism. Some current issues: stability, inflation, monopoly, distribution, costs and growth, and industrial relations. Socialist criticisms. Types of socialist thought. Some problems of socialism; the place of the state and the question of scarcity. Central planning. Recent appraisals of capitalism and socialism: Schumpeter, von Mises, Sweezy, Pigou, Galbraith, and Friedman.

311 Intermediate Microeconomic Theory Either term. Credit four hours. Prerequisites: Economics 101 and 102 or consent of instructor. Fall term: W. Brock, E. Burton, H. Y. Wan and staff. Spring term: R. Ehrenberg, S. M. Slutsky.

Analysis of the pricing processes in a private enterprise economy under varying competitive conditions, their role in the allocation of resources, and the functional distribution of national income.

312 Intermediate Macroeconomic Theory

Either term. Credit four hours. Prerequisites: Economics 101 and 102 or consent of the instructor. Fall term: R. T. Freeman, E. M. Gramlich, G. J. Staller. Spring term: R. H. Frank, E. M. Gramlich, M. R. Haines, and staff.

An introduction to the theory of national income determination and economic growth in alternative models of the national economy; the interaction and relation of aspects of these models of empirical aggregate economic analysis.

315 History of Economic Thought Fall term. Credit four hours. Prerequisites: Economics 101 and 102 or consent of instructor. Staff

A survey of the development of economic thought from the early modern period to the early twentieth century. Emphasis is placed on English classical economic thought, with attention to divergent and dissident schools, terminating with the work of Alfred Marshall. Students have the option of writing a term paper on an approved topic or of taking the final examination.

317 Intermediate Mathematical Economics I

Fall term. Credit four hours. H. Wan.
Introduction to calculus and menial algebra; problems of maximization of a function of several variables.

318 Intermediate Mathematical Economics II

Spring term. Credit four hours. E. Burton.
Advanced techniques of optimization and application to economic theory.

319-320 Quantitative Methods Throughout the year. Credit four hours a term. Prerequisite: good control of microeconomic and macroeconomic theory and some very elementary knowledge of calculus, linear algebra, and probability, or consent of the instructor. Fall term: E. Burton. Spring term: R. E. Schuler.

The application of quantitative analysis to the testing of economic theories largely at the macroeconomic level. This framework will provide a basis for the study and evaluation of cross-sectional and time-series data, methodology and theory of economic measurement, statistical techniques, empirical studies, and economic forecasting.

Economic History

[321 Economic History of Ancient Medieval Europe Fall term. Credit four hours. Prerequisite: consent of instructor. Not offered 1975-76.]

322 Economic History of Modern Europe: 1750 to the Present Fall term. Credit four hours. Open to upperclassmen with some background in economics and/or history or with consent of instructor. M. R. Haines.

Covers and analyzes the background, origins, and character of the industrialization and modernization of Europe since 1750. Topics include the agricultural revolutions; the role of technology in historic economic change; the importance of trade, institutional, and structural change; the social and demographic aspects of modernization; and the graphic diffusion of modern growth.

[323 American Economic History Fall term. Credit four hours. Prerequisites: Economics 101 and 102 or consent of instructor. P. D. McClelland. Not offered 1975-76.]

324 American Economic History Spring term. Credit four hours. Prerequisites: Economics 101 and 102 or consent of instructor. P. D. McClelland. A survey of problems in American economic history from the Civil War to World War I.

325 Economic History of Latin America Fall term. Credit four hours. Open to upperclassmen with some background in economics or history or with consent of instructor. T. E. Davis.

A survey emphasizing the processes and problems of economic growth and the evolution of economic institutions.

Money, Banking, and Public Finance

331 Money and Credit Fall term. Credit four hours. Prerequisites: Economics 101 and 102. U. M. Possen.

A systematic treatment of the determinants of the money supply and the volume of credit. Economic analysis of credit markets and financial institutions in the United States.

335 Public Finance: Resource Allocation

Spring term. Credit four hours. Prerequisites: Economics 101 and 102. P. Pestieau.

Analysis of the role of government in allocating resources through taxes and expenditures. Criteria for evaluation will be developed and applied to specific policies. Attention will focus on the federal government.

[336 Collective Choice: Theory and Applications

Fall term. Credit four hours. Prerequisite: Economics 311 or consent of instructor. Not offered 1975-76.]

338 Macroeconomic Policy Spring term. Credit four hours. Prerequisite: Economics 312. U. M. Possen.

A study of the use of fiscal and monetary policies for achieving full employment, price level stability, and appropriate economic growth.

Labor Economics

342 Problems in Labor Economics (also Industrial and Labor Relations 343) Spring term. Credit four hours. Prerequisites: Economics 101 and 102; ILR 240 recommended. G. H. Hildebrand.

An advanced course concerning the institutional organization of labor markets, economic analysis of their operation, and major policy questions involved. Principal topics include wage and employment theory, determinants of wage level and structure, technological change, unemployment, poverty and income distribution, inflation and incomes policy.

Organization, Performance, and Control of Industry

351 Industrial Organization Fall term. Credit four hours. Prerequisites: Economics 101 and 102. E. A. Blackstone.

An analysis of the prevalence and effectiveness of competition in the American economy centering on the structure, conduct, and performance of American industry. Structural characteristics to be discussed include concentration, product differentiation, and barriers to entry. Among the business behavior examined will be merger decisions, pricing, advertising, and technological innovation policies. Case studies of American industries and firms will be read, and emphasis will be placed on relating the theories of monopoly, oligopoly, and competition to the histories of specific firms and industries.

352 Public Regulation of Business Spring term. Credit four hours. Prerequisite: Economics 351 or consent of instructor. E. A. Blackstone.

A continuation of Economics 351, concentrating mainly on public policies of enforcing, supplementing, or replacing competition, with specific studies of selected industries and recent legal cases.

[354 Economics of Regulation Spring term. Credit four hours. Not offered 1975-76.]

International and Comparative Economics**361 International Trade Theory and Policy**

Fall term. Credit four hours. Prerequisites: Economics 101 and 102 or consent of instructor. R. T. Freeman. Survey of the principles that have served as guides in the formulation of international trade and commercial policies. The evolution of the theory of international trade, principles and practices of commercial policy, problems of regional integration and customs unions, and institutions and practices of state trading.

362 International Monetary Theory and Policy

Spring term. Credit four hours. Prerequisites: Economics 101 and 102 or consent of instructor. R. T. Freeman.

Survey of the principles that have served as guides in the formulation of international financial policies. The evolution of the theory of balance of payments adjustment, international monetary standards, the nature of conflicts arising out of the relationship between domestic economic policies and external economic relations, international capital movements, economic aid, international monetary institutions, and proposals for international monetary reforms.

364 The United States in the World Economy

Spring term. Credit four hours. Prerequisites: Economics 101 and 102 or consent of instructor. F. H. Golay.

Analysis of international economic problems confronting the United States. Emphasis is given to interaction of domestic goals and policies and external economic equilibrium. Analysis of the United States balance of payments and examination of the commercial, foreign investment, economic aid, European economic integration, and commodity stabilization policies of this country.

[365 Economic Policy and Development in Southeast Asia

Spring term. Credit four hours. Prerequisite: consent of instructor. Not offered 1975-76.]

[366 Introduction to the Japanese Economy

Spring term. Credit four hours. Not offered 1975-76.]

367 Comparative Economic Systems: Soviet Union and Europe

Fall term. Credit four hours.

G. J. Staller. Discussion of the rationality and feasibility of economic planning (von Mises, Hayek, Lange). Examination of the various approaches to planning, including discussion of the planning techniques in Europe, Yugoslavia, and the Soviet Union (with emphasis on the Soviet Union). Comparison of economic performance of various free and planned economies. Consideration of economic competition between the market and the planned systems.

[368 Contemporary Brazil (also Sociology 368)

Spring term. Credit four hours. Prerequisites: two courses in social sciences. Not offered 1975-76.]

Comparative Economic Systems: Soviet Russia (Industrial and Labor Relations 344) Spring term. Credit four hours. Prerequisites: Economics 101 and 102 or consent of instructor. G. Clark.

Economic Growth and Development

371 Process of Economic Development

Fall term. Credit four hours. F. H. Golay.
The process of economic development in developing countries. Theories and explanations of the growth and development process. The role of the state in development planning. Strategies of economic and social development to achieve higher income growth, increased employment, and a more equitable income distribution.

372 Applied Economic Development

Spring term. Credit four hours. E. Thorbecke.
Empirical study of the development process. Case studies of a few developing countries. The relationship between traditional and modern sectors in the growth process. Performance of developing countries with respect to income, employment, and income distribution.

378 Economics, Population, and Development

Spring term. Credit four hours. M. R. Haines.
An introduction to the economic aspects of population and the interaction between population change and economic change. Particular attention will be paid to economic views of fertility, mortality, and migration, and to the impact of population growth on economic growth, development, and moderation.

382 Economics of Workers' Management in Yugoslavia

Spring term. Credit four hours.
Prerequisites: Economics 311 and 312 or consent of instructor. Staff.
Examines the worker-managed economy of Yugoslavia. The organization and theoretical and practical implications of worker management will be studied in detail. Special attention will be given to the outcome of the decision-making process at the firm level of such a system, the consistency of these outcomes with the national plans, and the policies used to implement them.

Honors Program

391 Honors Seminar

Fall term. Credit four hours.
Required of all senior honors candidates. Staff. Selected readings from significant books in the development of economics.

392 Honors Seminar Spring term. Credit four hours. Required of all senior honors candidates. Staff. Continuation of 391 with the writing of an honors thesis and preparation for the comprehensive Honors examination.

399 Readings in Economics Throughout the year. Credit variable. Any member of the Department.

Graduate Courses and Seminars

For complete descriptions of courses numbered 500 or above see the *Announcement of the Graduate School: Course Descriptions*. If a course is not included there, consult the graduate faculty representative.

[504 Economics and the Law Spring term. Credit four hours. Not offered 1975-76.]

509 The Theory of Household and the Firm

Fall term. Credit four hours. W. Brock.

510 The Theory of Markets and General

Equilibrium Fall term. Credit four hours. H. Wan.

511 Microeconomic Theory Fall term. Credit four hours. S. M. Slutsky.

512 Macroeconomic Theory Spring term. Credit four hours. U. M. Possen.

513 Macroeconomic Theory: Static Income

Determination Fall term. Credit four hours. U. M. Possen.

514 Macroeconomic Theory: Dynamic Models,

Growth, and Inflation Spring term. Credit four hours. R. H. Frank.

517-518 Intermediate Mathematical Economics

Throughout the year. Credit four hours per term. Fall term: H. Wan. Spring term: E. Burton.

519-520 Quantitative Methods Throughout the year. Credit four hours per term. Fall term: E. Burton. Spring term: R. E. Schuler.

[521 Economic History of Ancient Medieval

Europe Fall term. Credit four hours. Not offered 1975-76.]

522 Economic History of Modern Europe: 1750 to

the Present Fall term. Credit four hours. M. R. Haines.

523-524 American Economic History

Throughout the year. Credit four hours per term. Fall term: P. D. McClelland, Spring term: P. D. McClelland. 523 not offered fall 1975.

525 Economic History of Latin America

Fall term. Credit four hours. T. E. Davis.

[536 Collective Choice: Theory and

Applications Spring term. Credit four hours. Not offered 1975-76.]

551 Industrial Organization

Fall term. Credit four hours. E. A. Blackstone.

552 Public Regulation of Business

Spring term. Credit four hours. E. A. Blackstone.

- 561 International Trade Theory and Policy** Fall term. Credit four hours. Prerequisites: Economics 101 and 102 or consent of instructor. R. T. Freeman.
- 562 International Monetary Theory and Policy** Spring term. Credit four hours. Prerequisites: Economics 101 and 102 or consent of instructor. R. T. Freeman.
- 565 Economic Problems of Latin America** Spring term. Credit four hours. T. E. Davis.
- [**566 Introduction to the Japanese Economy** Spring term. Credit four hours. Not offered 1975-76.]
- 567 Comparative Economic Systems: Soviet Union and Europe** Fall term. Credit four hours. G. J. Staller.
- [**568 Contemporary Brazil** Spring term. Credit four hours. Not offered 1975-76.]
- 571 Process of Economic Development** Fall term. Credit four hours. F. H. Goley.
- 572 Applied Economic Development** Spring term. Credit four hours. E. Thorbecke.
- 578 Economics, Population, and Development** Spring term. Credit four hours. M. R. Haines.
- 582 Economics of Workers' Management in Yugoslavia** Spring term. Credit four hours. Staff.
- 611 Advanced Microeconomic Theory** Fall term. Credit four hours. Staff.
- 612 Advanced Macroeconomic Theory** Spring term. Credit four hours. G. M. Gramlich.
- 617-618 Mathematical Economics** Throughout the year. Credit four hours per term. Fall term: M. Majumdar. Spring term: staff.
- 619-620 Econometrics** Throughout the year. Credit four hours per term. Staff.
- [**623-624 American Economic History** Throughout the year. Credit four hours per term. Not offered 1975-76.]
- [**626 Methods in Economic History** Spring term. Credit four hours. Not offered 1975-76.]
- 631-632 Monetary Theory and Policy** Throughout the year. Credit four hours per term. S. C. Tsiang.
- 635-636 Public Finance: Resource Allocation and Fiscal Policy** Throughout the year. Credit four hours per term. Fall term: S. M. Slutsky. Spring term: P. Pestieau.
- 638 Public Finance: Local Government and Urban Problems** Fall term. Credit four hours. R. E. Schuler.
- [**641-642 Labor Economics** Throughout the year. Credit four hours per term. Not offered 1975-76.]
- 644 The Labor Market and Public Policy: A Comparative View** Spring term. Credit four hours. W. Galenson.
- 648 Issues in Latin America** Spring term. Credit four hours. T. E. Davis.
- [**651 Industrial organization and Regulation** Fall term. Credit four hours. Not offered 1975-76.]
- 652 Industrial Organization and Regulation** Fall term. Credit four hours. E. A. Blackstone.
- 661 International Economics: Pure Theory and Policy** Fall term. Credit four hours. Staff.
- 664 International Economics: Balance of Payments and International Finance** Spring term. Credit four hours. R. T. Freeman.
- 670 Economic Demography and Development** Fall term. Credit four hours. M. R. Haines.
- 671-672 Economics of Development** Throughout the year. Credit four hours per term. Fall term: E. Thorbecke. Spring term: staff.
- 674 Economic Systems** Spring term. Credit four hours. G. J. Staller.
- [**678 Economic Growth in Southeast Asia** Spring term. Credit four hours. Not offered 1975-76.]
- [**679 Theory of Quantitative Economic Policy Applied to Development** Fall term. Credit four hours. Not offered 1975-76.]
- 681 Economics of Participation and Labor-Managed Systems: Theory** Fall term. Credit four hours. Staff.
- 682 The Practice and Implementation of Self-Management** Spring term. Credit four hours. Staff.
- 684 Seminars in Advanced Economics** Either term. Variable credit. S. C. Tsiang.

English

- B. B. Adams, chairman; M. H. Abrams, A. R. Ammons, J. P. Bishop, J. F. Blackall, S. Budick, A. Caputi, M. J. Colacurcio, D. D. Eddy, R. H. Elias, S. B. Elledge, A. V. Ettin, R. T. Farrell, E. G. Fogel, A. Goldbarth, P. A. Gottschalk, W. J. Harris, B. L. Hathaway, N. H. Hertz, T. D. Hill, K. Hume, R. D. Hume, T. L. Jeffers, C. Kaske, R. E. Kaske, C. S. Levy, A. Lurie, P. L. Marcus, D. E. McCall, J. R. McConkey, H. S. McMillin, D. M. Mermin, J. B. Merod, A. Mizener, R. Morgan, S. J. Morgan, D. Novarr, A. R. Parker, S. M. Parrish, E. Rosenberg, P. Sawyer, D. R. Schwarz, S. Siegel, W. J. Slatoff, B. O. States, S. C. Strout, J. L. Walker, W. Wetherbee

Majors

Any student considering a major in English should see the director of undergraduate studies in English to arrange an assignment to a major adviser. Students are ordinarily assigned to major advisers early in the spring term of the sophomore year, but the Department encourages earlier assignment whenever possible.

Copies of a brochure containing suggestions for English majors and prospective English majors are available in the Department's office, 252 Goldwin Smith Hall. Since this brochure is revised each September to incorporate changes in the Department's curricular policies, interested students should take care to consult an up-to-date version.

Prospective English majors should take one or more courses from the group English 270, 271, 272, 280, 281 as early as possible. All these courses are open to sophomores; English 270, 271, 272 are also open to second-term freshmen and may be used to satisfy the freshman seminars requirement. First-term freshmen with advanced placement in English may enroll in English 270, 271, or 272 as space permits, and prospective English majors are encouraged to do so. As soon as students have completed one of these courses they may declare themselves as English majors, provided they have achieved a letter grade of C or better in this and any other English course they may have taken.

English majors are required to complete six hours of foreign language study (preferably in the literature of a foreign language) in courses for which qualification is a prerequisite. Majors are urged to complete this requirement by the end of their sophomore year, and those who enter Cornell without sufficient preparation should therefore begin their language study at once.

In addition to satisfying the requirements outlined above, English majors must take a minimum of thirty-six hours in courses approved for the major and complete them with passing letter grades. Courses approved for the major are English 201, 202, and all English courses numbered 300 or above except English 478, English 479, English 496, and English 678. A student may also offer in satisfaction of the major as many as three courses numbered 300 or above in a foreign literature, in comparative literature, or in special courses such as those sponsored by the Society for the Humanities, provided these alternatives are approved by the adviser as relevant to the major.

Among the courses approved for the major, English 201 and 202 are especially recommended for English majors and should be taken by the end of the sophomore year. Students who do not take English 201-202 should choose their major courses with a view toward covering the historical range of English and American literature. Literature courses at the 300 level are intended to provide such coverage.

Of the nine courses required for the major, at least two must be in English or American literature written before 1800.

The Honors Program

Students with good records in their English courses who would like to compete for a degree with honors should consult the chairperson of the Honors Committee during the spring term of their junior year, preferably before preregistration. If they are accepted into the program they may compete for honors in one of two fashions: (1) by writing a long essay during the fall term of the senior year (English 493), or (2) by submitting to a written examination on a previously chosen reading list at the end of the fall term of the senior year. The choice of (1) or (2) should be made in consultation with the chairperson of the Honors Committee during preregistration in the spring term of the junior year. More information about the Program may be found in the Department's brochure for prospective majors.

Distribution Requirement

The distribution requirement in the humanities may be satisfied with any two courses in English at the 200 level or above other than those numbered in the 80s, those required for teacher certification (English 478, 479, and 678), and English 496.

The distribution requirement in the expressive arts may be satisfied with any two courses in English at the 200 level or above numbered in the 80s.

The Independent Major Program

For students who wish to design an independent major (see p. 164) with a component in English or American literature, the director of undergraduate studies will recommend advisers in the Department with particular interdisciplinary interests. Advisers will help to design major programs that focus on the relation between literature and another discipline, such as history, linguistics, sociology, anthropology, psychology, or philosophy; on the classical background of English literature; on American studies; on studies in the culture of the Middle Ages, the Renaissance, or other periods; and on interrelations between English and other literatures. Students in the Independent Major Program may enroll in English 494, a course designed to meet a curricular need where no regular course is available.

Interdisciplinary Courses

Each year the Department offers several courses which employ or examine the methods of more than one academic discipline. For 1975-76, see the entries under English 405, Readings in the Humanities; English 427, Shakespeare; and English 466, The International Theme in American Writing.

Nonmajors

For students not majoring in English, the Department makes available a variety of courses at all levels.

Some courses at the 200 level are open to qualified freshmen, and all of them are open to sophomores. Courses at the 300 level are open to juniors and seniors, and to underclassmen with permission of the instructor. The suitability of courses at the 400 and 600 levels for nonmajors will vary from topic to topic, and consent of the instructor is required.

Teaching Preparation

Prospective teachers of English in secondary schools who seek temporary certification in New York State must fulfill all the requirements of the major. In addition, they elect a special program of professional courses. A detailed statement about programs for teachers is available in the office of the Department of English.

Courses for Freshmen

As part of the Freshman Seminars Program, the Department of English offers many one-semester courses, each conducted in small sections with limited enrollment. The courses are concerned with various forms of writing (narrative, biographical, expository), with the study of specific areas in English and American literature, and with the relation of literature to culture. Students may elect any two of these courses during their first year to satisfy the freshman seminars requirement (see p.00). See also English 270, 271, and 272, below.

Courses for Sophomores

Although courses numbered in the 200s are primarily for sophomores, some of them are open to qualified freshmen and to upperclassmen.

201–202 The English Literary Tradition 201 fall term only; 202 spring term only. Credit four hours a term. Open to all undergraduates. English 201 not prerequisite to English 202. May be counted toward the English major. Fall term: R. E. Kaske and B. B. Adams. Spring term: M. H. Abrams and S. B. Elledge.

Interpretation of major works from *Beowulf* through Yeats. Fall term will include Old English poetry, Chaucer, medieval romances, Spenser, Shakespeare, Donne, and Milton. Spring term will include Dryden, Swift, Pope, Samuel Johnson, Blake, Jane Austen, the major Romantic and Victorian poets, Shaw, and Yeats. The course will be conducted by a combination of lectures and intensive seminars in special topics.

205–206 Readings in English and American Literature 205 fall term only; 206 spring term only. Credit three hours a term. Open to all undergraduates. English 205 not prerequisite to English 206. Primarily for students who do not expect to major in English. Fall term: A. R. Parker. Spring term: W. Wetherbee.

Fall term: representative major works by English and American writers to the mid-nineteenth century, with

some emphasis on those who raise questions about the authority of the imagination, the trustworthiness of art, and the morality of romantic enthusiasm, and who see the artist as an ambiguous figure, potentially at odds with society or nature. Readings in Shakespeare, Milton, Blake, Wordsworth, Hawthorne, Poe, Melville, and others, possibly including one or two influential works, in translation, from other literatures. Spring term: literature since the mid-nineteenth century, including such authors as Whitman, Dickens, T. S. Eliot, and D. H. Lawrence.

227 Shakespeare Either term. Credit three hours. Primarily for students who do not expect to major in English. Sections limited to twenty-five students. S. B. Elledge, C. S. Levy, and others.

A critical study of representative plays from the principal periods of Shakespeare's career.

270 The Reading of Fiction Either term. Credit three hours. Recommended for prospective majors in English. Primarily for sophomores. Upperclassmen admitted as space permits. Fall term: open to freshmen who have received advanced placement in English. Spring term: open to other qualified freshmen. May be used to satisfy either the freshman seminars requirement or the distribution requirement in the humanities, but not both. Sections limited to twenty-two students. E. Rosenberg, D. R. Schwarz, and others.

Forms of modern fiction, with emphasis on the short story and novella. Critical studies of works by English, American, and continental writers from 1880 to the present—Chekhov, James, Conrad, Faulkner, Mann, Kafka, and others.

271 The reading of Poetry Either term. Credit three hours. Recommended for prospective majors in English. Primarily for sophomores. Upperclassmen admitted as space permits. Fall term: open to freshmen who have received advanced placement in English. Spring term: open to other qualified freshmen. May be used to satisfy either the freshman seminars requirement or the distribution requirement in the humanities, but not both. Sections limited to twenty-two students. N. H. Hertz, P. L. Marcus, and others. Designed to sharpen the student's powers to understand and respond to poetry. Readings in the major periods, modes, and genres of poetry written in English.

272 Introduction to Drama Either term. Credit three hours. Recommended for prospective majors in English. Primarily for sophomores. Upperclassmen admitted as space permits. Fall term: open to freshmen who have received advanced placement in English. Spring term: open to other qualified freshmen. May be used to satisfy either the freshman seminars requirement or the distribution requirement in the humanities, but not both. Sections limited to twenty-two students. A. Caputi, B. States, and others. A study of how drama molds feeling and comprehension by integrating such means available to the dramatist as action, language, and artistic design. Critical examination of plays of all periods, including

the twentieth century, with major emphasis on plays written in English, but with collateral examples of outstanding plays from the European tradition. The syllabus will be adjusted from year to year to include plays produced on campus under the sponsorship of the Department of Theatre Arts.

280–281 Creative Writing 280 fall term only; 281 spring term only. Credit three hours a term. Recommended for prospective majors in English. English 280 or consent of the instructor prerequisite to English 281. Sections limited to fifteen students.

W. J. Slatoff, W. J. Harris, and others.
An introductory course in the theory and practice of writing narrative, poetry, and allied forms.

288–289 Expository Writing 288 fall term only; 289 spring term only. Credit three hours a term. For sophomores, juniors, and seniors who have performed well in the Freshman Seminars Program (or in equivalent courses elsewhere), and who desire further practice in writing exposition. Prerequisite to English 289: English 288 or consent of the instructor. Sections limited to fifteen students. T. L. Jeffers and others.

Regular weekly writing and reading assignments in the chief types of nonfictional prose such as argumentation, description, analysis, criticism, and personal essays.

Courses for Sophomores, Juniors, and Seniors

Courses at the 300 level are open to juniors and seniors, and to others with the permission of the instructor. There are no prerequisites, except as noted for English 382–383 and 384–385.

Major Periods of English Literature

310 Old and Middle English Literature Fall term. Credit four hours. T. D. Hill.

A survey of Old and Middle English literature (in translation) covering *Beowulf* and the other major poems from the earlier period; also selections from Chaucer's *Canterbury Tales*, the works of the Pearl-poet, *Piers Plowman*, *The Owl and the Nightingale*, romances, lyrics, drama, and Malory.

320 Renaissance Literature Spring term. Credit four hours. H. S. McMillin.

Interpretations of major Renaissance writers of poetry (Spenser, Donne, Milton, and others), drama (Marlowe, Shakespeare, Jonson, and others) and prose (Bacon, Hooker, and others). Lectures on these writers will be combined with class discussions of such topics as: the Elizabethan sonnet, music and lyric poetry, nature and science in Renaissance literature, order and rebellion in a Christian society, Shakespeare and the Elizabethan stage.

330 Restoration and Eighteenth-Century Literature Fall term. Credit four hours. S. Budick. Particular attention to Rochester, Dryden, Pope, Swift,

Defoe, Fielding, Sterne, Johnson, and Blake; a study of the literature in its social, philosophical, and political contexts.

340 Nineteenth-Century Literature Spring term. Credit four hours. S. M. Parrish.

The main literary and intellectual traditions of the nineteenth century, explored through readings in the major writers from the early Wordsworth to the early George Bernard Shaw. Three novels, two plays, and a work of "controversial prose" will be read in full: Jane Austen, *Pride and Prejudice*; Shelley, *The Cenci*; Dickens, *Hard Times*; Arnold, *Culture and Anarchy*; Hardy, *Jude the Obscure*; and Shaw, *Mrs. Warren's Profession*. The other readings will be in the major poets and essayists of the romantic and Victorian periods.

350 The Twentieth Century Fall term. Credit four hours. P. L. Marcus.

Interpretations of modern English and Anglo-Irish poetry, fiction, and drama. Lectures and discussions. Some attention will be given to intellectual history and to parallel movements in the other arts. Authors will include Joyce (*Ulysses*), Yeats, Shaw, Eliot, Lawrence, Woolf, O'Casey, Auden, and Beckett.

Major English Authors

319 Chaucer Fall term. Credit four hours.

R. T. Farrell and W. Wetherbee.
Critical Analysis of *Troilus* and *The Canterbury Tales*.

321 Spenser Fall term. Credit four hours.

C. Kaske.
Interpretations of Spenser's major works, including the complete *Amoretti* (sonnet-sequence); *Prothalamion*; *Epithalamion*; *Fowre Hymnes*; *Mother Hubberds Tale*; *Muiopotmos*, or, *the Fate of the But-terfly*; *Colin Clouts Come Home Againe* (pastoral); selections from *Shepherd's Calendar* (pastoral); selections from *The Faerie Queene* (totaling about half of it, probably Books I, III, VI, and VII). Students wishing to study the entire *Faerie Queene* should plan to take English 621. No prerequisite.

327 Shakespeare Spring term. Credit four hours. P. A. Gottschalk.

An introduction to the works of Shakespeare, based on a selection of plays representative of the stages of his artistic development and the range of his achievement. Throughout, the effort will be to discover the special qualities of each play through an understanding of Shakespeare's constructive power, his dramatic and theatrical technique, his insight into humanity, and his relation to the thought and culture of his time and ours.

Major Periods of American Literature

361 Early American Literature Fall term. Credit four hours. M. J. Colacurcio.

The literature of ideas produced by America's Puritan and Enlightenment writers: Bradford, Taylor, Edwards, Franklin. And the first achievements of the national literature: Irving, Cooper, Poe, Hawthorne.

362 The American Renaissance Spring term. Credit four hours. M. J. Colacurcio. America's literary maturity at mid-century: the individual masterpieces and the interrelated careers of Emerson, Thoreau, Hawthorne, Melville, Whitman, and Dickinson.

363 The Age of Realism Fall term. Credit four hours. S. C. Strout. American fiction's increasing concern with social fact after the Civil War: the extent to which writers present their characters in social roles and confront them with problems of cultural identity, class, race, and sex. Representative works by Twain, Howells, James, Wharton, Frederic, and Kate Chopin.

364 American Literature in the Twentieth Century Spring term. Credit four hours. W. J. Harris. Works by Frost, Eliot, Hughes, W. C. Williams, Hemingway, Faulkner, Mailer, and others. Although some attempt will be made to view the period as a whole and to trace patterns within it, the emphasis will be on the works themselves.

Genres and Special Topics

366 The Earlier American Novel: Brockden Brown to Henry James Fall term. Credit four hours. D. E. McCall.

A survey of major American novels of the nineteenth century. Writers studied will include Poe, Cooper, Hawthorne, Melville, Mark Twain, Howells, Chopin, and James.

367 The Modern American Novel Spring term. Credit four hours. D. E. McCall.

A survey of major American novels of the twentieth century. Writers studied will include Dreiser, Fitzgerald, Hemingway, West, Wright, Faulkner, Agee, Warren, and Percy.

370 The Nineteenth-Century British Novel Spring term. Credit four hours. J. F. Blackall. Representative works by major nineteenth-century British novelists. Books to be read in 1976 will be: Austen, *Emma*; Thackeray, *Vanity Fair*; E. Brontë, *Wuthering Heights*; C. Brontë, *Villette*; Eliot, *The Mill on the Floss*; Dickens, *Bleak House*; Hardy, *The Mayor of Casterbridge*; Wells, *Tono-Bungay*.

372 Representative English Dramas Fall term. Credit four hours. H. S. McMillin.

A study of important events in the English theatre from the beginnings to the early twentieth century. Plays by Marlowe, Shakespeare, Jonson, Webster, Dryden, Wycherley, Congreve, Sheridan, Shelley, Robertson, Shaw, and others.

Creative Writing

382-383 Narrative Writing 382 fall term only; 383 spring term only. Credit four hours a term. Sections limited to fifteen students. Prerequisite: English 280-281 or consent of the instructor. B. L. Hathaway, A. Lurie, and others.

The writing of fiction; study of models; analysis of students' work.

384-385 Verse Writing 384 fall term only; 385 spring term only. Credit four hours a term. Sections limited to fifteen students. Prerequisite: English 280-281 or consent of the instructor. A. R. Ammons and others.

The writing of poetry; study of models; analysis of students' poems; personal conferences.

388-389 The Art of the Essay 388 fall term only; 389 spring term only. Credit four hours a term. Limited to eighteen students. First term not prerequisite to the second. Staff. Intensive practice in writing criticism, general exposition, and personal essays.

Advanced Undergraduate Courses

Most courses at the 400 level are limited in enrollment and require the consent of the instructor.

402 Prophetic Literature Spring term. Credit four hours. Unlimited enrollment. A. R. Parker. Readings in the traditions and criticism of visionary writers from the Old Testament to modern times. Readings will be selected from such writers as Isaiah, Jeremiah, Ezekiel, Plato, John of Patmos, Virgil, Milton, Blake, Shelley, Whitman, Yeats, Crane, and Ginsberg. Attention to problems of inspiration, expression, and interpretation.

403 Irony and Literature Spring term. Credit four hours. Limited to fifteen students. S. Siegel. An examination of a few authors who explore the nature of irony, but also of some others whose poems and plays are motivated by an underlying ironic view of the world. Much of the course will be devoted to a discussion of the literary and interpretative adjustments required of poets and readers when an ironic view comes into play. Authors will include Kierkegaard, Kenneth Burke, William Empson, Bert States; also Shelley, Browning, Hardy, and Yeats.

405 Readings in the Humanities Fall term. Credit four hours. Limited to fifteen students. S. Siegel. A detailed examination of books such as Aristotle's *Poetics*, Thucydides' *History*, Virgil's *Aeneid*, Descartes' *Discourse*, Milton's *Paradise Lost*, and Shakespeare's *Coriolanus*. Among other topics, we will consider the questions the authors address; to whom they address them; the kinds of knowledge the books purport to contain; the views of reality the authors represent; and the distinctive characteristics of literary, historical, and philosophical approaches. Four papers; discussion. Suitable for sophomores and upperclassmen.

408 The Eden Myth in Literature Spring term. Credit four hours. Limited to fifteen students. P. Sawyer. Reading of selected British and American works in which the loss or recovery of Eden is a dominant motif. Particular attention to recent works in which the

loss of the Garden reflects the author's judgment on the history of his own nation or culture. Authors will include Milton, Blake, Tennyson, Melville, Lawrence, Faulkner, T. S. Eliot, and Barth.

411 Old English in Translation Spring term. Credit four hours. Unlimited enrollment. T. D. Hill. Cultural backgrounds, reading, and a critical analysis of Anglo-Saxon poetry in translation; pagan and Christian epic, elegy, heroic legend, and other forms.

427 Shakespeare: *King Lear* and the Stages of History (also Theatre Arts 427) Spring term. Credit four hours. Limited to fifteen students. M. Carlson and H. S. McMillin. An interdisciplinary study of theatre history and dramatic criticism from Shakespeare's time to our own, focused on *King Lear*.

428 Elizabethan and Jacobean Drama Fall term. Credit four hours. Limited to fifteen students. D. Novarr. Critical study of plays by Marlowe, Marston, Jonson, Webster, Beaumont, Fletcher, Ford, and others. The development of dramatic forms and the main currents of ideas in dramatic representation by contemporaries of Shakespeare and Donne.

431 The Later Eighteenth Century Fall term. Credit four hours. Limited to fifteen students. N. H. Hertz. Readings in poems published after 1740, by Johnson, Gray, Collins, Thomson, Young, Cowper, Smart, Goldsmith, and others.

453 Late Victorian and Edwardian Literature (1890-1914) Fall term. Credit four hours. Limited to fifteen students. S. M. Parrish. The ways in which such writers as Hopkins and Housman, Hardy and Moore, Wilde and Shaw, Beer-bohm and Wells changed Victorian attitudes and influenced our own.

454 Modern Poetry Spring term. Credit four hours. Limited to fifteen students. J. L. Walker. A study of the poetry and poetics of Yeats, Pound, Eliot, and Williams.

465 Black Literature Fall term. Credit four hours. Limited to fifteen students. W. J. Harris. An extensive study of the major works, both prose and poetry, of four important black writers: Langston Hughes, Gwendolyn Brooks, Imamu Amiri Baraka, and Ishmael Reed. We will try to establish a continuity among these writers and try to develop a sense of the interplay between the black and white literary traditions of this country.

466 The International Theme in American Writing Fall term. Credit four hours. Limited to fifteen students. S. C. Strout. The idea of Europe in the American imagination as a recurring and changing theme, historically studied from Jefferson to mid-twentieth century. Emphasis is on works by major writers about encounters between Americans and Europe.

468 Seminar in American Culture: Literature and Technology Spring term. Credit four hours. Limited to fifteen students. R. H. Elias.

An exploration and critical assessment of the response of American writers since the mid-nineteenth century to the sense of anonymity produced by scientific thought and the application of technology to social conditions and political problems. Consideration of such topics as the demands of urban life, the architects' "cities of tomorrow," the nationalization of politics, the standardization of consumption, and the rise of multiversities will help define the context. Readings representative of American naturalism, twentieth-century irony, and contemporary satire will help define the response. Three or four class reports and a term paper.

470 Studies in the Novel Spring term. Credit four hours. Limited to fifteen students. D. R. Schwarz. A critical study of the major fiction of Conrad, Lawrence, and Joyce. Readings will include *Heart of Darkness*, *Lord Jim*, *The Secret Sharer*, *Sons and Lovers*, *The Rainbow*, and *Women in Love*. The last five weeks of the course will be spent on *Ulysses*. An effort will be made to show how the innovations that each author brings to the novel form derive from the demands of his characteristic themes.

471 Theory of the Romance Form Spring term. Credit four hours. Unlimited enrollment. K. Hume. Designed to acquaint the student with great romances from the Middle Ages and Renaissance, and to place these works within the total tradition which ranges from classical myth to modern fantasy. Special emphasis on the psychological, mythological, anthropological, and literary theories best suited to understanding the nature and function of the form. Works and authors read will include myths and folktales, *Beowulf*, *Sir Gawain and the Green Knight*, Spenser, Shakespeare, J. R. R. Tolkien, C. S. Lewis, Frank Herbert, James Branch Cabell, George MacDonald, and some science fiction. Background reading will include stories by Erich Neumann, C. J. Jung, Mircea Eliade, Joseph Campbell, and Northrop Frye.

474 The English Bildungsroman: Dickens to Joyce Fall term. Credit four hours. Limited to fifteen students. T. L. Jeffers. Study of English novels about growing up. Readings will include: Thackeray, *Pendennis*; Dickens, *Great Expectations*; Meredith, *The Ordeal of Richard Feverel*; Butler, *The Way of All Flesh*; Hardy, *Jude the Obscure*; Forster, *The Longest Journey*; Lawrence, *Sons and Lovers*; Joyce, *A Portrait of the Artist as a Young Man*. The class will discuss these books not only as "pure" fictions, but as reflections of biographical histories and, perhaps, of psychological theories.

477 Children's Literature Fall term. Credit four hours. Unlimited enrollment. A. Lurie. A survey of English and American children's books of the nineteenth and twentieth centuries, with emphasis on those works of literary value and influence.

478 Observation and Practice Teaching

Either term. Credit six hours. Prerequisites: senior standing and admission to the Department's undergraduate teacher preparation program. Ordinarily taken concurrently with English 678, The Teaching of English; both courses are offered either term. Neither course may be used in satisfaction of the English major. J. B. Merod.

479 Directed Study: Problems in Teaching

English Language and Literature Either term. Credit four hours. May not be used in satisfaction of English major. J. B. Merod.

Students will undertake to deal with specific problems in the teaching of English on the secondary level. They will be expected to combine practical classroom work at the high school or junior high school level with background readings and research. A term paper will be expected that reviews both the research and the practical work the student has undertaken.

480-481 Seminar in Writing 480 fall term only; 481 spring term only. Credit four hours a term. Prerequisites: 382-383, 384-385, and consent of instructor. Limited to fifteen students. B. L. Hathaway and D. E. McCall.

Intended for those writers who have already gained a basic mastery of technique. Students normally enroll for both terms and should be capable of a major project—a collection of stories or poems, a group of personal essays, or perhaps a novel—to be completed by the end of the second semester. In general, the weekly seminars will be used for discussions of the manuscripts of its members and of certain published works that individual members have found of exceptional value.

493 Honors Essay Tutorial Fall term. Credit five hours. Prerequisite: senior standing and permission of the chairman of the Honors Committee. Staff.

494 Independent Study Either term. Credit two or four hours. Prerequisite: Completion of English Honors requirement, or acceptance in the Independent Major Program and consent of a departmental adviser. Students who do not meet these prerequisites may apply to the Director of Undergraduate Studies for permission to take independent study. Permission will be granted only to students who present an acceptable prospectus of the study to be undertaken and who have secured the agreement of a faculty member to serve as adviser for the project throughout the term.*

496 Teaching and Research Either term. Credit one or two hours. May not be used in satisfaction of the English major. Staff.

For students who, with the consent of a professor, assist in the teaching of that professor's course.

Courses Primarily for Graduate Students

Consent of the instructor is a prerequisite for admis-

sion to courses numbered in the 600's. These are primarily intended for graduate students, although qualified undergraduates are not excluded. Undergraduates seeking admission to a 600-level course should not preregister in the normal way, but should consult the appropriate instructor. Graduate students should register according to normal departmental procedures. The list of courses given below will for the most part prove correct, but a topic which attracts only slight enrollment is liable to be withdrawn. Complete course descriptions and class-meeting times will be published in a separate departmental brochure at preregistration time each term.

611 Readings in Old English Fall term. Credit four hours. T. D. Hill.

612 Beowulf Spring term. Credit four hours. T. D. Hill.

613 Middle English Literature Fall term. Credit four hours. R. E. Kaske.

619 Chaucer Spring term. Credit four hours. R. E. Kaske.

622 Renaissance Prose Spring term. Credit four hours. D. Novarr.

627 Shakespeare Fall term. Credit four hours. P. A. Gottschalk.

632 Samuel Johnson Spring term. Credit four hours. S. B. Elledge.

641 Studies in Romantic Poetry Fall term. Credit four hours. A. R. Parker.

642 Studies in the Romantic Period: Major Prose Texts Spring term. Credit four hours. S. J. Morgan.

647 Studies in Victorian Prose Spring term. Credit four hours. D. M. Mermin.

648 Studies in Victorian Fiction Fall term. Credit four hours. J. F. Blackall.

654 Studies in Modern Poetry Spring term. Credit four hours. R. Morgan.

662 American Transcendentalism Fall term. Credit four hours. M. J. Colacurcio.

663 Twain, Howells, James, and the American Character Fall term. Credit four hours. R. H. Elias.

664 American Naturalism: Howells to Dreiser Spring term. Credit four hours. R. H. Elias.

668 American Novelists: Hemingway, Fitzgerald, Faulkner Fall term. Credit four hours. A. M. Mizener.

678 The Teaching of English Either term. Credit four hours. J. B. Merod.

Graduate Seminars

Consent of the instructor is a prerequisite for admission to any course numbered in the 700s; most of these courses are limited in enrollment at the discretion of the instructor. For course descriptions see the mimeographed supplement published by the Department.

710 Graduate Seminar in Medieval Literature

Spring term. Credit five hours. R. E. Kaske. Topic for 1976: *Piers Plowman*.

719 Graduate Seminar in Chaucer

Fall term. Credit five hours. W. Wetherbee.

729 Graduate Seminar in Milton

Fall term. Credit five hours. S. Budick.

751 Graduate Seminar in Modern Literature

Fall term. Credit five hours. P. L. Marcus. Topic for 1975: Yeats and Joyce.

760 Colloquium in American Literature

Fall term. Credit five hours. Staff.

762 Graduate Seminar in the American Renaissance

Spring term. Credit five hours. M. J. Colacurcio. Topic for 1976: Melville.

764 Graduate Seminar in Modern American Literature

Fall term. Credit five hours. W. J. Slatoff. Topic for 1975: Faulkner.

765 Graduate Seminar in Modern American Poetry

Spring term. Credit five hours. E. G. Fogel.

780-781 Creative Writing

780 fall term only; 781 spring term only. Credit five hours a term. Fall: J. R. McConkey. Spring: R. Morgan.

793 Master's Essay

Either term. No credit. Staff.

794 Directed Study

Either term. Credit five hours. Staff.

795 Group Study

Either term. Credit five hours. Staff.

796 Teaching and Research

Either term. Credit five hours. Staff.

The following courses offered by other departments will be of particular interest to English majors and graduate students.

Courses in Classical and Ancient Literature

The Literature of Ancient Israel (Comparative Literature 323, Semitics 330)

Readings in the New Testament (Comparative Literature 429)

Genre and Period in Greek and Roman Literature (Comparative Literature 430, Classics 430)

Courses in Dramatic Literature

Classic and Renaissance Drama (Comparative Literature 352, Theatre Arts 325)

European Drama 1660-1900 (Comparative Literature 353, Theatre Arts 326)

Modern Drama (Comparative Literature 354, Theatre Arts 327)

American Drama and Theatre Arts 335)

Seminar on European Drama and Dramatic Criticism (Comparative Literature 482, Society for the Humanities 416)

Courses in the Literature of Europe and America

Comedy (Comparative Literature 312)

Science Fiction (Comparative Literature 313)

Medieval Literature (Comparative Literature 343-344)

Literature of Europe Since the Renaissance (Comparative Literature 357)

The European Novel (Comparative Literature 363-364)

Readings in Modern Poetry (Comparative Literature 391)

Seminar on Literature and the Law (Comparative Literature 423, Society for the Humanities 423)

Allegory and Symbolism (Comparative Literature 446)

Utopias and Imaginary Voyages from the Renaissance to the Enlightenment (Comparative Literature 456)

Three Novelists; Cervantes, Rabelais, Sterne (Comparative Literature 468)

The History of the Book (Comparative Literature 469)

Ibsen and Strindberg (Comparative Literature 472, Theatre Arts 442)

Autobiography as a Literary Form (Comparative Literature 473)

Novels of the 1860s (Comparative Literature 483)

Futurism: The Movement That Wasn't (Comparative Literature 490)

Dostoevsky, Mann, and Gide (Comparative Literature 498)

Origins of the Avant Garde (Comparative Literature 499)

Studies in the Lyric: Dante, Scape, Yeats (Comparative Literature 611)

The Historical Novel (Comparative Literature 683)

Theories of Interpretation: The Marxist Perspective (Comparative Literature 684)

Topics in Literature: Kierkegaard and Nietzsche (Comparative Literature 698)

Topics in Modern Literature: Problems of the Modern Novel (Comparative Literature 699)

Seminar on Sixteenth-Century Imagery (Society for the Humanities 414)

Seminar on Literature as Negativity: *Ressentiment* in the Modern Novel (Society for the Humanities 422)

Seminar: The Status of Literature (Society for the Humanities 418-419)

History of Afro-American Literature (Africana Studies 321)

Modern Afro-American Literature (Africana Studies 322)

Geological Sciences

J. E. Oliver, chairman; J. M. Bird, A. L. Bloom, B. Bonnichsen, J. L. Cisne, B. L. Isacks, D. E. Karig, S. Kaufman, G. A. Kiersch, W. B. Travers, D. L. Turcotte.

The Department of Geological Sciences is an inter-college department in the College of Arts and Sciences and the College of Engineering.

Distribution Requirement

The distribution requirement in physical sciences is met by Geological Sciences 101-102.

Geological Sciences Major

Prerequisites to admission to a major in geological sciences are completion of Geological Sciences 101-102 and two of the two-semester sequences of courses chosen from the following, or their equivalents: Biological Sciences 101-102 and 103-104; Chemistry 107-108; Mathematics 191-192; and Physics 112-213. A student with a strong foundation in mathematics and science may be accepted as a major without completion of Geological Sciences 101-102.

Majors take the six core courses in geological sciences, a summer field geology course, one additional course in geological sciences numbered 400 or above, and a third two-semester sequence chosen from the courses in biological sciences, chemistry, mathematics, and physics listed above plus an additional course in one of these fields at an intermediate or advanced level. In addition, majors must complete a senior thesis. The core courses in geological sciences include 325, 345, 355-356, 376, and 388. A prospective major should consult the departmental major adviser, W. B. Travers, 219 Kimball Hall, as soon as possible for advice in planning a program. Students majoring in geological sciences should attend the departmental seminars and take advantage of cruises, field trips, and conferences offered through the Department of Geological Sciences.

Freshman and Sophomore Courses

101 Introductory Geological Science Either term. Credit three hours. Two scheduled preliminary examinations will be held at 7:30 p.m. during the term. Fall term: W. B. Travers. Spring term: J. M. Bird. Covers earth processes, features, and history. Basic knowledge for more specialized courses or a major in geological sciences. Materials, structure, and internal condition of the earth, and the physical and chemical processes at work. Earth history, evolution of continents, oceans, mountain systems, and other features; development of animals and plants.

102 Introduction to Historical Geology Spring term. Credit three hours. Prerequisite: Geological Sciences 101 recommended. Two scheduled preliminary examinations will be held at 7:30 p.m. during the term. J. L. Cisne and staff. History of the earth and life in terms of evolutionary processes. The geologic record, its formation, and interpretation of earth history. Introduction to the evolution of life, to fossils and their use in reconstructing past environments and dating rocks. A continuation of Geology 101.

103 Earth Science Fall term. Credit three hours (See Earth Science Laboratory 105.) A. L. Bloom. Physical geography, including the spatial relationships of the earth, moon, and sun that determine the figure of the earth, time, seasons, atmospheric and oceanic circulation, and climates.

105 Earth Science Laboratory Fall term. Credit one hour. To be taken concurrently with Earth Science 103. A. L. Bloom. Observation and calculation of daily, monthly, and seasonal celestial events; topographical mapping and map interpretation; world climatic regions.

131 Geology and the Environment Fall term. Credit three hours. Field trips. G. A. Kiersch. The principles of geological science, with emphasis on physical phenomena and rock properties as they influence the natural environments of man.

162 Mineral and Energy Resources Spring term. Credit three hours. B. Bonnicksen and W. B. Travers. The nature, occurrence, distribution, and availability at home and abroad of mineral resources, including political and economic aspects. The energy crises and the long-term development of additional energy reserves, exploration and recovery methods, and the environmental damage from recovery are discussed.

232 Environmental Geology Spring term. Credit three hours. Prerequisites: Geological Sciences 101, 102, or 131. Field trips. G. A. Kiersch. The geologic basis of man's environment and relevant impact on such aspects as: ecosystems, trace elements and health, energy/mineral resources, land use, population, laws and policies, pollution, disposal radioactive/industrial wastes, and geological hazards. Laboratory, discussions, field trips, and a special project.

Junior, Senior, and Graduate Courses

Of the following, the core courses 325, 345, 355–356, 376, and 388 may be taken by those who have successfully completed Geological Sciences 101–102 or the equivalent, or who can demonstrate to the instructor that they have adequate preparation in mathematics, physics, chemistry, biology, or engineering.

325 Structural Geology and Sedimentation Spring term. Credit four hours. Suggested prerequisite: Geological Sciences 355 or consent of instructor. W. B. Travers. Nature, origin, and recognition of geologic structures. Behavior of geologic materials. Geomechanical and tectonic principles applied to the solution of geologic problems. Introduction to the sedimentary and hydraulic processes and petrology of sedimentary rocks. Description, classification, provenance, transportation, diagenesis, and depositional environment of sediments.

344 Geological Oceanography Spring term. Credit three hours. Prerequisite: Geological Sciences 102 or Biological Sciences 461. Training cruise, depending on ship availability. A. L. Bloom and D. E. Karig. Shoreline erosion, transportation, and deposition, origin and structure of continental shelves and ocean basins. Geologic processes and geomorphic development in the marine environment.

345 Geomorphology Fall term. Credit four hours. Prerequisite: Geological Sciences 102 or consent of the instructor. Additional assigned problems. A. L. Bloom. Description and interpretation of land forms in terms of structure, process, and stage.

355 Mineralogy, Petrology, and Geochemistry I Fall term. Credit four hours. Prerequisite: Geological Sciences 102 or consent of the instructor. Assigned problems and readings. Field trips. B. Bonnicksen. Megascopic and optical properties, chemistry, and petrogenetic significance of rock-forming minerals.

Principles of phase equilibria as applied to igneous and metamorphic systems. Description, classification, chemistry, petrography, origin, and regional distribution of igneous and metamorphic rocks. Geochemical distribution of trace elements and isotopes in igneous and metamorphic systems.

356 Mineralogy, Petrology, and Geochemistry II Spring term. Credit four hours. Assigned problems and readings. Field trips. B. Bonnicksen. A continuation of 355.

376 Historical Geology and Stratigraphy Fall term. Credit four hours. Additional assigned problems. J. L. Cisne. Application of geologic principles to interpretation of earth history; development of the geologic column, geochronology and geochronometry; correlation and the zone concept; sedimentary environments and provinces; geosynclines and platforms; problems of the pre-Cambrian and continental evolution.

388 Geophysics and Geotectonics Spring term. Credit four hours. Prerequisite: Mathematics 112 and Physics 208 or equivalents. B. L. Isacks and J. E. Oliver. Global tectonics and the deep structure of the solid earth as revealed by investigations of earthquakes, earthquake waves, the earth's gravitational and magnetic fields, and heat flow.

Advanced Courses

410 Experiments and Techniques in Earth Sciences Spring term. Credit two hours. Prerequisites: Physics 207–208 and Mathematics 191–192 or equivalents, or consent of instructor. S. Kaufman. Laboratory and field experiments chosen in accordance with students' interests and designed to familiarize the student with instruments and techniques used in earth sciences. Independent work is stressed.

423 Petroleum Geology Fall term. Credit three hours. Suggested prerequisite: Geological Sciences 325. Field trip. W. B. Travers. Sedimentation and tectonics as conditions of hydrocarbon entrapment. Problems of petroleum exploration, including geophysical investigations, subsurface mapping, the movement of underground fluids, and the geophysical properties of subsurface fluids and sediments. The organization and operation of the petroleum industry, on-shore and off-shore exploration and production techniques.

424 Tectonics of Orogenic Zones: Modern and Ancient Spring term. Credit three hours. Prerequisite: consent of instructors. D. E. Karig and W. B. Travers. A comparative study of island arcs and mountain ranges.

428 Geomechanics Spring term. Credit three hours. Prerequisites: Mathematics 240 or 296 and Geological Sciences 101. D. E. Karig and D. L. Turcotte.

Use of mathematical analysis to explain such geological observations as ocean ridges — their thermal structure, elevation, heat flow, and gravity; ocean trenches — the structure and mechanics of the bending lithosphere; folding — buckling, viscous and plastic flow; faulting — a detailed mechanical and geological study of the San Andreas fault; intrusives — geothermal power.

436 Rock Deformation Spring term. Credit three hours. Prerequisite: Geological Sciences 325. G. A. Kiersch.

Review of stress analysis and behavior of materials, both the rock mass and sample. Fundamentals of deformation pertaining to the crustal rocks and the problems of geological sciences.

461 Mineral Deposits: Metals Fall term. Credit four hours. Prerequisite: Geological Sciences 356 or consent of instructor. Assigned problems and readings. Field trip. B. Bonnicksen. Description, origin, distribution, and economic significance of the principal types of metallic ore deposits; principles and processes involved in their formation. Megascopic and microscopic identification of principal opaque ore minerals; handsample and microscopic study of representative ore and rock suites.

[462 Mineral Deposits: Nonmetals Spring term. Credit four hours. Prerequisite: Geological Sciences 461 or consent of instructor. Field trips. Staff Not offered 1975–76.]

471 Invertebrate Paleontology Fall term. Credit four hours. Prerequisite: Geological Sciences 102. Invertebrate zoology recommended. J. L. Cisne. Paleobiology and classification of important fossil invertebrates. Problems of evolution. Use of organisms in reconstructing past environments.

483 Marine Tectonics Fall term. Credit three hours. Prerequisites: Geological Sciences 325 and a course in physics or geophysics. Possible field trips. D. E. Karig. Study of geophysical and geological characteristics of the earth's crust beneath the oceans. Review of strengths and limitations of marine exploratory techniques. Emphasis on the recent geologic data concerning plate margins in the ocean, especially the island arc systems.

485 Physics of the Earth I Fall term. Credit three hours. Open to upperclass engineers, majors in the physical sciences, and others by permission of the instructor. D. L. Turcotte. Rotation and figure of the earth, gravitational field, seismology, geomagnetism, creep and anelasticity, radioactivity, earth's internal heat, continental drift, and mantle convection.

[486 Physics of the Earth II Fall term. Credit three hours. Open to upperclass engineers, majors in the physical sciences, and others by permission of instructor. Physics of the Earth I is not prerequisite. Not offered 1975–76.]

488 Introduction to Geophysical Prospecting Fall term. Credit three hours. Prerequisites: Physics 112 and 218 and Mathematics 191–192 or their equivalents, or consent of instructor. S. Kaufman. Physical principles, instrumentation, operational procedures, and interpretation techniques in geophysical exploration for oil, gas, and minerals. Seismic reflection, seismic refraction, gravity, and magnetics methods of exploration.

490 Senior Thesis Either term. Credit one hour. Staff.

632 Exploration Geology Spring term. Credit three hours. Prerequisites: field geology and, usually, graduate standing. G. A. Kiersch.

633 Environmental/Engineering Geology: Theory Fall term. Credit three hours. Prerequisite: Geological Sciences 325; 345 and 355–356 recommended. Field trips. G. A. Kiersch.

[635 Engineering Geology: Practice Fall term. Credit three hours. Offered in alternate years. Prerequisites: Geological Sciences 633 or 325, 345 and 355–356. Field trips. Not offered 1975–76.]

642 Glacial and Quarternary Geology Spring term. Credit three hours. Prerequisite: Geological Sciences 345 or consent of the instructor. Several Saturday field trips. A. L. Bloom.

673 Stratigraphy Fall term. Credit three hours. Prerequisite: Geological Sciences 376. J. M. Bird.

681 Geotectonics Fall term. Credit four hours. Prerequisite: consent of the instructor. J. M. Bird.

687 Seismology Fall term. Credit three hours. Prerequisite: Mathematics 421, 422, 423, or equivalent. B. L. Isacks and J. E. Oliver.

688 Gravity, Geomagnetism, and Heat Flow Spring term. Credit three hours. Prerequisite: Mathematics 421, 422, 423, or equivalent. D. L. Turcotte.

690 Seminars and Special Work Throughout the year. Credit two hours a term. Prerequisite: consent of the instructor. Advanced work on original investigations in geological sciences.

690-1 Structural Geology, Sedimentation, and Tectonics W. B. Travers.

690-2 Petrology of Igneous Rocks and Metallic Ore Deposits B. Bonnicksen.

690-3 Coastal Geomorphology and Pleistocene Geology A. L. Bloom.

690-4 Environmental Engineering Geology, Geomechanics, and Hydrogeology G. A. Kiersch.

690-5 Geophysics, Seismology, Gravity, Magnetism, Heat Flow, Geotectonics B. L. Isacks, D. E. Karig, S. Kaufman, J. E. Oliver, and D. L. Turcotte.

690-6 Invertebrate Paleontology and Paleocology J. L. Cisne.

690-7 Mineral Deposits and Resources Staff.

690-8 Environmental Problems W. B. Travers.

690-9 Marine Geology D. E. Karig.

690-10 Plate Tectonics and Geology J. M. Bird.

Field Courses

[601 Intercession Field Trip Credit one hour. Prerequisites: Geological Sciences 101-102 or equivalent and consent of the instructor. G. A. Kiersch. Not offered 1975-76.]

602 Introductory Field Geology Spring term. Credit one hour. Prerequisites: one introductory course and Geological Sciences 325, or consent of the instructor. Four weekend trips and two laboratory meetings. W. B. Travers.

704 Western Field Course Spring term. Credit six hours. Prerequisites: four courses at the 300 level in geological sciences and consent of the instructor. Includes a 38-day trip to California, Nevada, and Utah. W. B. Travers.

Government

G. H. Quester, chairman; B. R. O'G. Anderson, D. E. Ashford, M. G. Bernal, D. J. Danelski, W. J. Dannhauser, A. T. Dotson, E. J. Eisenach, M. J. Esman, B. Ginsberg, G. McT. Kahin, M. Katzenstein, P. Katzenstein, E. W. Kelley, E. G. Kenworthy, I. Kramnick, T. J. Lowi, D. P. Mazingo, T. J. Pempel, S. D. Resnick, R. H. Rosecrance, M. Rush, L. Scheinman, M. Shefter, S. G. Tarrow, N. T. Uphoff, D. E. Van Houweling, L. F. Williams.

For a major in government the following courses must be completed: (1) three of the following introductory courses: Government 111, Government 131, Government 161, and Government 181; (2) a minimum of twenty-four additional hours in Government Department courses numbered 300 or above; (3) in related subjects, a minimum of twelve hours selected with the approval of the adviser from courses numbered 300 or above in the Departments of Anthropology, Economics, History, Philosophy, Psychology, and Sociology. (S-U options are not allowed in any course needed to fulfill the government major.)

Juniors and seniors majoring in the Department of Government who have superior grade records may apply for supervised study in government with a particular instructor, whose consent is required. See the

description for Government 499 (Supervised Study). To accommodate new courses or course changes, a supplementary announcement is maintained by the Department. Before preregistering or registering each term, students are requested to consult the current *Supplementary Announcement of Courses in Government* available in 125 McGraw Hall.

The Honors Program

A small number of exceptionally well-qualified students are accepted each year in the Honors Program. Admission is by application and is competitive. Students who wish to be considered must complete an application in the spring semester of their sophomore year. Those who are admitted will register for Government 400. Successful completion of Government 400 entitles the student to write an honors thesis (Government 494, credit eight hours) or honors paper (Government 494, credit four hours) in the senior year, provided other requirements have been met. (See Honors Courses, p. 88, for a description of these courses.) The decision to award honors and in what degree will be based on the quality of the thesis or paper, the student's record in government courses, and the student's overall record at Cornell.

Interested students should consult the Supplementary Announcement available in the departmental office in 125 McGraw Hall. Further inquiries may be addressed to the Director of Undergraduate Studies, 130 McGraw Hall.

European Studies Concentration

Government majors may elect to group some of their required and optional courses in the area of European studies, drawing from a wide variety of courses in relevant departments. Students are invited to consult Professors Katzenstein, Scheinman, and Tarrow for advice concerning course selection, foreign study programs, etc.

Distribution Requirement

The distribution requirement in the social sciences is satisfied in government by taking two of the following courses: Government 111, 131, 161, and 181; or by taking one of 111, 131, 161, or 181 followed by a 300-level course in the same area.

Introductory Courses

111 The Government of the United States

Fall term. Credit three hours. T. J. Lowi. How in the United States the institutions of government and the tactics of politics are extensions of the primordial act of conquering a territory and a population. Contemporary government programs are conquest updated. The history of government is the history of coercion.

131 Introduction to Comparative Politics

Spring term. Credit three hours.

An investigation of the foundations of politics under different political regimes: totalitarian governments and autocracy; the bases of political conflict; social movements and party systems; political processes and policy outcomes; revolutionary versus evolutionary change; political development in the Third World; the modern corporate state.

161 Freedom and Justice in the Western Tradition: An Introduction to Political Philosophy

Spring term. Credit three hours. I. Kramnick.
When are men and women free? What is a just social and political order? What is the proper relationship between the individual, the community, and the state? Who, if anyone, should rule? These questions are the basic concerns of political philosophy. This course will investigate efforts at answering such queries by diverse writers from Plato and Aristotle in antiquity to Marx and Freud in the modern era. It will also encourage students to formulate their own answers to some of these questions.

181 Introduction to International Relations

Fall term. Credit three hours. R. H. Rosecrance.
An introduction to the basic concepts and practice of international politics.

Freshman Seminars

100 Freshman Seminars Either term. Credit three hours. Five such seminars will be offered in each of the fall and spring terms. Consult the Supplementary Announcement and the Freshman Seminar booklet for course descriptions and instructors.

Major Seminars

300 Major Seminars Either term. Credit four hours. Every major in the Department is encouraged to take at least one major seminar during the junior or senior year. Consult the Supplementary Announcement for course descriptions and instructors. Forms are provided each semester to indicate seminar preferences. Nonmajors may be admitted, but government majors are given priority.

The following courses are open to sophomores, juniors, and seniors without prerequisite unless otherwise indicated.

American Government and Institutions

Government 111 is recommended.

302 The Impact and Control of Technological Change (also UPD 434 and Economics 302)

Spring term. Credit four hours. J. Milch.
The use, impact, and control of technological change. Emphasis is on the dilemmas of public choice in a technological society marked by specialization and rational planning. Specific problem areas in which the problems of control are controversial will be examined.

310 Politics and Society Fall term. Credit four hours. L. Williams.

The relations between the social and political structures in the United States with particular emphasis upon political socialization, political beliefs and democratic theory, voting behavior, the party system, the symbolic uses of power, power distribution, and social movements.

311 Urban Politics Spring term. Credit four hours. Concurrent registration in Government 312 is recommended. D. E. Van Houweling.

An introduction to the processes institutions of politics in United States cities. Analysis of several of the most significant problems facing urban areas and discussion of alternative solutions. The effects of the physical, institutional, and political environments and power relationships are emphasized.

312 Urban Studies Laboratory Spring term. (Will also be offered in fall term if there is a minimum registration of forty students.) Credit three hours. Prerequisite: previous or concurrent registration in Government 311 or consent of the instructor. D. E. Van Houweling.

Provides a laboratory experience to integrate knowledge and test alternative solutions to urban problems. A large-scale computer simulation is used to provide the simulated urban environment. No previous experience with computing is necessary. A background in urban studies is desirable.

313 The Nature, Functions, and Limits of Law

Spring term. Credit four hours. D. L. Ratner.
Not for professional law students but a general education course for nonlaw students at the sophomore level and up. Law is presented not as a body of rules but as a set of varied techniques for resolving conflicts and dealing with social problems. The course will analyze the roles of courts, legislatures, and administrative agencies in the legal process, considering also constitutional limits on their power and practical limits on their effectiveness. Assigned readings will consist mainly of judicial and administrative decisions, statutes and rules, and commentaries on the legal process. Students will be expected to read assigned materials in advance of class and to be prepared to respond to questions and participate in class discussions.

314 Common Law and Lawyers in America

Fall term. Credit four hours. E. J. Eisenach.
The common law system in America will be examined from three perspectives: the relationship of the common law to political and social theory in America; the process of the reception of the common law, its supporters, opponents, and competitors; and the contemporary place and role of courts, legal education, and lawyers in political thought and action.

316 The American Presidency Fall term. Credit four hours. A. T. Dotson.

Analysis of the politics of the presidency and the executive branch with emphasis on executive-

legislative relations, executive branch policymaking, and the problems of the modern presidency.

317 Political Parties and Elections Spring term. Credit four hours. B. Ginsberg.

Examines the functions and structures of American political parties and their role in election outcomes. Examples of topics are: party as organizer of children's opinions and attitudes, as mobilizer of political activities, as link between rulers and ruled, as mechanism for leadership recruitment, as bridge between different structures in the political system, and as influence on policy outputs. Discussions of recent changes (and/or nonchanges) in the structure and functioning of American parties and in electoral mechanics and dynamics.

318 The American Congress Spring term. Credit four hours. M. Shefter.

The role of Congress in the American political system. Topics to be discussed: the political setting within which Congress operates (e.g., congressional elections, relations with interest groups, the bureaucracy, the presidency); the structure of Congress (e.g., differences between the House and the Senate, committees, seniority, congressional parties, proposals for reform); salient features of the legislative process (e.g., the congressional career, legislative strategy, leadership, lobbying, roll call behavior, investigations); and recent congressional behavior in a number of policy areas (e.g., ecology, consumer protection, civil rights, poverty, national health insurance, Vietnam, the "military-industrial complex," Watergate, domestic surveillance, and foreign intelligence).

319 American Political Behavior Fall term. Credit four hours.

Examines the political beliefs and behavior of Americans. Particular attention will be given to the nature and distribution of ideology, the reasons for differential political participation, and such collective behavior as riots and mass movements.

320 Public Opinion and American Democracy Spring term. Credit four hours.

An analysis of the political beliefs of Americans in the context of alternative democratic theories. Examination of the ways Americans acquire their beliefs and the consequences, if any, of these beliefs for public policy. The goal will be to appraise existing opinion formation and implementation in terms of the requirements of alternative democratic theories.

322 Criminal Justice Spring term. Credit four hours. B. Ginsberg.

Crime and law enforcement are major political issues and involve important questions of public policy. This course will examine selected aspects of the distribution of justice in American society. It will focus on the institutional structure of the criminal justice system, the uses of law as an instrument of social control, and the foundations and implications of alternative policy choices.

323 The "Fourth" Branch Fall term. Credit four hours. A. T. Dotson.

An examination of the national administrative branch. Particular attention will be given to the constitutional and political problems that result from the rise of administrative power.

324-325 Law and Social Science Throughout the year. Credit four hours a term. Open, upon application, to first-semester juniors. Registration limited to twenty students in 1975-76. S. D. Resnick and others. An intensive interdisciplinary seminar that views law and its operation in society from the perspectives of several of the social sciences. Students are expected to take both terms of the seminar. During the first term, the seminar will focus on the basic literature concerning law and social science, and students will write a series of short analytical papers. During the second term, the seminar will focus on research problems and students will write research papers. Usually each seminar will be conducted by faculty members representing two or more disciplines.

327 Civil Liberties in the United States Fall term. Credit four hours.

An analysis of contemporary issues in civil liberties and civil rights, with emphasis on Supreme Court decisions. Cases will be analyzed in terms of democratic theory and the social and political context in which they arose.

328 Constitutional Politics Spring term. Credit four hours.

An analysis of constitutional interpretation and policymaking by the Supreme Court.

329 Politics, Race, and Education Spring term. Credit four hours. E. W. Kelley.

The political role of education in organizing and preparing individuals for expected social and economic roles is considered. Educational and occupational barriers to entry as well as the actual causes of academic success are emphasized. The use of race as an overt and covert criterion for segregating individuals into different social and economic roles as well as other aspects of institutional racism will be dealt with.

428-429 Government and Public Policy: An Introduction to Analysis and Criticism (also Government 628) Throughout the year. Credit four hours a term. Open to qualified undergraduates with consent of instructor. T. J. Lowi

The first semester stresses analysis and criticism of public policies and the governments and politics responsible for them. Second semester will be comprised of a weekly workshop for a smaller group, concentrating on problems for research, writing, and publication.

Comparative Government

[331 Indochina (also Asian Studies 304) Credit four hours. Not offered 1975-76.]

[332 Society and Politics in France and Italy Credit four hours. Not offered 1975-76.]

333 Government and Politics of the Soviet

Union Fall term. Credit four hours. M. Rush.
A focus on the politics of the top leaders, the institutions through which they operate, and the impact of their policies on the Soviet people. Emphasis also on phases in the development of the Soviet system and on the ways in which the Soviet Union served as the prototype for all subsequent Communist states, as well as on the variant forms that have appeared in other states.

334 The Politics of Underdevelopment in Africa

Spring term. Credit four hours. L. Williams.
General theoretical task is to understand the global phenomenon called "development." At the concrete level, surveys explanations of how political development is occurring within a particular region (Africa) in a particular environment (the world economy of the twentieth century).

[336 **The Ethnic Dimension in Politics** Credit four hours. Not offered 1975-76.]

337 Women, Race, and Politics (also Women's

Studies 337) Spring term. Credit four hours.
M. Katzenstein and L. Williams.
An initial consideration of the meaning of liberation for black and white women. The relationship between race, sex, and politics will then be examined by looking at the ways in which black and white women affect, and are affected by, the processes of political socialization, organization, and legislation.

338 Politics and Modernization: America's Last Colonies

Spring term. Credit four hours.
A. T. Dotson.
In the United Nations' Second Development Decade, most of the world's areas and peoples remain underdeveloped; but some remain both underdeveloped and in what is essentially a "colonial" political status. A concentration on those possessions, territories, trust territories, and other dependencies for which the United States is responsible.

340 Government and Politics of Latin America

Spring term. Credit four hours.
An introduction to the national politics of the larger Latin nations in recent decades, offering alternative conceptions of power relations (e.g., pluralist, oligarchic). While external influences are not ignored, the focus is upon domestic politics.

[341 **The National and the Social Question in Central Europe** Fall term. Credit four hours. Not offered 1975-76.]

343 Politics and Anthropology

Spring term. Credit four hours. D. E. Ashford.
A comparison of how authority is used in small communities and traditional societies in relation to the larger political systems. The views of political scientists on culture and of anthropologists on politics will be compared. Their ideas will be used in analyzing a number of community studies in both industrial and traditional societies to trace the relationship, if any,

between community and national politics in various countries.

344 Government and Politics of Southeast Asia

Fall term. Credit four hours. B. R. O'G. Anderson.
Analysis of the organization and functioning of the political systems of Southeast Asia, with special attention to the problems of postcolonial social and political development.

[346 **Politics of Contemporary Japan** Credit four hours. T. J. Pempel. Not offered 1975-76.]

347 Chinese Government and Politics

Fall term. Credit four hours. M. Bernal.
An examination of the politics of modern China including the breakdown of the traditional order and the revolutionary struggle of the Chinese Communist party. Primary emphasis on the institutions, methods, policies, and problems of the Communist regime since 1949.

[348 **Politics of Industrial Societies** Credit four hours. Not offered 1975-76.]

349 Political Role of the Military

Spring term. Credit four hours. B. R. O'G. Anderson.
Comparative study of selected modern states and types of political systems in which the military have played a major role in domestic politics. Attention will be given to the social and ideological character of the "politicized" military and various forms of military government.

350 Comparative Revolutions

Spring term. Credit four hours. M. Bernal.
An analysis of major revolutionary movements since World War II: their social-political origins, ideology, and organization, with special emphasis on contrasting strategies and roads to power.

353 Women and Politics (also Women's Studies 353)

Fall term. Credit four hours.
M. Katzenstein.
Will consider the following questions: what factors propel women into politics? Why are the rates of political participation among women high in certain countries, low in others? In what ways are women's attitudes toward participation in politics distinct from their male counterparts? What effect does public policy and women's participation in policymaking have on the status of women in different countries?

354 The Politics of Population

Spring term. Credit four hours. M. Katzenstein.
Political problems and approaches to questions of population. Topics to be considered will include birth control and population expansion policies, immigration and brain drain, education, attempts at cultural standardization and assimilation in multilingual societies, and alternative land tenure systems.

355 From Politics to Policy: The Political Economy of Choice

Fall term. Credit four hours.
N. T. Uphoff.
Examination of the realities, dilemmas, and strategies

of policymaking in the United States, the Third World, and international relations. The environment of political action and policy choice will be considered analytically from the perspective of actors and choosers, using the framework of a new political economy.

356 Elites and Society: The Political Economy of Power

Spring term. Credit four hours. N. T. Uphoff. For students who have an interest in the nature and uses of power in politics. Consideration of how power has been treated by earlier political thinkers and by contemporary social scientists. The contending arguments about elitism, pluralism, and populism will be examined with reference to power in America, the Third World, and international politics. The aim of this approach will be to consider the implications of different distributions and bases of power for the making of public policy.

357 Political Development in Western Europe

Fall term. Credit four hours. P. Katzenstein. A comparative analysis of the development of modern political systems focusing on the theme of the integration of regions, institutions, and classes into the modern state. Different patterns of development will be related to selected aspects of contemporary European politics.

358 Politics of the Middle East

Fall term. Credit four hours. (See Supplementary Announcement.)

435 Politics of Decentralization and Local Reform (also Business and Public Administration NPA 506)

Fall term. Credit four hours. Open to both undergraduate and graduate students. D. E. Ashford. Comparative analysis of municipal and local government policies in Britain, France, and selected developing countries. Emphasis is on national-local linkage and how decentralization policies affect the power structure, economic planning, and representative government. The major efforts to reform urban, local, and regional planning and procedures since World War II will be examined and their effects assessed. Graduate students attend lectures and meet weekly as arranged to review research on decentralization and local politics.

451 India: A Political Experiment

Fall term. Credit four hours. Open to both undergraduate and graduate students. M. Katzenstein. Will consider whether the goals of national unity, rapid economic growth, and social equality can be realized in India through democratic means.

456-457 Policymaking in Industrial Societies

Credit four hours. Fall and spring terms. This is a full year course, but students may register for one term only. D. Ashford, P. Katzenstein, T. J. Pempel. Examines the consequences of policy formation and modern governmental bureaucracy for the expression and revisions of democratic political norms. Cases will include the administrative processes of Great Britain, Germany, Japan, and France and will involve policy formation in the areas of local government,

education, labor relations, minorities, economic policy, and administrative reform. Students will work with primary materials on administrative decision-making in each case study, tracing its effects on democratic values in the society and, where relevant, the emergence of crises of authority from bureaucratic judgments. The fundamental argument is that the development of highly skilled, technical bureaucracies has not relieved these societies of periodic redefinitions of authority.

Political Theory

[360 Greek Political Philosophy Credit four hours. Not offered 1975-76.]

361 Liberalism and Its Critics Fall term. Credit four hours. I. Kramnick.

Since the rise of capitalism one political ideology has been dominant in the Western world — liberalism. Its hegemony has been questioned, however, by a series of critics — conservatism, democracy, socialism, anarchism, fascism, Freudianism, and feminism. This course will study the tensions between liberalism and these critics and speculate on the possible survival or extinction of this venerable and very American ideology.

[362 Revolutions and Revolutionary Theory Credit four hours. Not offered 1975-76.]

363 Classics in Political Thought Spring term. Credit four hours. W. J. Dannhauser.

Close textual analysis of a select number of basic texts in political thought. The topic for spring 1976 will be "The Problem of God in Politics." Readings from the Bible, Spinoza, and other primary sources.

[364 Basic Problems in Political Theory Credit four hours. S. D. Resnick. Not offered 1975-76.]

[365 Ideologies and Social Movement Credit four hours. S. Tarrow. Not offered 1975-76.]

[366 Human Nature and Political Theory Credit four hours. S. D. Resnick. Not offered 1975-76.]

[367 The Logic of Liberalism Credit four hours. E. J. Eisenach. Not offered 1975-76.]

368 Economic Models of Politics Fall term. Credit four hours. E. W. Kelley.

Economic factors influencing the structure of political systems and economic models of such systems will be considered. The rationalistic presumptions underlying some such models will be introduced and modified. Applications to enduring policy arenas made.

[374 Political Authority in Mass Society Credit four hours. Not offered 1975-76.]

375 American Political Thought Spring term. Credit four hours. E. J. Eisenach.

Survey of American political thought with stress on puritan thought, constitutional theory, selected

nineteenth-century literature, and contemporary political science.

376 Marx and Socialist Thought Fall term. Credit four hours. S. D. Resnick.

An examination of the writings of Karl Marx and the socialist tradition of the nineteenth and twentieth centuries.

International Relations

Government 181 is recommended.

381 Foreign Policy of the U.S.S.R. Spring term. Credit four hours. M. Rush.

An analysis of Soviet foreign policy as it developed out of the revolution and accommodated to the prevailing international system, with a focus on the period since 1945. Particular topics include: causes and prospects of the cold war, impact of nuclear weapons on Soviet defense and foreign policy, sources and goals of Soviet hegemony in East Europe, causes of the dispute with China, and impact of domestic politics on the formation of foreign policy.

[382 Imperialism. Credit four hours. E. G. Kenworthy. Not offered 1975-76.]

383 Theories of International Relations

Spring term. Credit four hours. R. Rosecrance. A survey of relevant theories of international relations emphasizing war prevention and conflict resolution. Theories will be tested against the international experience of the past two centuries.

384 Defense Policy and Arms Control (also Science, Technology, and Society 384) Spring term.

Credit four hours. F. A. Long and G. H. Quester. An analysis of the requirements for military defense and the problems caused thereby. Subjects to be covered will include nuclear deterrence reasoning, military strategy, approaches to disarmament, the working of military-industrial complexes, and defense budgeting and policy procedures. Lectures and discussion sessions, with guests from among participants in the Cornell Peace Studies Program.

385 Contemporary American Foreign Policy

Fall term. Credit four hours. G. H. Quester. An analysis of the dilemmas which have confronted American foreign policy since 1945, both individual problems and more general questions of capabilities, priorities, and morality.

[387 The United States and Asia Credit four hours. C. McT. Kahin. Not offered 1975-76.]

[388 The United States and Western Europe

Credit four hours. L. Scheinman. Not offered 1975-76.]

389 International Law Fall term. Credit four hours.

L. Scheinman. Deals with the characteristics of international law, its

theoretical foundations, principles, and processes, and relationship to international politics. Emphasis is placed on law-in-action and attention is addressed to both traditional problems — intervention, coercion, the scope and limits of adjudication — and contemporary trends and processes (arms control, outer space, exploitation of seabed resources, the individual in international law, and cooperative patterns in socioeconomic relations at the global and regional level). Content may vary according to international events.

[390 The Foreign Policy of China Credit four hours. D. P. Mozingo. Not offered 1975-76.]

Political Methodology

[391 Human and Social Statistics Credit four hours. E. W. Kelley. Not offered 1975-76.]

Honors Courses

See earlier note on Honors Program, p. 83.

400 Honors Seminar: Political Analysis.

Fall term. Credit four hours. M. Shefter. The application of behavioral and structural models to the analysis of three problems in political science: the social foundations of democratic regimes; the emergence of mass political movements and their institutionalization, suppression, or decay; and the politics of race and ethnicity.

494 The Honors Thesis Either term. Credit four or eight hours.

In their senior year, honors students will be required to take Government 494, in which they will prepare and write an honors thesis or honors paper. An honors thesis is an extended piece of original, independent research, while an honors paper is an extended analytical or synthesizing essay. Students will have the option of either format but will be required to obtain the consent of the faculty member supervising their work. Before the end of the semester which precedes the semester in which the thesis or paper is to be written, each participant must submit an approved proposal to the department office. Proposal forms may be obtained from the undergraduate secretary in 125 McGraw Hall. Both honors theses and honors papers will be given to a second reader for evaluation and students will be examined orally on their work by the two faculty members involved. In cases where students feel the need for a period of preparatory work before undertaking an honors thesis or paper, they may make use of the option available under Government 499 (see below).

Supervised Study

Juniors and seniors majoring in government who have superior grade records may apply for supervised study in government with a particular instructor. The applicant must present a well-defined program of study that cannot be satisfied by taking regular

courses. Emphasis will be placed on the capacity to subject a body of related readings to analysis and criticism. The consent of the instructor is required.

499 Readings Either term. Credit variable (one to six hours). Staff.

Graduate Seminars

For complete descriptions of graduate courses see the *Announcement of the Graduate School: Course Descriptions*. Qualified undergraduates are encouraged to apply for seminars listed with 600 course numbers. For courses not listed in the *Graduate School Announcement* consult the lists prepared by the graduate faculty representative.

History

M. Kammen, chairman; D. A. Bauch, A. H. Bernstein, S. Blumin, S. G. Cochran, E. W. Fox, T. H. Holloway, C. A. Holmes, J. J. John, S. L. Kaplan, D. C. LaCapra, W. F. LaFeber, R. L. Moore, J. Najemy, M. B. Norton, C. A. Peterson, W. M. Pintner, R. Polenberg, W. B. Provine, J. H. Silbey, F. Somkin, B. Tierney, J. Weiss, L. P. Williams, O. W. Wolters, D. K. Wyatt.

To complete the history major, a student should (1) have completed either the Introduction to Western Civilization (History 151–152) or the Introduction to Asian Civilizations (History 190–191); (2) have taken history courses totalling thirty-four credit hours, completing all these courses with a grade of C or better; of the thirty-four hours, sixteen must be in courses numbered above 300, and of these sixteen, eight must be in one particular field of history (e.g. modern American, ancient, early modern European); (3) have taken two courses above the elementary level offered by other departments that relate to the eight-hour concentration in one particular field of history.

Prospective majors may wish to discuss their projected program with the Director of Undergraduate Studies (McGraw 344) before formally enrolling with the department.

The Honors Program

Prospective candidates for the degree of Bachelor of Arts with honors in history should consult with Professor D. C. LaCapra during the spring term of their sophomore year or early in their junior year. In applying for the program, students must provide an Arts College transcript of their work.

Honors candidates will take History 400 during either the fall or the spring semester of their junior year. In the other semester, candidates should take a seminar in their major area of interest. At the beginning of the senior year, candidates normally choose a faculty adviser and register in the fall term for History 302. In the spring term of the senior year they register for History 401, a four-credit course that permits them to complete the honors essay and prepare to defend

both the essay and their understanding of the general historical interests they have pursued within the major. However, under the direction of their advisers and with the consent of the Honors committee, students may revise and expand a paper written in any upper-level history course into an honors essay. In appropriate cases, this may be done for credit by registering for History 301 or 302.

The text of the honors essay may not exceed sixty pages except by permission of the chairperson of the honors committee and the student's adviser. Two copies will be due during the third week of April. In May each honors candidate will be given an oral examination administered by the major adviser and one or both of the essay readers. The examination will focus on the specific issues of the essay as well as the broad field of history in which the student has concentrated his or her research (e.g., Periclean Athens, seventeenth-century science, nineteenth-century America).

To qualify for a Bachelor of Arts degree with honors in history, a student must 1) sustain at least a B+ cumulative average in all history courses; and 2) earn at least a *cum laude* grade on the honors essay and on the oral examination.

Distribution Requirement

The distribution requirement in history is satisfied by any one-year sequence in history 100- through 300-level courses, or by taking any two related history courses (as specified in a listing of options on file in the Arts College office). Students must consult the department's Director of Undergraduate Studies for approval of any other possibilities.

American History

201–202 Introduction to American History 201 fall term only; 202 spring term only. Credit three hours a term. First term not prerequisite to second. Fall: M. B. Norton and staff. Spring: F. Somkin and staff.

Fall term: From the beginning to 1865. Substantial emphasis will be placed on such subjects as the role of blacks and women in the American past, the founding of the republic, and the character of American society in the pre-Civil War years. Spring term: American history from the Civil War to the mid-twentieth century.

203–208 Freshman Seminars in American History Open to all qualified freshmen. Consent of instructors required. Consult Freshman Seminar booklet for course descriptions.

[311–312 The Structure of American Political History] J. H. Silbey. Offered alternate years only; not offered 1975–76.]

[313–314 History of American Foreign Relations] W. LaFeber. Not offered 1975–76.]

316 American Cultural and Intellectual History to 1820

Fall term. Credit four hours. F. Somkin.

Major American ideas, thinkers, and movements.

Topics: supernaturalism and rationalism; the Great Awakening; race and oppression; humanitarian reform; American liberal theory; the conservative reaction; dream and reality of the virtuous republic.

[317 American Cultural and Intellectual History, 1820-1890

F. Somkin. Not offered 1975-76.]

318 American Constitutional Development

Spring term. Credit four hours. M. B. Norton.

A study of the major themes of the constitutional history of the United States. Among the topics to be considered are: the drafting of the Constitution, the Marshall and Taney courts, civil rights decisions of the nineteenth century, the rise of substantive due process, and the Warren court.

321 The Origins of American Civilization

Spring term. Credit four hours. M. Kammen.

The European and colonial genesis of American culture and society, with emphasis upon the emergence of distinctive institutions, attitudes, and social patterns. Topics include race relations, theology and ecclesiastical organization, politics, movements of social protest, and patterns of economic growth.

325 Age of the American Revolution, 1763-1815

Fall term. Credit four hours. M. B. Norton.

An examination of the process by which the thirteen English colonies became an independent and united nation, with emphasis on political thought and practice, social and economic change, and cultural development.

330 The United States in the Middle Period,**1815-1850** Fall term. Credit four hours. J. H. Silbey.

An analysis of American society from the end of the second war with England to the crisis of 1850 stressing the developing trends of nationalism and sectionalism, the rise and results of Jacksonian Democracy, and the internal tensions produced by physical growth and slavery.

331 The American Civil War and**Reconstruction** Spring term. Credit four hours.

J. H. Silbey.

An analysis of the factors leading up to the breakup of the Union, the impact of the war in North and South, and the problems of restoration and reconstruction of the seceded states.

332-333 The Urbanization of American Society

332 fall term only; 333 spring term only. Credit four hours a term. First term not prerequisite to the second. S. Blumin.

An examination of the process of urbanization in America from the earliest European settlements to the present. Emphasis will be placed on the development of urban forms, institutions, classes and life styles, and on the changing impact of cities upon nonurban areas and the nation as a whole. The first term will cover the period up to the emergence of the

industrial city (c. 1860); the second term will cover the period from 1860 to the present.

340-41 Recent American History, 1920 to the**present** 340 fall term only; 341 spring term only.

Credit four hours a term. First term not prerequisite to the second. R. Polenber.

Fall term topics include cultural conflict in the 1920s, the social impact of the depression, Franklin Roosevelt and the New Deal, domestic and diplomatic aspects of World War II. Spring term topics include social reform and civil rights, the Supreme Court and civil liberties, society and thought in the 1950s, John F. Kennedy and the New Frontier, the impact of the war in Vietnam.

[345 The Modernization of the American Mind

Spring term. Credit four hours. R. L. Moore.

Not offered 1975-76.]

[346 The Irrational and the American Mind

R. L. Moore. Not offered 1975-76.]

[411 Undergraduate Seminar in American Political History

J. H. Silbey. Not offered 1975-76.]

414 Motivations of American Foreign Policy

Fall term. Credit four hours. Prerequisite: History 314 and consent of instructor. W. LaFeber.

Topic and bibliography posted at McGraw 432.

416 Undergraduate Seminar in American Cultural History

Spring term. Credit four hours. Prerequisite: consent of instructor. F. Somkin.

Recent approaches to the study of American civilization, with emphasis upon the millennial hope for an ethically and culturally distinguished democracy.

[418 Undergraduate Seminar in the History of**the American South** J. H. Silbey. Not offered 1975-76.]**419 Undergraduate Seminar in American Social****History** Fall term. Credit four hours. Prerequisite: consent of instructor. S. Blumin.**426 Undergraduate Seminar in Early American****History** Spring term. Credit four hours. Prerequisite: consent of instructor. M. B. Norton.

Topic for 1976: women and the family in early America. An examination of the early history of the American family, with particular reference to the status of women in seventeenth- and eighteenth-century America.

440 Undergraduate Seminar in Recent American**History** Fall term. Credit four hours. Prerequisite: consent of instructor. R. Polenber

Topic for 1974: John F. Kennedy and the New Frontier

[445 Undergraduate Seminar: Deviance and**Conformity in the American Past** R. L. Moore.

Not offered 1975-76.]

[613-614 Seminar in the History of American Foreign Relations W. LaFeber. Not offered 1975-76.]

[615 Seminar in American Cultural and Intellectual History F. Somkin. Not offered 1975-76.]

616 Seminar in American Cultural and Intellectual History Spring term. Credit four hours. F. Somkin.

[617-18 Seminar in Recent American Cultural History R. L. Moore. Not offered 1975-76.]

619 Seminar in American Social History Fall term. Credit four hours. S. Blumin.

621-22 Seminar in American History 621 fall term only; 622 spring term only. Credit four hours a term. M. Kammen.

633-634 Seminar in Nineteenth-Century American History 633 fall term only; 634 spring term only. Credit four hours a term. J. H. Silbey.

710 Colloquium in American History Fall term. Credit four hours. Required of all entering graduate students in American history. Staff.

Asian History

190 Introduction to Asian Civilizations: Origins to 1600 Spring term. Credit four hours. C. A. Peterson and O. W. Wolters.

Provides an introduction to the distinctive cultures of China, Japan, India, and Southeast Asia by considering how each characteristically dealt with some central problems of human existence.

191 Introduction to Asian Civilizations in the Modern Period Fall term. Credit four hours. D. K. Wyatt and S. G. Cochran.

An introduction to the history of Asian civilizations in modern times focusing on the relationship between key figures and their societies. English translations of autobiographies, novels, short stories, diaries, and other documents written by Asians will be used to assess the perspectives, social priorities, and historical significance of such intellectual and political leaders as Mao, Gandhi, and Mishima.

393 History of China Up to Modern Times

Fall term. Credit four hours. Open to sophomores. C. A. Peterson.

A broad examination of the major aspects of Chinese culture and civilization from earliest times to the late imperial period. Seeks to expose both those features maintaining continuity and the significant (but frequently overlooked) instances of change.

394 History of China in Modern Times

Spring term. Credit four hours. Open to sophomores. S. G. Cochran.

A survey which concentrates on the rise of the last imperial dynasty in the seventeenth and eighteenth

centuries, the upheavals resulting from domestic rebellions and foreign imperialism in the nineteenth century, and the twentieth century efforts to create a strong and unified nation.

395 Southeast Asian History to the Fourteenth Century Fall term. Credit four hours. O. W. Wolters.

A survey of early Southeast Asian history with particular reference to questions raised in the source material concerning religious beliefs and political and social assumptions.

396 Southeast Asian History from the Fifteenth Century Spring term. Credit four hours. D. K. Wyatt.

492 Undergraduate Seminar in Medieval

Chinese History Spring term. Credit four hours. Prerequisite: History 190, 393, or consent of instructor. C. A. Peterson.

Takes up selected topics in the history of Chinese culture and society between the seventh and thirteenth centuries.

493 Self and Society in Late Imperial and Twentieth-Century China Fall term. Credit four

hours. Prerequisite: History 191, 394, or consent of instructor. S. G. Cochran.

Conceptions of self and relationships between the individual and society in China from Ming times to the present.

494 Undergraduate Seminar: The First Chinese

Revolution, 1880-1930 Spring term. Credit four hours. Prerequisite: History 394 or consent of instructor. S. G. Cochran.

A study of revolutionary developments in China that destroyed the last imperial dynasty, undermined the first Republic, and gave rise to the Kuomintang and the Chinese Communist Party.

497 Undergraduate Seminar in Southeast Asia in the Nineteenth Century Fall term. Credit four

hours. Prerequisite: History 396 or 192, or consent of instructor. D. K. Wyatt.

498 Undergraduate Seminar in Southeast Asian

History Fall term. Credit four hours. Prerequisite: History 395 or consent of instructor. O. W. Wolters. Systematic consideration of selected problems and episodes in Southeast Asian history, utilizing indigenous historical sources in translation and relevant secondary sources.

691 Chinese Historiography and Source

Materials Fall term. Credit four hours. Prerequisite: consent of instructor. C. A. Peterson.

693-694 Problems in Modern Chinese History

Throughout the year. Credit four hours a term. Prerequisite: consent of instructor. S. G. Cochran.

695-696 The Historiography of Southeast Asia

Throughout the year. Credit four hours a term. Prerequisite: consent of instructor. O. W. Wolters and D. K. Wyatt.

791-792 Seminar in Medieval Chinese History

Throughout the year. Credit four hours a term.
C. A. Peterson.

793-794 Seminar in Modern Chinese History

Throughout the year. Credit four hours a term.
S. G. Cochran.

795-796 Seminar in Southeast Asian History

Throughout the year. Credit four hours a term.
Fall term, D. K. Wyatt; spring term, O. W. Wolters.

European History**151-152 Introduction to Western Civilization** 151

fall term only; 152 spring term only. Credit four hours a term. Fall: P. Benedict, C. Holmes; Spring: S. L. Kaplan, J. H. Weiss.

A survey of European history. 151 covers from antiquity to the Reformation; 152 from the sixteenth century to the present day. Attention is given equally to the major political and social developments and to the intellectual heritage of the West. A considerable portion of the reading is in contemporary sources.

Note: Freshmen may count either term or both toward satisfaction of the freshmen seminars requirement.

271 Freshman Seminar: Revolution and Society in Russia Spring term. Credit three hours.

W. M. Pintner.

This course will examine the state's attempts to maintain stability, and the tension between the dissenting intelligentsia and the mass of the population. Both pre- and post-1917 Russia will be discussed.

Ancient European History**261-262 Classical Antiquity** 261, Classical

Greece, fall term only; 262, ancient Rome, spring term only. Credit three hours a term. First term not prerequisite to the second. A. H. Bernstein.

261 will deal with such problems as the rise of the polis, the birth of philosophy and humanism, the origins and development of democracy, liberal and conservative attitudes in fifth- and fourth-century political thought, and the final crisis of confidence in the Hellenistic period. Portions of Homer, Aeschylus, Sophocles, Euripides, Aristophanes, Herodotus, Thucydides, Plato, and Aristotle will be read in translation. 262 will deal with such problems as Roman imperial expansion, the Roman revolution, the maintenance of autocracy, and the decline and fall of the Roman empire.

461 The Roman Revolution, 146-44 B.C.

Fall term. Credit four hours. Prerequisite: History 262 or consent of instructor. An undergraduate seminar. Enrollment limited to twenty-five students.
A. H. Bernstein.

[462 Early Imperial Rome, 44 B.C.-A.D. 70

A. H. Bernstein. Not offered 1975-76.]

463 Classical Greece, 510-404 B.C. Spring term.

Credit four hours. Prerequisite History 261 or consent

of instructor. An undergraduate seminar. Enrollment limited to twenty-five students. A. H. Bernstein.

[464 Classical Greece, 404-338 B.C.

A. H. Bernstein. Not offered 1975-76.]

661-662 Seminar in Ancient Classical History

Throughout the year. Credit four hours a term.
A. H. Bernstein.

Medieval and Early Modern European History**257 English History from Anglo-Saxon Times to the Revolution of 1688** Spring term. Credit three

hours. C. A. Holmes.

A survey of the government, social organization, and cultural and religious experience of the English, laying particular stress on the unification of the realm, the rise of Parliament, changes in agrarian organization, and the development of urban and commercial classes.

263 The Earlier Middle Ages Spring term. Credit four hours. J. J. John.

A survey of medieval civilization from c. 300 to c. 1100, dealing with religious, intellectual, political, and economic developments in Western Europe.

264 The High Middle Ages Fall term. Credit four hours. B. Tierney.

A survey of medieval civilization from c. 1100 to c. 1450. The main trends of political, religious, intellectual, and economic development will be considered.

350 Early Renaissance Europe Fall term. Credit four hours. J. Najemy.

An introduction to major problems of the political, economic, social, cultural, intellectual, and religious history of Western Europe. Readings about evenly divided between Italy and the North.

351 Later Renaissance and Reformation Europe, 1450-1600 Spring term. Credit four hours.

P. Benedict.

Survey of economic, social, political, religious, and intellectual history of Western Europe. Topics will include the extent and effects of the price revolution, the growth of centralized government and of a European state system, the breakdown of the medieval church, and above all the relations between these developments and intellectual history.

359 The Early Development of the Anglo-

American Common Law Spring term. Credit four hours. Prerequisite: History 257 or consent of instructor. C. A. Holmes.

A survey of the English legal system from the Anglo-Saxon period to the age of Blackstone. The class will consider the development and the powers of the major legal institutions; the relationship between precedent, equity, and positive legislation in English law; and those constitutional conflicts which vitally affected the nature of the system.

365 Medieval Culture, 400-1150 Spring term.

Credit four hours. Prerequisite: History 263 or consent

of instructor. J. J. John.

St. Augustine's *Confessions* and *City of God* will be studied for his ideas about creation, the fall, grace, and history. The impact of these ideas on thought, art, and literature will be traced down to the time of St. Bernard.

[366 Medieval Culture, 1100–1300] J. J. John. Not offered 1975–76.]

[367 Church and State during the Middle Ages] B. Tierney. Not offered 1975–76.]

368 Seminar on Religion and Culture in the Middle Ages Fall term. Credit four hours. Open to undergraduates who have taken History 263 or 264 and to graduate students. B. Tierney.
The topic for this year will be St. Francis and the Franciscans.

369 The History of Florence, 1250–1530 Spring term. Credit four hours. J. Najemy.
Florentine politics and society from communal origins through the guild republic to the Medicean regime and the establishment of the principate. Attention to problems of economy and social structure, cultural and religious development, and political and historical ideas, as well as to the evolution of Florentine government and institutions.

[371 History of England Under the Tudors and Stuarts] C. A. Holmes. Not offered 1975–76.]

453 Undergraduate Seminar in European History Spring term. Credit four hours. Consent of instructor required. P. Benedict. Topic for 1976: Religious Mentalities in Western Europe.

468 Culture and Society in Italy in the Fourteenth and Fifteenth Centuries Fall term. Credit four hours. J. Najemy.
An exploration of the ties between the humanistic-artistic culture of the city-states and their political, social, and economic development. Primary and secondary readings.

475 The English Civil War, 1640–1660 Fall term. Credit four hours. Prerequisite: History 371 or consent of instructor. C. A. Holmes.
A close analysis of the causes and development of the war, and the radical constitutional and religious experiments of the period. The major part of the work will be a research paper.

663 Florentine Historical Writing from the Thirteenth Century to the Humanists. Spring term. Credit four hours. J. Najemy.

664–665 Seminar in Latin Paleography Throughout the year. Credit four hours a term. J. J. John.

666 Seminar in Medieval History Fall term. Credit four hours. J. J. John.

668–669 Seminar in Medieval History One or two terms. Credit four hours a term. B. Tierney.

Modern European History

253 Survey of Russian History to 1800 Spring term. Credit three hours. W. M. Pintner.
Will deal with the origin of the autocratic state, the serf system, and the differences between Russia and Western Europe.

[254 Survey of Russian History Since 1800] W. M. Pintner. Not offered 1975–76.]

[258 English History from the Revolution of 1688 to the Present] D. A. Baugh. Not offered 1975–76.]

353–354 European Intellectual History in the Nineteenth and Twentieth Centuries Throughout the year. Credit four hours a term. First term not prerequisite to the second. D. C. LaCapra.
The focus is on social and cultural thought in France, Germany, and England. Topics include: reactions to the French Revolution and industrialization; the definition of conservative, liberal, and radical perspectives; literature and social thought; varieties of existentialism; the birth and development of the social sciences; psychoanalysis and post-Freudian psychology; linguistic philosophy; and structuralism. Readings for the first term include Tocqueville, Mill, Hegel, Marx, Stendhal, Flaubert, Dostoevsky, Nietzsche, and Durkheim. Readings for the second term include Weber, Freud, Wittgenstein, Sartre, Camus, Mann, and Levi-Strauss.

355 The Old Regime, France in the Seventeenth and Eighteenth Centuries Fall term. Credit four hours. Open to sophomores. S. L. Kaplan.
A systematic examination of the social structure, economic life, political organization, and collective mentalities of a society which eclipsed all others in its time and then, brutally and irreversibly, began to age. France, in European perspective, from the Wars of Religion through the Age of Voltaire.

356 The Era of the French Revolution and Napoleon Spring term. Credit four hours. Open to sophomores. S. L. Kaplan.
A study of the failure of the traditional system, its dismantling and replacement in France, and the international consequences. Focus will be on the meaning of the revolutionary experience, the tension between the desires to destroy and create, and the implications of the Revolution for the modern world.

370 Europe in the Twentieth Century Fall term. Credit four hours. J. H. Weiss.
An investigation of the major developments in European history since 1900. Topics to include the transformation of social structures under the influence of industrialization, demographic change, and political conflict; the European response to the economic and ideological influence of America and Russia; the dynamics of fascism; the consolidation of the administrative state; and the recasting of popular culture.

[374 War, Trade, and Empire, 1585-1815]
D. A. Baugh. Not offered 1975-76.]

[375 England Since 1870] D. A. Baugh. Not offered 1975-76.]

378 Europe from the End of the Ancient Regime Fall term. Credit three hours. Open to sophomores. E. W. Fox.
Europe in the nineteenth century. A lecture course with brief required and suggested supplementary reading. The principal focus of the course is on the major political and economic developments of the century and their impact on European society.

[451 Lord and Peasant in Europe: a Seminar in Social History] S. L. Kaplan. Not offered 1975-76.]

[470 Seminar in Twentieth Century Europe]
J. H. Weiss. Not offered 1975-76.]

[471 Undergraduate Seminar in Russian Social and Economic History] W. M. Pintner. Not offered 1975-76.]

[472 Undergraduate Seminar in Russian Foreign Relations] W. M. Pintner. Not offered 1975-76.]

473 Undergraduate Seminar in Twentieth-Century Russian History Spring term. Credit four hours. Prerequisite: any course in Russian history or a course in another department dealing with Soviet Russia, or consent of the instructor. W. M. Pintner. Several special topics will be examined in detail in an attempt to view modern Russian history as a process of continuing development rather than two distinct parts—Tsarist and Soviet.

[474 Topics in Modern European Intellectual History] D. LaCapra. Not offered 1975-76.]

476 The Depression on Film Spring term. Credit four hours. Prerequisite: consent of instructor. J. H. Weiss.
An exploration of topics from the experience of Britain and America in the 1930s which are illuminated by the evidence of films and film culture: work and leisure; technology; social services provided by government and the private sector; the role of intellectuals; and industrial conflict.

[477 The Politics of the Enlightenment]
S. L. Kaplan. Not offered 1975-76.]

[478 Seminar on Eighteenth-Century French Social History] S. L. Kaplan. Not offered 1975-76.]

[655 Seminar in Eighteenth-Century British History] D. A. Baugh. Not offered 1975-76.]

[656 Seminar in Nineteenth-Century British History] D. A. Baugh. Not offered 1975-76.]

671 Seminar in the French Revolution Fall term. Credit four hours. Reading knowledge of French and

permission of the instructor required. S. L. Kaplan.

672-673 Seminar in Modern European Intellectual History Throughout the year. Credit four hours a term. D. C. LaCapra.

677 Seminar in Russian History Spring term. Credit four hours. W. M. Pintner.

[678 Seminar on the Modernization of Europe]
E. W. Fox. Not offered 1975-76.]

History of Science

280 Freshman Seminar in the History of Technology Fall term. Credit four hours. Consent of instructor required. J. H. Weiss.

An examination of selected problems in the social and cultural history of technology in Western civilization. Topics to include the effects of particular technologies, the transformation of work, resistance to technological change, the role of technology in social thought, and the rise and decline of technological culture.

281-282 Science in Western Civilization
Throughout the year. Credit four hours a term. L. P. Williams.

The development of scientific thought from antiquity to the present. Reading in original sources, with discussions.

[288 History of Biology] W. B. Provine. Not offered 1975-76.]

[385 Problems in the History of Biology]
W. B. Provine. Not offered 1975-76.]

[386 Problems in the History of Biology (also Philosophy 386)] W. B. Provine and R. N. Boyd. Not offered 1975-76.]

481-482 Science in Classical Antiquity
Throughout the year. Credit four hours a term. L. P. Williams.

A study of original texts in translation in ancient mathematics, physics, astronomy, and medicine. Emphasis will be placed on the mutual influence of science and society in Greece and Rome.

680-681 Seminar in the History of Science During the Nineteenth and Twentieth Centuries
Throughout the year. Credit four hours a term. L. P. Williams.

Latin American History

210 Latin American History to 1825 Fall term. Credit three hours. T. H. Holloway.
Survey of Latin America from the rise of pre-Columbian civilizations through the European conquest, establishment of the Spanish and Portuguese colonial societies, imperial rivalries in the New World, background of the independence movements, and the achievement of political independence.

211 Latin American History Since 1825

Spring term. Credit three hours. T. H. Holloway. Survey of the Latin American nations from independence to the present. Major themes include the persistence of neocolonial economic patterns and social institutions, the development of nationalist and populist politics, revolutionary movements of the twentieth century, and United States-Latin American relations.

348 Contemporary Brazil (also Sociology 368)

Fall term. Credit four hours. T. Holloway and J. Kahl.

449 (480) Undergraduate Seminar in Latin American History

Spring term. Credit four hours. T. Holloway.

649 (688) Seminar in Latin American History

Spring term. Credit four hours. T. Holloway.

Reading, Research, Interdisciplinary, and Comparative Courses

301 Supervised Reading Either term. Credit two hours. Open only to upperclassmen. Prerequisite: consent of instructor.

302 Supervised Research Either term. Credit four hours. Open only to upperclassmen. Prerequisite: consent of instructor.

306 Quantitative Approaches in History

Spring term. Credit four hours. S. L. Kaplan and J. H. Silbey.

An intensive examination of recent applications of quantitative techniques to specific problems of social and political history. The course will include a laboratory experience involving some individual computer-assisted research. The aim of the course is not to develop statistical expertise but rather to explore new directions in historical studies.

360 Warfare in Premodern Societies

Spring term. Four hours credit. C. A. Peterson.

An examination of the modes of warfare characteristic of selected societies and periods from early times up to the eighteenth century. Warfare is placed in its specific social context and the role of the military component in each society under discussion is assessed. Both Asia and the West provide subjects for study.

[405 Population and History S. L. Kaplan. Not offered 1975-76.]

601 A Sociology of History Fall term. Credit four hours. A seminar open to students who have taken at least six hours of history above the 300 level. E. W. Fox.

The course will begin with the introduction of a system of sociological analysis and its applicability to selected periods and areas of Western history. This will be followed by the presentation of papers by members of the class, testing the proposed method in their special field of interest and competence.

703-704 Supervised Reading Throughout the year. Credit four hours a term. For graduate students only. Staff.

Honors Courses

400 Honors Proseminar Fall or spring term.

Credit four hours. Open only to juniors who have been accepted by the Department as candidates for honors in history. Fall term, P. Benedict; spring term, D. LaCapra.

An introduction to historical writing and modes of research, emphasizing the possibilities and limitations of historical inquiry.

401 Honors Guidance Either term. Credit four hours. Prerequisite: History 400.

History of Art

S. J. O'Connor, chairman; T. M. Brown, R. G. Calkins, E. G. Dotson, J. V. Falkenheim, H. P. Kahn, T. W. Leavitt, A. Ramage, A. S. Roe, J. F. Scott, M. W. Young

Students who wish to major in the history of art should plan to have completed two courses in the Department of the History of Art by the end of their sophomore year. Students who have taken only one course may petition the chairman to major in the Department if that course is at the 200 level or above and is completed with a grade of C or better. Students should also have completed the distribution requirements, but exceptions will be considered upon petition to the department chairman at the time of application to the major.

In their junior and senior years, majors will work closely with their major advisers to determine acceptable programs of courses in the major field. Normally the program will include at least thirty additional hours of courses, of which twenty-four should be at the 300 or 400 level (chosen from those listed below) and a minimum of two additional courses in the Department or a related area approved by the major adviser. Courses at the 200 or 300 level taken in the Department during the freshman or sophomore years may be counted toward the major, providing such courses are in addition to the two courses offered in satisfaction of the prerequisite to the major. Majors are encouraged to take studio courses in painting and sculpture offered by the Department of Art in the College of Architecture, Art, and Planning; but such courses will be considered electives and may not count toward the basic thirty hours normally required in the major.

The Honors Program

In order to become a candidate for the degree of Bachelor of Arts with honors in the history of art, a student must have a cumulative average of B for all courses in the Department of the History of Art. Admission into the Program requires the consent of the department chairman during the second term of the

student's junior year. In the senior year the honors candidate will include among the regular requirements Art History 493-494, involving the preparation of a senior thesis under faculty supervision.

Distribution Requirement

The distribution requirement in expressive arts is satisfied by a combination of any two History of Art courses at the 200 level or above, or Archaeology 100 and one of the History of Art courses listed under the Archaeology Concentration on p. 29.

Freshman Seminars

103 Freshman Seminar in Visual Analysis

Either term. Credit three hours. Offered in the Freshman Seminars Program and as a freshman elective but not in satisfaction of the distribution requirement. Staff.

Concentrating on man-made objects, ranging from letterheads to cities and including conventional categories of painting, sculpture, and architecture. Intended as an introduction to the problems of perceiving the work of art and articulating the visual experience. Students meet in groups of twenty to discuss these topics—through reproductions, concrete objects, and accessible environments—in order to involve the participant in the analysis of the visual experience. Readings and a number of short papers will be assigned throughout the term, but emphasis is placed on classroom participation. Conceived as a supplement, not a prerequisite, to art history, the course does not approach art in a conventional historical manner, but rather in terms of the information intrinsic to the object itself.

104 How to Look at Works of Art

Either term. Credit three hours. Offered in the Freshman Seminars Program and as a freshman elective but not in satisfaction of the distribution requirement. Fall term, H. P. Kahn. Spring term, J. V. Falkenheim.

A detailed examination of several major works of art, primarily paintings, including the historical, biographic, and artistic nature of the works studied.

105 Roman Cities, People, and Monuments

Spring term. Credit three hours. Offered in the Freshman Seminars Program and as a freshman elective but not in satisfaction of the distribution requirement. A. Ramage.

Discussion of topics relating to the art and culture of Rome and its empire. Readings will be selections from Roman authors and modern studies of particular works of sculpture or architecture. Occasional lectures and several short papers.

Introductory Courses

The following courses are designed to introduce students to the processes and methods of art history by means of a systematic examination of a closely related body of visual material. The courses need not

be taken in any particular sequence. One 200-level course is normally the prerequisite to courses at the 300 level.

210 Introduction to Art History: Beginnings of Civilization

Spring term. Credit three hours.

J. F. Scott.

A comparative examination of the roles and the forms of art in the emergent civilizations of the ancient Near East and pre-Columbian America. Concentration will be on the leading arts, including architecture, in Egypt, Mesopotamia, Mesoamerica, and the Andes.

[215 Introduction to Art History: Art of the Classical World

Spring term. Credit three hours. Not offered 1975-76.]

Introduction to Classical Archaeology (Classics 220)

Minoan-Mycenaean Art and Archaeology (Classics 221)

230 Introduction to Art History: Medieval Art

Spring term. Credit three hours. R. G. Calkins.

Not a survey, but a study of representative examples of art and architecture of the Middle Ages.

240 Introduction to Art History: The Renaissance

Spring term. Credit three hours.

E. G. Dotson.

A study of selected works of architecture, sculpture, and painting of the fifteenth and sixteenth centuries in Italy and northern Europe and of selected major artists, notably Donatello, Jan van Eyck, Michelangelo, and Bruegel. Emphasis will be on the critical evaluation of various approaches to understanding the work of art and the Renaissance period. The function of artistic tradition and the meaning of artistic style; individuality in artistic invention; the impact of various forms of patronage; and relations of social, intellectual, and artistic currents of the Renaissance will be among the subjects discussed.

[250 Introduction to Art History: The Baroque Era

Spring term. Credit three hours. Not offered 1975-76.]

260 Introduction to Art History: Nineteenth-Century Art

Fall term. Credit three hours.

J. V. Falkenheim.

The development of nineteenth-century European painting from its origins in the classical tradition of Western art to the emergence of modern art. The emphasis will be on French painting from David to impressionism, with special attention given to the historical context in which the works of art were created and to the conventions and visual vocabulary used by the artists.

[270 Introduction to Art History: American Art of the Colonial Period and of the Nineteenth Century

Fall term. Credit three hours. Not offered 1975-76.]

280 Introduction to Art History: Asian Traditions

Fall term. Credit three hours. S. J. O'Connor.
Designed to introduce students to the varied responses of the Asian artist in differing times and geographical contexts, the course will include material on the Buddhist tradition, the Hindu temple, miniature paintings, Chinese Bronze Age art, and the development of Chinese landscape painting.

290 Introduction to Art History: Architecture and Environment

Fall term. Credit three hours.
T. M. Brown.
An investigation of one of the oldest, most pervasive, and most influential facets of human environment, with emphasis on the social aspects of architecture in the nineteenth and twentieth centuries. After a lengthy introduction to architectural elements—space, form, function, structure—the course will concentrate on the thoughts, attitudes, and forms that have influenced the physical shape of the modern world. Extensive reading will be offered in a variety of social, environmental, and esthetic works such as Le Corbusier, *Towards a New Architecture* (1923); Huxley, *Brave New World* (1932); Hall, *The Hidden Dimension*.

Intermediate Courses

The following courses are intended primarily for upperclassmen and qualified sophomores, and, except as noted, all require as a general prerequisite one course at the 200 level. Some of the courses have discussion sections.

314 Art in Primitive Societies

Fall term. Credit four hours. J. F. Scott.
A topical survey of the theories of the evolution and functions of traditional forms of tribal arts in Africa, the Pacific, and North America. Examination of masks and figures in both village and courtly societies.

315 Pre-Columbian Art

Spring term. Credit four hours. Not offered 1975–76.]

316 Art of the Ancient Near East

Spring term. Credit four hours. Not offered 1975–76.]

The Archaeology of Classical Greece (Classics 320)

322 Arts of the Roman Empire Spring term. Credit four hours. A. Ramage.
The visual arts in the service of the first world state. The course starts with the Etruscan and Republican periods and ends with the conflict of styles in the early Christian period.

323 Painting in the Greek and Roman World

Fall term. Credit four hours. A. Ramage.
Vase painting, wall painting, and mosaics from the ancient Mediterranean world will be studied in conjunction with the testimony of Greek and Roman sources. An attempt will be made to grasp the concerns and achievements of the Classical painters.

[324 Architecture in the Greek and Roman World Spring term. Credit four hours. A. Ramage. Not offered 1975–76.]

[332 Architecture of the Middle Ages Fall term. Credit four hours. Not offered 1975–76.]

333 Early Medieval Art and Architecture

Fall term. Credit four hours. R. G. Calkins.
Sculpture, painting, and architecture in the periods from the late antique through the Carolingian era (A.D. 300–900). The evolution of the Byzantine tradition will also be considered.

[334 Romanesque Art and Architecture

Fall term. Credit four hours. Not offered 1975–76.]

[335 Gothic Art and Architecture

Spring term. Credit four hours. Not offered 1975–76.]

336 Italian Medieval Art and Architecture

Fall term. Credit four hours. R. G. Calkins.
Sculpture, painting, and architecture in Italy from the eleventh through the fourteenth centuries, including the works of Duccio, Giotto, and the Lorenzetti.

341 Flemish Painting

Spring term. Credit four hours. R. G. Calkins.
Painting in the transitional period from the late Gothic to the Renaissance in the Lowlands. The works of the Master of Flemalle, Jan van Eyck, and Jerome Bosch will be considered.

[342 Medieval and Renaissance German Art

Spring term. Credit four hours. Not offered 1975–76.]

[343 Italian Renaissance Sculpture

Spring term. Credit four hours. Not offered 1975–76.]

[344 Italian Renaissance Art of the Sixteenth Century

Fall term. Credit four hours. Not offered 1975–76.]

345 Women in Western Art (also Women's Studies 345)

Fall term. Credit four hours. Prerequisite: History of Art 103 or equivalent. L. Benson.
The course will focus on a selection of important types of images of women commonly used in Western art (e.g., mother and child, madonna and child, "Venus," "Eve," "Liberty," etc.). The images will be analyzed and discussed in relationship to myth, social milieu, visual types available to the artist at the time of the work, and the operation of the image in the society for which it existed.

The Renaissance (Architecture 346)**[349 Italian Renaissance Architecture**

Spring term. Credit four hours. Not offered 1975–76.]

[355 French Art of the Sixteenth and Seventeenth Centuries Fall term. Credit four hours. Not offered 1975–76.]

357 European Art of the Eighteenth Century

Fall term. Credit four hours. E. G. Dotson.

A study of tradition, change, and revolution in the architecture, painting, sculpture, and minor arts of eighteenth-century Europe. The course will be organized around a selected sequence of European centers where the various eighteenth-century styles underwent an especially brilliant, original, or influential development and an effort will be made to relate these developments to the cultural background of the period of these centers. Among the subjects to be discussed will be the contrasting late baroque styles of northern and southern Italy, Austria, the south German states, and England; the court art of France from the late years of Louis XIV until the French Revolution; the range of influences on art and art theory emanating from Rome; the art of revolutionary France; pre-Romanticism in England and Spain.

363 Modern Painting Spring term. Credit four hours. Prerequisite: History of Art 260 or equivalent background in nineteenth-century art. J. V. Falkenheim.

A study of major developments in European and American painting during the twentieth century. The emphasis will be on movements, such as cubism, surrealism, and abstract expressionism, that questioned and attempted to redefine the means and meaning of visual communication.

367 Modern Architecture Fall term. Credit four hours. It is assumed that students will have some background in nineteenth- and twentieth-century history, literature, and art. Not offered 1975-76.]

374 American and European Interior Design and Decorative Arts of the Renaissance and Early Nineteenth Century Spring term. Credit four hours. Not offered 1975-76.]

378 American Architecture, the City, and American Thought: 1850-1950 Spring term. Credit four hours. Prerequisite: History of Art 290; a background in nineteenth- and twentieth-century American history and literature is presupposed. Course limited to thirty students. T. M. Brown.

With emphasis on the ethical basis of design, American architecture and urbanism approached as cultural history. Weekly reading will be required from works of Thoreau, Greenough, Sullivan, and Wright and from such secondary sources as Leo Marx's *The Machine in the Garden*.

383 Art of China Fall term. Credit four hours. M. W. Young.

The course will begin with an examination of the archaeological background of Chinese civilization and will then analyze the impact of Taoism, Confucianism, and finally Buddhism in shaping the aesthetic expression of China. The second half of the course will focus on the arts of painting and ceramics, beginning with a discussion of landscape painting in the tenth century and ending with an examination of the porcelains that brought China into contact with the West in the seventeenth and eighteenth centuries. Intended as a general introduction to Chinese art, culture, and history, no previous experience with China or with art history is required.

There is a term paper option in place of the final examination.

[384 Art of Japan Spring term. Credit four hours. Not offered 1975-76.]

[385 Chinese Painting Spring term. Credit four hours. Not offered 1975-76.]

386 Studies in Indian and Southeast Asian Art

Spring term. Credit four hours. S. J. O'Connor. The course will focus on major developments in Indian art: the Indus civilization, early Buddhist painting and sculpture, the Hindu temple and Rajput miniature painting. Some monuments in Southeast Asia will also be examined with reference to the assimilation and adaptation of Indian traditions in the art of that region.

392 Latin American Art Spring term. Credit four hours. J. F. Scott. Beginning with the Spanish conquests and settlement, this course will survey colonial and modern art and architecture, concentrating on Mexico and Peru. Background lectures on European movements reflected in Latin America will alternate with group examination of unique local styles and syntheses.

Seminars

Courses at the 400 level are open to upperclassmen and majors; seminars at the 500 level are for qualified upperclassmen and graduate students. All seminars involve the writing and presentation of research papers. Enrollment is limited, and consent of the department or instructor is normally required. The 500-level courses with announced topics may be repeated.

401 Independent Study Either term. Credit two hours. Prerequisite: consent of a Department member.

Individual investigation and discussion of special topics not covered in the regular course offerings, by arrangement with various members of the Department. May be repeated.

402 Independent Study Either term. Credit four hours. Prerequisite: consent of a Department member.

Individual investigation and discussion of special topics not covered in the regular course offerings, by arrangement with various members of the Department. May be repeated.

405 Original Works of Art Fall term. Credit four hours. Prerequisites: at least four courses in the history of art and consent of instructor. T. W. Leavitt. Designed to acquaint the advanced student with original works of art. The course meetings will be in the Herbert F. Johnson Museum and will consider a wide group of materials from the point of view of connoisseurship and quality. Lectures, discussions, reports.

406 Museum Collections and the Public

Fall term. Credit two hours. Prerequisite: consent of instructor. S-U grades only. T. W. Leavitt and staff. Intended for history of art majors and museum guides, this course will concern itself with the use of museum collections for the general public. Students will be involved with the various processes which lead to teaching directly with the art object. The course will include some aspects of practical museum operation, but the focus will be on problems of organizing exhibitions and conducting tours. Weekly discussions, paper presentations, and public talks.

411 Techniques and Materials: Painting

Fall term. Credit four hours. Prerequisites: at least four courses in the history of art and consent of instructor. History of art majors given first preference. Limited to twenty students. H. P. Kahn. The techniques of painting in their historical and formal contexts. Studies and laboratory exercises in traditional materials, conservation techniques, experiments.

[412 Techniques and Materials: Graphics

Spring term. Credit four hours. Prerequisites: at least four courses in the history of art and consent of instructor. History of art majors given first preference. Limited to twenty students. Not offered 1975-76.]

413 Books, Prints, and the Graphic Image

Fall term. Credit four hours. Prerequisites: at least four courses in the history of art and consent of instructor. History of art majors given first preference. Limited to twenty students. H. P. Kahn. The history and formal evolution of letters, types, illustrations, books, and publications. Study and practice of calligraphy, typography, and illustration. Theories of design and message production.

Seminar on Sixteenth-Century Imagery (Society for the Humanities 414)**Seminar on Classicism in the Visual Arts (Society for the Humanities 415)****415 Seminar in Pre-Columbian Art and Archaeology**

Fall term. Credit four hours. J. F. Scott. Topic for 1975-76: Ecuador, early leader and subsequent crossroads of American Indian civilizations. Students' reports may focus on the fine ceramics in the Johnson Museum.

[421 The History of Art Criticism Fall term. Credit four hours. Prerequisites: History of Art 260, 363, and some background in modern French or English literature or one other course in the history of art and consent of instructor. Enrollment limited to fifteen students. Not offered 1975-76.]

[431 Greek Sculpture Spring term. Credit four hours. Prerequisite: History of Art 215 or consent of instructor. Not offered 1975-76.]

448 Mannerism and the Early Baroque in Italy

Spring term. Credit four hours. Prerequisite: consent

of the instructor. E. G. Dotson.

Florentine art about 1520-1620: Michaelangelo, his contemporaries, and his successors.

[449 Studies in Italian Renaissance Art

Fall term. Credit four hours. Prerequisite: consent of instructor. Enrollment limited to fifteen students. Not offered 1975-76.]

[452 Studies in English Art Fall term. Credit four hours. Prerequisite: consent of instructor. Enrollment limited to fifteen students. Not offered 1975-76.]

[458 Classic and Romantic Art Spring term. Credit four hours. Prerequisite: consent of instructor. Not offered 1975-76.]

462 Art and Technology: 1850-1950 Fall term. Credit four hours. Prerequisites: History of Art 260, 290, 363, or equivalents, or consent of instructor. Enrollment limited to thirty students. T. M. Brown. Approached topically and not as a survey, an examination of the issues of painting, sculpture, photography, architecture, and industrial design within the context of a mass-technological world. The changing conditions, forms, and content of the visual arts, within the framework of topics such as "changing definitions of art," and the "Machine Esthetic." Weekly reading, including works such as Gropius' *The New Architecture and the Bauhaus* (1934) and Elting Morison's *Men, Machines, and Modern Times* will be required.

[472 Romanticism in Painting Spring term. Credit four hours. Prerequisite: consent of the instructor. Not offered 1975-76.]

481 Masters of Japanese Prints Fall term. Credit four hours. Prerequisites: History of Art 384 and consent of instructor. M. W. Young. The course will be organized essentially as a reading course and will permit advanced students to prepare a term paper under close supervision. The Japanese print collection of the Johnson Museum will serve as the general focus for the course.

[482 Ceramic Art of Asia Spring term. Credit four hours. Prerequisite: History of Art 280, 383, 384 or consent of instructor. Not offered 1975-76.]

[483 Studies in Buddhist Art Spring term. Credit four hours. Prerequisite: consent of instructor. Not offered 1975-76.]

[488 Traditional Arts in Southeast Asia

Spring term. Credit four hours. Prerequisite: consent of instructor. Not offered 1975-76.]

493 Honors Work Either term. Credit four hours. Intended for senior art history majors who have been admitted to the Honors Program. S-U grades only. Staff. Basic methods of art historical research will be discussed and individual readings assigned leading to the selection of an appropriate thesis topic.

494 Honors Work Either term. Credit four hours. Prerequisite: History of Art 493. Staff. The student, under faculty direction, will prepare a senior thesis.

[510 Seminar in Latin American Art Fall term. Credit four hours. Not offered 1975-76.]

[531 Problems in Medieval Art and Architecture Spring term. Credit four hours. Prerequisite: consent of the instructor. Enrollment limited to fifteen students. Not offered 1975-76.]

564 Studies in Modern Art Fall term. Credit four hours. Prerequisite: consent of instructor. Enrollment limited to fifteen students. J. V. Falkenheim.

565 Problems in Modern Art and Architecture Spring term. Credit four hours. Prerequisite: consent of instructor. Enrollment limited to fifteen students. T. M. Brown.

[580 Problems in Asian Art Fall term. Credit four hours. Not offered 1975-76.]

[584 Problems in Chinese Art Spring term. Credit four hours. Prerequisite: consent of instructor. Not offered 1975-76.]

[586 Studies in Chinese Painting Spring term. Credit four hours. Prerequisites: History of Art 383, 385, and consent of instructor. Not offered 1975-76.]

591-592 Supervised Reading 591 fall term only; 592 spring term only. Credit four hours, but may be taken more than once in the same term. For graduate students only.

595 Methodology Seminar Spring term. Credit four hours. Prerequisite: consent of instructor. Required of all graduate students. S-U grades only. R. G. Calkins.

596 Problems of Art Criticism Spring term. Credit four hours. Prerequisite: consent of instructor. S. J. O'Connor.

Archaeology

Students who are interested in archaeology are directed especially to History of Art 315, 415, 482, and 488. The following specialized courses treat specific excavational material and procedures and are open to students who have some background in ancient history, ancient languages, anthropology, or art history.

[423 Ceramics Fall term. Credit four hours. Prerequisite: consent of instructor. Not offered 1975-76.]

424 Numismatics Fall term. Credit four hours. Prerequisite: consent of instructor. A. Ramage. The history and development of Greek and Roman coins; their value for art and history, their epigraphical interest, problems of attribution. Work with actual examples. Lectures, discussions, reports.

Mathematics

O. S. Rothaus, chairman; I. Berstein, J. H. Bramble, K. S. Brown, S. U. Chase, M. M. Cohen, R. Connelly, R. K. Dennis, C. J. Earle, A. Edmonds, R. H. Farrell, W. H. J. Fuchs, S. S. Gelbart, S. Goldstein, L. Gross, R. S. Hamilton, D. W. Henderson, P. J. Kahn, H. Kesten, J. C. Kiefer, A. W. Knapp, D. Kubert, S. Lichtenbaum, G. R. Livesay, M. D. Morley, A. Nerode, L. E. Payne, R. A. Platek, C. Queen, A. Z. Rosenberg, A. H. Schatz, S. Sen, R. Shore, D. A. Singer, A. Sommese, F. L. Spitzer, R. S. Strichartz, M. E. Sweedler, L. B. Wahlbin, H. C. Wang, W. C. Waterhouse, J. E. West, A. C. Zitronenbaum.

Members of the Department are available to discuss with students the appropriate courses for their levels of ability and interest, and students are urged to avail themselves of this help.

Much time may be saved by a careful reading of this *Announcement*.

Students wishing to take any of the courses numbered 300 or above are invited to confer, before registering, with the instructor concerned.

Subject matter of courses indicated by the second digit thus: 0, general; 1, 2, analysis; 3, 4, algebra; 5, 6, topology and geometry; 7, probability and statistics; 8, logic; 9, other. The level of a course is indicated by the first digit of the course number: roughly 1, 2, indicate underclass courses; 3, 4, upperclass courses; 5, 6, graduate courses.

In all 600-level courses, the final grades will be only S or U with the exception of 690.

Advanced Placement

Secondary school students are strongly urged to take one of the two Advanced Placement Examinations of the College Entrance Examination Board in their senior year. In addition, there will be a placement examination in mathematics offered at Cornell just before the beginning of classes in the fall which some students should take. It is most important that anyone with any knowledge of calculus read carefully the relevant portion of the section on Advanced Placement at the beginning of this *Announcement*.

Major Options

There are three options available for students intending to major in mathematics; the respective requirements are listed below. In each case, students will be accepted as majors by the Department only if they can reasonably be expected to have satisfied the prerequisite to their options by the end of the term in which they apply for admission to the major. Acceptance is contingent upon actual fulfillment of the prerequisites.

Option I

This option is appropriate for students who contem-

plate a Ph.D. in pure mathematics or applied mathematics. Prerequisite: course 221-222. Requirements: (a) 411-412, (b) 431-432, (c) at least twelve additional hours of mathematics courses numbered 300 or above, other than 303, 315, 370; Computer Science 621, 622 may be included in these twelve hours, (d) one course from outside mathematics with serious mathematical content and dealing with scientific matters.

The Department strongly recommends that all prospective Option 1 majors take Physics 112 and 213 or 207-208 in their freshman year. Students should also seriously consider the offerings in differential equations, probability and statistics, and numerical analysis.

Option II

This option is appropriate for those mainly interested in the application of mathematics and who do not contemplate an eventual Ph.D. in mathematics or applied mathematics. It will not prepare a student for work at the Ph.D. level in the theoretical side of even such applied areas as statistics, numerical analysis, etc. Prerequisites: (a) 221-222; (b) Physics 207-208 or 112 and 213. Requirements: (a) 421, 422; (b) 431, and either 322 or 432; (c) Computer Science 211 (with Computer Science 100 for two hours credit as prerequisite) (d) an approved eight-hour sequence in statistics, numerical analysis (in the Department of Computer Science), or differential equations; (e) at least eight additional hours of courses numbered 300 or above in mathematics, computer science, or a physical science not including Mathematics 303, 315, 370, nor Computer Science 100.

An alternate version with emphasis on computer science. Prerequisites: (a) 221-222; (b) Computer Science 100 plus one of 102, 104 or 106. Requirements: (a) 421-422 or 411 plus one additional course approved by the Mathematics Department; (b) 431 and either 332 or 432; (c) Computer Science 314, 410, and one of the following: 321-322 and 481, 481-482 and 321, 611-612 and 321 or 481.

Alternate version with emphasis on operations research. Prerequisites: (a) 221-222; (b) Computer Science 100 plus one of 102, 104, or 106. Requirements: (a) 421-422 or 411 plus one additional course approved by the Mathematics Department; (b) 431 and either 332 or 432; (c) two of IOA 335; IOE 734; IOE 637; (d) IOC 320 and Mathematics 371; (e) IOC 321 or IOC 361. (Operations research courses are offered by the College of Engineering.)

Option III

This option is for prospective secondary school teachers and others who wish to major in mathematics but do not intend to become professional mathematicians, e.g., premedical and prelaw students. It does not prepare a student for graduate work in mathematics. Candidates for student teaching must sign up with Prof. A. Z. Rosenberg at the latest by the second term of their junior year. (Because of the changing certification procedures in New York State, it is not at all clear that the Teacher

Certification Program in Mathematics will continue beyond 1977.) Prerequisites: (a) 222 or (a') 214-216-218 (formerly 213) and either 331 or 332; (b) Physics 101-102, or 207-208. Mathematics requirements: (a) 311 and 315; (b) 331, if 221 has not been taken; 332; (c) 451; (d) Computer Science 100 and one of 101, 102, 104 or 106 and either (e) 452 and four additional hours of mathematics courses numbered above 300 plus Mathematics 130 and 140 and one course in education (Mathematics 370 is recommended but not required) or (e') 312 or 452, and eight additional hours of mathematics courses numbered above 300.

The Honors Program

Honors in mathematics will be awarded on the basis of a high level of performance in departmental courses. Further requirements, if any, will be announced during the year.

Distribution Requirement

See p. 12, Random Distribution, in beginning of this *Announcement*.

Graduate Courses

For complete descriptions of courses numbered 500 and above, see the *Announcement of the Graduate School; Course Descriptions*. If a course is not included there, consult the graduate faculty representative.

General Courses

Students wanting a general introductory mathematics course are advised to take 107-108 (see description below).

130 Practice Teaching in Mathematics Either term. Credit nine hours. S-U grades only. Students will not be permitted to take more than two additional courses while they are teaching.

131 Practice Teaching in Mathematics for MAT Candidates Credit nine hours.

140 Methods of Teaching Mathematics

Fall term. Credit three hours. Open only to students enrolled concurrently in Mathematics 130 or 131, or students who will take 130 or 131 in the spring.

L. J. Holman.
A discussion of methods of teaching mathematics at the high school level.

303 History of Mathematics Spring term. Credit four hours. Prerequisite: one term of calculus. Topics in mathematics from antiquity to the present.

401 Honors Seminar Spring term. Credit four hours. Prerequisite: consent of instructor. Students will discuss selected topics under the guidance of one or more members of the staff.

690 Supervised Reading and Research Variable credit up to six hours each term.

Basic Sequences

College algebra and trigonometry are taught in Mathematics 109 and also in Orientation 5 and 115, offered by the College of Agriculture and Life Science. Mathematics 109 is designed to prepare students for Mathematics 108 or 111.

There are two sequences in elementary calculus and several special purpose sequences. The two elementary calculus sequences have 111 in common, for which, however, 191 may be substituted. The upper sequence continues with 122, 221, and 222, while the standard sequence continues with 112 and the package of one-credit courses 214–215–216–218. 214–216–218 replaces 213. Students who desire to take advanced courses in theoretical mathematics should take the upper sequence, which is prerequisite to most of them. A student whose performance in 112 has been exceptional may be admitted into 221. A student in the standard sequence who wants the linear algebra material of 221 may obtain it in 331.

The special purpose sequences are 105–106, 107–108, and 191–192–293–294. The latter is primarily for engineers. Note that there are honors versions of 191, 192, 293, and 294, namely, 193, 194, 295, and 296, respectively. Mathematics 107–108 is intended primarily for students in the more descriptive areas of the social sciences, and will normally be terminal. Mathematics 107 treats finite mathematics, and 108 gives an introduction to calculus; 108 may be taken without 107, and is preferable to 111 for students desiring only one semester of calculus. Mathematics 105–106 is similar to 107–108 but it presents mathematics from the point of view of the biologist.

Students who want a second semester of mathematics after Orientation 115 are advised to take 107 or 105, or, if they need a calculus course, 111. However, they cannot receive credit for both Orientation 115 and 108. Students interested in starting with two semesters of calculus should take Mathematics 111–112 or 111–122. Students who want two semesters of calculus can also follow 106 with 112 or 122; or 108 with 112 if they have done exceptionally well in 108. In exceptional circumstances they may follow 106 with 214 or 218, providing they make up some missing material on their own. Students wishing to switch between sequences may take 105 and 111, or 107 and 111. Warning: 105–111 may not satisfy the requirements for a biology major.

Students cannot receive credit for both 105 and 107, nor for both 108 and Orientation 115. Nor can they receive credit for more than one of 103, 106, 108, 111, 191, 193. Nor can they receive credit for more than one of 110, 112, 122, 192, 194. Nor can they receive credit for both 192 and 216–218.

[103 Mathematics for Architects Not offered 1975–76.]

105 Finite Mathematics for Biologists (Also Engineering IAK 105) Fall term. Credit three hours. Prerequisite: three years of high school mathematics including trigonometry. Preliminary examinations will be held in the evening.

Models, analytic geometry, difference equations, elementary linear algebra, probability. Examples from biology will be used throughout the course.

106 Calculus for Biologists (Also Engineering IAK 106) Spring term. Credit three hours. Prerequisite: Mathematics 105 or three years of high school mathematics, including trigonometry and analytic geometry. Preliminary examinations will be held in the evening.

Introduction to differential and integral calculus, partial derivatives, elementary differential equations. Examples from biology will be used throughout the course.

107 Finite Mathematics for the Biological and Social Sciences Either term. Credit three hours. Prerequisite: three years of high school mathematics, including trigonometry. Preliminary examinations will be held in the evening. Functions, enumeration, permutations and combinations, probability, vectors and matrices, Markov chains.

108 Calculus with Applications to the Biological and Social Sciences Either term. Credit three hours. Prerequisite: three years of high school mathematics including trigonometry and analytic geometry of the line and circle. Mathematics 107 is desirable, but not mandatory. Preliminary examinations will be held in the evening. Behavior of functions, introduction to differential and integral calculus, elementary differential equations.

109 Precalculus Mathematics Fall term. Three hours transcript credit; cannot be used for graduation. This course is designed to prepare students for Mathematics 111 or 108. Topics include a review of algebra, trigonometry, logarithms, and exponentials.

[110 Calculus Not offered 1975–76.]

111 Calculus Either term. Credit three hours. Prerequisite: Mathematics 109 or three years of high school mathematics including trigonometry. Preliminary examinations will be held in the evening. Plane analytic geometry, differentiation and integration of algebraic and trigonometric functions, applications of differentiation, logarithmic, and exponential functions.

112 Calculus Either term. Credit three hours. Prerequisites: Mathematics 106, 111 with a grade of C or better or exceptional performance in Mathematics 108. (Those who do extremely well in 111 should take 122 instead of 112.) Preliminary examinations will be held in the evening. Applications of integration, techniques of integration, infinite series, multiple integrals, brief introduction to partial derivatives.

214–215–216–218. Either term. Credit one hour each. Prerequisite: Mathematics 112 or 122. These courses are taught as a unified package in the expected order 216–218–214–215 for three or four weeks each. Students may register for any subset of these courses in accordance with their interests and needs. However, 216–218 should not be taken after 192. If in doubt as to choices, they should consult with their adviser and the course instructor. (The three-credit group 214–216–218 is equivalent to the course previously offered as 213.) All students should attend the first lecture of the semester to learn the dates for each course, the examination dates, and the structure of the whole. Details and additional prerequisites follow.

214 Introduction to Differential Equations

Complex numbers and functions. Simple first and second order equations with applications.

215 Differential Equations Prerequisite: Mathematics 214.

Introduction to numerical methods of solution, systems of differential equations, elementary partial differential equations, and boundary value problems. Applications.

216 Vectors and Line Integrals Vectors, matrices, vector valued functions, line integrals.

218 Partial Derivatives and Extremal Problems

Prerequisite: Mathematics 216.
Partial derivatives, chain rule for functions of several variables, gradients, max-min problems in several variables, Lagrange multipliers.

201 Mathematics for Social Scientists Fall term. Credit four hours. An intensive course in mathematics for social scientists, especially suitable for graduate students. The elements of set theory, vectors and matrices, probability, and rudimentary calculus. Problems will be drawn from the social sciences.

122 Calculus Either term. Credit four hours. Prerequisite: performance at a high level in Mathematics 111 or consent of the Department. Differentiation and integration of elementary transcendental functions, the techniques of integration, applications, polar coordinates, vectors in the plane, and infinite series. The approach is more theoretical than in 112.

221 Calculus Either term. Credit four hours. Prerequisites: grade of B or better in Mathematics 112 and consent of instructor. Linear algebra and differential equations. Topics include vector algebra, linear transformations, matrices, linear differential equations.

222 Calculus Either term. Credit four hours. Prerequisite: Mathematics 221. Vector differential calculus, calculus of functions of several variables, multiple integrals.

191–193 Calculus for Engineers Either term. Credit four hours. Prerequisite: three years of high school mathematics, including trigonometry. 193 is an honors section that includes more theoretical material than 191 and is offered in the fall only. Preliminary examinations will be held in the evening. Plane analytic geometry, differential and integral calculus and applications.

192–194 Calculus for Engineers Either term. Credit four hours. Prerequisite: Mathematics 191 or 193. 194 is an honors section that includes more theoretical material than 192. It requires the recommendation of the Mathematics 191 lecturer to enter this course from 191. 194 is given in the spring term only. Preliminary examinations will be held in the evening. Transcendental functions, technique of integration and multiple integrals, vector calculus, analytic geometry in space, partial differentiation, applications.

293–295 Engineering Mathematics Either term. Credit four hours. Prerequisite: Mathematics 192 or 194. 295 is an honors section offered in the fall only. Preliminary examinations will be held in the evening. Vectors and matrices, first-order differential equations, infinite series, complex numbers, applications. Problems for programming and running on the automatic computer will be assigned, and students are expected to have a knowledge of computer programming equivalent to that taught in Engineering IBE 105. For more details about 295 see the *Engineering Announcement*.

294–296 Engineering Mathematics Either term. 294, credit three hours; 296, credit four hours. Prerequisite: Mathematics 293 or 295. 296 is an honors section and it requires the consent of the instructor to enter 296 from 293. Mathematics 296 is offered in the spring only. Preliminary examinations will be held in the evening. Linear differential equations, quadratic forms and eigenvalues, differential vector calculus, and applications. For more details about 296 see the *Engineering Announcement*.

Applied Mathematics and Differential Equations

[305 Mathematics in the Real World Spring term. Credit three hours. Prerequisite: Mathematics 222 or 294 or consent of instructor; coregistration in 331, 315, or 422 might be useful. Not offered 1975–76.]

315 Higher Calculus Spring term. Credit four hours. Prerequisite: Mathematics 213 or Mathematics 214–216–218. Intended for students who have had only three semesters of calculus. It does not prepare for 415–416 and will not meet the needs of those graduate students whose work requires really serious application of mathematical methods. Vector analysis. Elements of complex variables. Ordinary and partial differential equations. Fourier series. Spe-

cial functions. Laplace transforms. Emphasis on applications.

415-416 Mathematical Methods in Physics 415 fall term only; 416 spring term only. Credit four hours a term. Intended for graduate students in physics or related fields who have had a strong advanced calculus course and at least two years of general physics. The course goes very quickly, covering in two semesters slightly more than 421-422-423. A knowledge of the elements of the theory of matrices and complex variables will be assumed. Undergraduates will be admitted only with consent of the instructor. First term prerequisite to the second. Topics designed to give a working knowledge of the principal mathematical methods used in advanced physics. A brief discussion of some basic notions: metric space, vector space, linearity, continuity, integration. Generalized functions (Schwartz distributions). Fourier series and Fourier integrals. Saddle point method, Linear operators. Differential operators and integral operators, the equations and eigenvalue problems connected with them and the special functions arising from them. Elements of group theory. The rotation group and its representations.

421 Applicable Mathematics Either term. Credit four hours. Prerequisites: any of the following at a high level of performance: 222 or 294 or 213 and 331, or 214-216-218 and 331. Graduate students who need mathematics extensively in their work and who have had a solid advanced calculus course as undergraduates should take 415-416. If they have not had such an advanced calculus course they should take 421-422-423. If their preparation is still too weak for this, they should take all or part of 221-222, followed by 421-422-423. Theorems of Stokes, Green, Gauss, etc. Sequences and infinite series. Fourier series and orthogonal functions. Laplace transforms. Ordinary differential equations.

422 Applicable Mathematics Spring term. Credit four hours. Prerequisite: Mathematics 421. Complex variables. Generalized functions. Fourier transforms. Partial differential equations.

423 Applicable Mathematics Fall term. Credit four hours. Prerequisite: Mathematics 421. Linear operators and integral equations. Calculus of variations. Application to eigenvalue problems. Green's function, and treatment of special problems of mathematical physics.

[427 Introduction to Ordinary Differential Equations. Fall term. Credit four hours. Prerequisite: Mathematics 222 or 294 or consent of instructor. Not offered 1975-76.]

428 Introduction to Partial Differential Equations Spring term. Credit four hours. Prerequisite: Mathematics 222 or 294 or consent of instructor. Laplace, heat, and wave equations. Topics include maximum principles, existence, uniqueness, stability. Fourier series methods, approximation methods, and applications.

Analysis

311-312 Elementary Analysis 311 fall term; 312 in spring term of odd numbered years only. Credit four hours a term. Prerequisites: Mathematics 213 or 214-216-218. Mathematics 311 and a knowledge of linear algebra as taught in Mathematics 331 are required for 312. A student may not receive credit for both 311-312 and 411-412. 312 not offered in 1975-76.

A careful study of the topology of the real line. Continuous functions of one real variable. Differentiation and integration of such functions. Series and sequences. Functions of several variables. The material of 311-312 is similar to that of 411-412 below, but is taught at a more elementary level and at a slower pace.

411-412 Introduction to Analysis 411 fall term only; 412 spring term only. Credit four hours a term. Prerequisite: Mathematics 222.

An introduction to the theory of functions of real variables, stressing rigorous logical development of the subject rather than technique of applications. Topics include metric spaces, the real number system, continuous and differentiable functions, integration, convergence and approximation theorems. Fourier series, calculus in several variables and differential forms. Students needing measure theory and Lebesgue integration for advanced probability courses such as Mathematics 571 should take 413-414 or arrange to audit the first few weeks of 521.

413-414 Introduction to Analysis 413 fall term only; 414 spring term only. Credit four hours a term. Prerequisite: Mathematics 222. Honors section of 411-412.

Course will also cover parts of measure theory and Lebesgue integration.

418 Introduction to the Theory of Functions of One Complex Variable

Spring term. Credit four hours. Prerequisite: Mathematics 222 or 312. A rigorous introduction to complex variable theory. Intended mainly for undergraduates and for graduate students outside mathematics; graduate students in mathematics desiring a first course in complex variable should take 511-512. Complex numbers. Differential and integral calculus for functions of a complex variable including Cauchy's theorem and the calculus of residues. Elements of conformal mapping. Elements of several complex variables.

Algebra

331 Linear Algebra Fall term. Credit four hours. Prerequisite: one year of calculus. A student may not receive credit for both Mathematics 221 and 331. Vectors, matrices, and linear transformations, affine and Euclidean spaces, transformation of matrices, and eigenvalues.

332 Algebra and Number Theory Spring term. Credit four hours. Prerequisite: one year of calculus. Commutative rings with unity, fields, and finite

groups. Motivations and examples are mostly derived from arithmetical problems on the integers or congruence classes of integers. Course 332 will not serve as a prerequisite for courses numbered 500 or higher.

431-433 Introduction to Algebra Fall term. Credit four hours. Prerequisite: Mathematics 221 or 331. 433 is an honors section which will be more theoretical and rigorous than 431 and will include additional material such as multilinear and exterior algebra. An introduction to linear algebra, including the study of vector spaces, linear transformation, matrices, and systems of linear equations; quadratic forms and inner product spaces; canonical forms for various classes of matrices and linear transformations; determinants.

432-434 Introduction to Algebra Spring term. Credit four hours. Prerequisite: Mathematics 221 or 331. 434 is an honors section that will be more theoretical and rigorous than 432 and will include additional material such as the structure of finitely generated modules over a principal ideal domain with applications to canonical forms of matrices. An introduction to various topics in abstract algebra, including groups, rings, fields, factorization of polynomials and integers, congruences, and the structure of finitely generated abelian groups.

Geometry and Topology

451-452 Classical Geometries 451 fall term only; 452 spring term only. Credit four hours a term. Prerequisite: Mathematics 221 or 331 or 431, which may be taken concurrently. First term prerequisite to the second. Axiomatic methods in geometry. Foundations of Euclidean geometry. Non-Euclidean geometry, projective geometry, and other geometric theories.

453-454 Introduction to Topology and Geometry 453 fall term only; 454 spring term only. Credit four hours a term. Prerequisites: Mathematics 412 and 432, or consent of instructor. 453: basic point set topology, connectedness, compactness, metric spaces, fundamental group. Application of these concepts to surfaces such as the torus, the Klein bottle, the Moebius band. 454: classical differential geometry of curves and surfaces in three dimensional space.

Probability and Statistics

370 Elementary Statistics Spring term. Credit four hours. A terminal course for those who will take no further work in this area. 370 does not prepare for 472. Prerequisite: Mathematics 112, 122, or 192; or 106 or 108 with consent of instructor. Preliminary examinations will be held in the evening. Topics in probability that are essential to an understanding of statistics; introduction to the principles underlying modern statistical inference and the rationale underlying choice of statistical methods in various situations.

471 (371) Basic Probability Fall term. Credit four hours. Can serve as a terminal course in basic probability but is primarily intended for those who will continue with 472. Prerequisite: Mathematics 112 or 222. Preliminary examinations will be held in the evening.

Topics covered include combinatorics, important probability laws, expectations, moments, moment generating functions, limit theorems. Emphasis is on diverse applications and on development of use in statistical applications. See also the description of 571.

472 Statistics Spring term. Credit four hours. Prerequisite: Mathematics 471 and knowledge of linear algebra such as taught in 221. Preliminary examinations will be held in the evening. Classical and recently developed statistical procedures are discussed in a framework which emphasizes the basic principles of statistical inference and the rationale underlying the choice of these procedures in various settings. These settings include problems of estimation, hypothesis testing, large sample theory.

473 Further Topics in Statistics Fall term. Credit four hours. Prerequisite: Mathematics 472 or 574. More detailed discussion of some of the topics not covered at length in 472. Design and analysis of experiments. Multivariate analysis. Nonparametric inference; robustness. Sequential analysis. (For corresponding subject matter taught with more mathematical detail, see descriptions of 573, 674, 575, and 577.)

Mathematical Logic

381 Elementary Mathematical Logic Spring term. Credit four hours. Prerequisite: Mathematics 122. Propositional and predicate logic. Completeness and incompleteness theorems. Set theory.

Modern Languages, Literatures, and Linguistics

The Department of Modern Languages and Linguistics (G. B. Kelley, chairman) offers courses in linguistics, and elementary, intermediate, and advanced language courses although literature departments also offer some language courses. For course listings, see the separate language headings in this section.

For fulfillment of the language requirement for graduation and for attainment of Qualification see p. 11. S-U options as explained on p. 13 of this *Announcement* may be chosen for all courses offered by the Department except for German 101-102 and Burmese, Thai, and Vietnamese.

The Department of German Literature (S. L. Gilman, chairman) offers courses in German literature (listed under German below)

The Department of Romance Studies (P. E. Lewis, chairman) offers courses in French literature, Italian literature, and Spanish literature (listed under French, Italian, and Spanish below). In addition, the Department's program seeks to encourage study of the interactions of the Romance literatures among themselves and with other literatures, both in its course offerings and in opportunities for independent study. Each term one course will be offered in English which emphasizes comparative and methodological questions (for 1975-76 see Romance Studies 374, p. 121).

The Department of Russian Literature (P. J. Carden, Chairman) offers courses in Russian literature (listed under Russian below).

Courses Listed Elsewhere

Courses in Swahili are offered by the Africana Studies and Research Center (see Africana Studies, p. 159). Courses in Greek and Latin are offered by the Department of Classics (see Classics, p. 57). Courses in Akkadian, Arabic, Aramaic, and Hebrew are offered by the Department of Semitic Languages and Literatures (see Semitics, p. 147).

Teacher Preparation Programs

Cornell offers programs in French, German, Russian, and Spanish. These programs are open to undergraduates (leading to a provisional certification, valid for five years) and to graduate M.A.T. students (leading to permanent certification).

Interested students should consult Professor J. Béreaud, Romance Studies, preferably during their sophomore year, to plan their curriculum in time to fulfill all the required courses and their prerequisites.

Course Placement

See Advanced Placement, Modern Foreign Languages, p. 16.

Description of Elementary and Intermediate Language Courses

101-102 Language Course This is a semi-intensive six-credit hour per semester course that gives a thorough grounding in the language — listening, speaking, reading, and writing. It is conducted in small groups with opportunity for contact with native speakers of the language and laboratory work. This course is offered by the Department of Modern Languages and Linguistics in a wide variety of languages (see listings below).

131-132-133-134 Language Courses The aim of this three-credit hour per semester course primarily is to develop skill in reading, although some attention will be devoted to the spoken language, especially to listening comprehension. This course is offered by the Department of Modern Languages and Linguistics

in a variety of languages (see listings below). This course is not normally taken by those who wish to pursue further language and literature studies at the 200-level and above.

111-112 (Spanish only) An introductory, all-skills language course, with emphasis on the study of the language in its cultural context. Students read texts of literary and humanistic value as early as possible. Students who have completed 111 or 101 or who qualify for 102 are eligible for 112. (Offered by the Department of Romance Studies.)

105-106 (German only) This course is intended for students with no previous knowledge of German whose primary interest lies in developing a reading ability of German literary texts. The emphasis will be on reading and discussing texts of increasing difficulty. As the course progresses the students will be encouraged to develop an oral comprehension of the language as well. (Offered by the Department of German Literature.)

203-204 Intermediate Language Courses This course consists of guided conversation, composition, reading, pronunciation, and grammar review, with special attention to the development of accurate and idiomatic expression in the language. (Please note that students placed in the 200 level also have the option of taking courses in introductory literature; see separate listings under 200, 201, and 202 for descriptions of these courses, all of which may be taken concurrently with the 203-204 language courses described above. The introductory literature courses are offered by the respective literature departments and the 203-204 language courses by the Department of Modern Languages and Linguistics.)

Bulgarian

Listed under Russian, course 171-2-3-4, Elementary Course in Slavic Languages.

Burmese

R. B. Jones, Jr.

101-102 Basic Course 101 fall term only, 102 spring term only. Credit six hours a term. Prerequisite for 102 is 101 or equivalent. For course description see above.

201-202 Burmese Reading 201 fall term only; 202 spring term only. Credit three hours a term. Prerequisites: for 201, qualification in Burmese; for 202, Burmese 201.

203-204 Composition and Conversation 203 fall term only; 204 spring term only. Credit three hours a term. Prerequisites: for 203, qualification in Burmese; for 204, Burmese 203.

301-302 Advanced Burmese Reading 301 fall term only; 302 spring term only. Credit four hours a

term. Prerequisite: Burmese 201–202 or the equivalent.
Selected readings in Burmese writings in various fields.

Cambodian

F. E. Huffman

101–102 Basic Course 101 fall term only; 102 spring term only. Credit six hours a term. Prerequisite for 102 is 101 or equivalent. For course description see p. 00.

201–202 Cambodian Reading 201 fall term only; 202 spring term only. Credit three hours a term. Prerequisites: for 201, qualification in Cambodian; for 202, Cambodian 201.

203–204 Composition and Conversation 203 fall term only; 204 spring term only. Credit three hours a term. Prerequisites: for 203, qualification in Cambodian; for 204, Cambodian 203.

301–302 Advanced Cambodian 301 fall term only; 302 spring term only. Credit four hours a term. Prerequisites: for 301, Cambodian 201–202 or the equivalent; for 302, Cambodian 301.

401–402 Directed Individual Study 401 fall term only; 402 spring term only. For advanced students. Credit four hours a term. Prerequisite: consent of instructor.

404 Structure of Cambodian Spring term only. Credit four hours. Prerequisite: Linguistics 101–102 or the equivalent.

Cebuano (Bisayan)

J. U. Wolff

101–102 Basic Course 101 fall term only; 102 spring term only. Credit six hours a term. Prerequisite for 102 is 101 or equivalent. Offered according to demand. For course description see p. 106.

Chinese

N. C. Bodman, S. L. Fessler, J. McCoy, T. L. Mei, P. S. Ni, P. Wang, K. M. Wong

For a major involving Chinese studies see Asian studies.

Languages and Linguistics

101–102 Basic Course 101 fall term only; 102 spring term only. Credit six hours a term. Prerequisite for 102 is 101 or equivalent. For course description see p. 106.

111–112 Cantonese Basic Course 111 fall term only; 112 spring term only. Credit six hours a term. Prerequisite: consent of instructor. J. McCoy.

201–202 Intermediate Chinese I 201 fall term only; 202 spring term only. Credit four hours a term. Prerequisite: Qualification in Chinese.

203–204 Chinese Conversation 203 fall term only; 204 spring term only. Credit one hour a term. Prerequisite: Chinese 101–102. Two class hours. May be repeated for credit. S-U grades only. For course description see p. 106.

211–212 Intermediate Cantonese 211 fall term only; 212 spring term only. Credit four hours a term. Prerequisite: Cantonese 112 or consent of instructor. J. McCoy.

213–214 Introduction to Classical Chinese 213 fall term only; 214 spring term only. Credit three hours a term. Prerequisite: qualification in Chinese or consent of instructor. This course may be taken concurrently with Chinese 101–102, 201–202, or 301–302. K. M. Wong.

301 Intermediate Chinese II Fall term. Credit four hours. Prerequisite: Chinese 202 or equivalent. Readings and drill in modern expository Chinese.

302 Intermediate Chinese III Spring term. Credit four hours. Prerequisite: Chinese 301. Readings in modern Chinese with social science and humanities content.

303–304 Chinese Conversation — Intermediate 303 fall term only; 304 spring term only. Credit one hour a term. Prerequisite: Chinese 201–202. May be repeated for credit. S-U grades only. Guided conversation and oral composition and translation. Corrective pronunciation drill.

401–402 History of the Chinese Language 401 fall term only; 402 spring term only. Credit four hours a term. Prerequisite: consent of instructor. N. C. Bodman.

403 Linguistic Structure of Chinese: Phonology and Morphology Fall term on student demand. Credit four hours. Prerequisite: consent of instructor. N. C. Bodman.

404 Linguistic Structure of Chinese: Syntax Spring term on student demand. Credit four hours. Prerequisite: Chinese 403. J. McCoy.

405 Chinese Dialects Fall term on student demand. Credit four hours. Prerequisite: consent of instructor. N. C. Bodman. Emphasis on comparative and contrastive phonology.

607 Chinese Dialect Seminar Either term on student demand. Credit four hours. Prerequisite: Chinese 405 and consent of instructor. N. C. Bodman or J. McCoy. Analysis and/or field techniques in a dialect area.

Sino-Tibetan Linguistics (linguistics 662)**Falcon**

161-162 Intensive Mandarin Course 161 fall term only, parallel to first sixteen credit hours of instruction in regular program; 162 spring term only, parallel to second sixteen credit hours of instruction in regular program. Prerequisite: consent of instructor. J. McCoy and staff.

Literature

[314 Chinese Philosophical Texts Spring term. Credit four hours. Prerequisite: Chinese 214. T. L. Mei. Not offered 1975-76.]

[320 T'ang and Sung Poetry Fall term. Credit four hours. Prerequisite: consent of the instructor. T. L. Mei. Not offered 1975-76.]

411-412 Readings in Modern Chinese

Literature 411 fall term only; 412 spring term only. Credit four hours a term. Prerequisite: Chinese 302.

413 Classical Chinese Prose Fall term. Credit four hours. Prerequisite: Chinese 214.

[416 Pre-T'ang Poetry Spring term. Credit four hours. Prerequisite: consent of instructor. T. L. Mei. Not offered 1975-76.]

[418-419 Chinese Poetic Drama 418 spring term only; 419 fall term only. Credit four hours a term. Prerequisite: consent of instructor. K. M. Wong. Not offered 1975-76.]

420 Traditional Fiction Spring term. Credit four hours. Prerequisite: consent of instructor. K. M. Wong.

421-422 Directed Study 421 fall term only; 422 spring term only. Credit two to four hours a term. Prerequisite: consent of instructor. Staff.

[423 Readings in Shorter Works of Fiction Fall term. Credit four hours. Prerequisite: consent of instructor. K. M. Wong. Not offered 1975-76.]

[424 Readings in Literary Criticism Spring term. Credit four hours. Prerequisite: consent of instructor. T. L. Mei. Not offered 1975-76.]

430 Readings in Folk Literature Either term on student demand. Credit four hours. Prerequisite: consent of instructor. J. McCoy.

For complete descriptions of courses numbered 600 or above see the *Announcement of the Graduate School: Course Descriptions*. If a course is not included there, consult the graduate faculty representative.

[603 Seminar in Chinese Poetry and Poetics Fall term. Credit four hours. Prerequisite: consent of instructor. T. L. Mei. Not offered 1975-76.]

605 Seminar in Chinese Fiction Fall term. Credit four hours. Prerequisite: consent of instructor. K. M. Wong.

609 Seminar in Chinese Folk Literature Either term on student demand. Credit four hours. Prerequisite: consent of instructor. J. McCoy.

621-622 Advanced Directed Reading 621 fall term only; 622 spring term only. Credit to be arranged. Prerequisite: consent of instructor. J. McCoy, T. L. Mei, K. M. Wong.

Czech

Listed under Russian, course 171-2-3-4, Elementary Course in Slavic Languages.

Dutch

F. C. van Coetsem

131-132 Elementary Reading Course I

131 fall term only; 132 spring term only. Credit three hours a term. Prerequisite: consent of instructor. For course description see p. 106.

133-134 Elementary Reading Course II

133 fall term only; 134 spring term only. Credit three hours a term. Prerequisite: Dutch 132 or consent of instructor. For course description. See p. 106.

Seminar in Dutch Linguistics (German 740)**English as a Second Language**

M. A. Martin

The following courses are offered by the Department of Modern Languages and Linguistics. Foreign students should consult a member of the Department (323B Morrill Hall) to arrange for placement in courses. All students must register for credit.

102 English as a Second Language Fall term. Credit six hours. Prerequisite: placement by the instructor.

103 English as a Second Language Spring term. Credit three hours. Prerequisite: English 102 or placement by instructor. Designed for those who have completed English 102 and who require or desire further practice. Emphasis is on developing control of written as well as spoken language.

211-212 English as a Second Language 211 fall term only; 212 spring term only. Credit three hours a term. Prerequisite: placement by the instructor.

213 English for Nonnative Speakers Spring term. Credit three hours. Prerequisite: English 212 or placement by the instructor.

Designed for those whose writing fluency is sufficient for them to carry on regular academic work, but who feel the need for refining and developing their ability to express themselves clearly and effectively. As much as possible, individual attention will be given to students in two class hours and a weekly interview.

French

J. Béreaud, A. M. Colby, S. Durham, N. Furman, D. I. Grossvogel, J. Harari, R. Klein, P. Lewis, S. A. Littauer, E. P. Morris, J. S. Noblitt, A. Seznec, L. R. Waugh

French Major

The French major is designed to give students proficiency in the oral and written language, to acquaint them with a fair portion of the masterworks of French literature, and to develop skills in literary and linguistic analysis.

Students wishing to major in French should consult a member of the French faculty with whom they will work out plans of studies. The previous training and interests of students will be taken into account in order to devise a coherent program. They will be encouraged to take courses in related subjects such as anthropology, music, history, art history, philosophy, linguistics, Classics, English, comparative literature, and other foreign languages and literatures.

Interested students are encouraged to seek faculty advice about the major as early as possible. For admission to a major in French, students should normally have completed French 201, 202 and 211-212 or 203-204, or their equivalents, and should be accepted by the director of the undergraduate studies, J. Béreaud. Students specifically interested in French linguistics should consult with L. Waugh in the Department of Modern Languages and Linguistics.

To fulfill the major requirements, students are expected to complete successfully twenty-four hours of French courses at the 300 level or higher. Students seeking teacher certification may substitute one term of French 401-402 or 407-408 for four hours of the twenty-four required. One or more courses offered by the Department of Comparative Literature may be counted toward the required twenty-four hours if students obtain prior approval of their major advisers. Students majoring in French will be also be expected to develop competence in the language. The competence is demonstrated by the successful completion of French 312 or by the passing of a special examination to be taken no later than the end of the junior year. French majors may elect to pursue a concentration of courses in language and linguistics, dividing their twenty-four additional hours of 300- and 400-level courses equally between literature and linguistics, in which case they may choose a major adviser from the Department of Modern Languages and Linguistics. For any question concerning placement in the language courses within the Department of Romance Studies, please consult J. Béreaud, who will arrange a placement test whenever necessary.

French majors may study in France during their junior year under any of several study-abroad plans which are recognized by the Departments of Romance Studies or Modern Languages and Linguistics and which allow the transfer of credit. The Department of Romance Studies has information on such plans.

The Honors Program

The purpose of the Honors Program is to encourage well-qualified students to do independent work in French, outside the structure of courses. The preparation of the senior honors essay, in particular, spread out over three terms, provides a unique learning opportunity, since it allows for wide reading, careful outlining, and extensive rewriting to a degree not practically possible in the case of course papers. At each stage of their work the students will have regular weekly meetings with faculty tutors.

No special seminars or courses are required of honors students. The junior tutorial (ordinarily, two terms; exceptionally, one) will be devoted to intensive study of selected problems or authors, and to the choice of a topic for the honors essay; the senior tutorial, to the writing of that essay. Honors students may be released from one or two courses in either the junior or senior year to have adequate time for honors work (credit is obtained by enrolling in French 419-420). They will take an informal oral examination at the end of the senior year.

Honors students are selected on the basis of their work in French language and literature courses in the freshman and sophomore years. Students interested should consult E. Morris for details, no later than the spring term of the sophomore year, and earlier if possible. Honors in French linguistics will be supervised by L. Waugh.

Distribution Requirement

The distribution requirement in the humanities in French is satisfied by French 201 and 202, 221, 222, or any 300-level literature course.

Of the courses listed below, those dealing with literature, together with language courses 200, 211-212, and 311-312, are staffed and administered by the Department of Romance Studies, and inquiries in regard to them should be addressed to that Department, 278 Goldwin Smith Hall. The courses dealing with linguistics and the other language courses are offered by the Department of Modern Languages and Linguistics, 203 Morrill Hall.

Languages and Linguistics

101-102 Basic Course (Conversation and Reading) 101 fall term only; 102 spring term only. Credit six hours a term. Assumes no knowledge of French. Students who have previously studied French should consult p. 11 before registering for this course. Prerequisite for 102 is 101 or equivalent. For course description see p. 106.

131-132 Elementary Reading Course I 131 fall term only; 132 spring term only. Credit three hours a term. Assumes no knowledge of French; students who have previously studied French should consult p. 00 before registering for this course. Prerequisite for 132 is 131 or equivalent. For course description see p. 106.

133-134 Elementary Reading Course II 133 fall term only; 134 spring term only. Credit three hours a term. Prerequisite for 133 is French 132 or equivalent; prerequisite for 134 is French 133 or equivalent. For course description see p. 106.

200 Intermediate Course Either term. Credit three hours. Prerequisite: Qualification in French (for definition of Qualification, see p. 11; maximum allowable CEEB score 629. Staff. (Offered by Department of Romance Studies.)

Extended readings and discussions of modern texts selected for their cultural and humanistic value. A brief review of grammar is included.

203 Intermediate Course (Conversation)

Either term. Credit three hours. Prerequisite: Qualification in French (for definition of Qualification, see p. 11. For course description see p. 106.

204 Intermediate Composition and Conversation

Spring term. Credit three hours. Prerequisite: French 203 or equivalent. Evening prelims. For course description see p. 106.

211-212 Intermediate French 211 fall term only; 212 spring term only. Credit three hours a term. Prerequisite: Qualification in French (for definition of Qualification, see p. 11). R. Klein and N. Furman. (Offered by Department of Romance Studies.) Review of French grammar and study of the language through the critical reading of texts on French culture and literature. Students will write short essays in French. In addition, there will be one hour of conversation per week in small groups.

311-312 Advanced Composition and Conversation

311 fall term only; 312 spring term only. Credit four hours a term. Prerequisite: French 212 or 204, or placement by special examination. J. Béreaud, E. Morris. (Offered by Department of Romance Studies.) Reading and analysis of selected contemporary texts. Detailed study of present-day syntax. Weekly translations or essays in French. One hour of conversation each week in small groups.

401-402 History of the French Language

401 fall term only; 402 spring term only. Credit four hours a term. Prerequisite: Qualification in French and Linguistics 101. S. Durham.

407 French for Teachers Fall term. Credit four hours. Prerequisite: Qualification in French. J. S. Noblitt.

Survey of the current teaching methods, preparation of teaching materials and selection and use of textbooks and realia. Further study of structure of French

as needed for professional preparation. Required of students seeking certification by New York State.

408 Linguistic Structure of French Spring term. Credit four hours. Prerequisite: Qualification in French, and Linguistics 101 or consent of instructor. L. R. Waugh.

A descriptive analysis of present-day French, with emphasis on its phonetics, phonemics, morphology, and syntax. Required of students seeking certification by New York State.

[410 Semantic Structure of French Fall or spring term, alternate years. Credit four hours a term. Prerequisite: consent of instructor. Open to undergraduate and graduate students. L. R. Waugh. Not offered 1975-76.]

450 Practice Teaching Either term. Credit six hours. Prerequisite: French 408 (the methods course, French 407, may be taken concurrently with practice teaching). Open only to students enrolled in a teacher preparation program.

Students will observe, and then participate in, teaching classes in the secondary school system. They will also become acquainted with a language laboratory. For complete descriptions of the courses numbered 600 or above, consult the graduate field representative.

[601 Gallo-Romance Dialectology Fall term. Credit four hours. Prerequisite: consent of the instructor. Offered in alternate years. S. Durham. Not offered 1975-76.]

602 Linguistic Structures of Old and Middle French Spring term. Credit four hours. Prerequisite: French 408 or consent of instructor. J. S. Noblitt.

604 Contemporary Theories of French Grammar Either term. Credit four hours. Prerequisite: consent of instructor. L. R. Waugh.

The Comparative Study of the Romance Languages (Romance Linguistics 321-322, 323-324, 620, 621, 622).

700 Seminar in French Linguistics According to demand. Credit four hours a term. To be offered fall 1975.

Topics: Semantic Structure, L. R. Waugh; History and Structure of French *argot*, S. Durham

Literature

105 Freshman Seminar: The French Novel

Fall term. Credit three hours. P. Lewis. Evolution of the French novel from the seventeenth century to the present. Discussion of novels by such writers as Madame de Lafayette, Laclos, Stendhal, Flaubert, Malraux, Sartre, and Robbe-Grillet (readings in English translation).

106 Freshman Seminar: Writing out Oneself

Spring term. Credit three hours. E. Morris.

Of what significance is an individual life? Can its meaning be expressed without bombast or duplicity? Students will undertake to write about their own experience, with guidance and control being provided by such authors as St. Augustine, Montaigne, Rousseau, Flaubert, Norman Mailer, and Sartre. (Readings in English translation.)

201 Introduction to French Literature: The Modern Tradition Either term. Credit three hours. Prerequisite: a score of 650 on the written portion of the CEEB exam (students with scores in the 560–649 range, see French 221). French 201 serves as prerequisite for all 300-level courses in French literature and is required of all majors. J. Harari and staff. Introduces the student to the major genres (poetry, drama, and the novel) in the late nineteenth and early twentieth centuries, and treats the principal themes, techniques, and interpretive dilemmas encountered in modern French literature. Authors such as Baudelaire, Mallarmé, Proust, Sartre, Beckett, and Genet will be read.

202 Studies in French Literature Either term. Credit three hours. Prerequisite: for majors, French 201; for nonmajors, a score of 650 on the written portion of the CEEB exam (students with scores in the 560–649 range, see French 221). Required of all majors but not limited to them. J. Harari and staff. Study of the classic literature of seventeenth-century France, and its immediate forebears (Montaigne) and successors. Authors such as Montaigne, Corneille, Racine, Molière, Voltaire and Rousseau will be read.

221 Readings in Modern Literature Either term. Credit three hours. Prerequisite: Qualification in French (for definition of Qualification, see p. 11). Maximum allowable CEEB score: 649. J. Béreaud and staff.

Discussion of representative texts of the twentieth century in the context of current intellectual and social issues. Readings will include such writers as Apollinaire, Gide, Sartre, Ionesco, Genet, and Natalie Sarraute.

222 French Civilization Spring term. Credit three hours. Prerequisite: Qualification in French or a sequence of two language courses at the 100-level. J. Béreaud.

Devoted to a description of contemporary civilization, French institutions, culture, and attitudes. Will examine the historical and social roots of the institutions in question. Emphasis will be placed on current educational, social, economic, and political problems, with analytic reading of important texts in each of the areas to be treated. Lectures in English; readings in French. This course may be substituted for French 201 or 202, but will not serve as a prerequisite for 300-level literature courses; passing the course will satisfy the language requirement.

359 The Birth of Modern Times Fall term. Credit four hours. E. Morris. Literature and culture from the Italian campaigns to the death of Rabelais, viewed from both literary and

historical perspectives. Readings in Rabelais, Marot, Scève, Marguerite de Navarre, Calvin. Excursions into art history and musicology. Conducted in French.

360 The Baroque and the Beginnings of Classicism Spring term. Credit four hours. A. Sezec.

Literature of the first half of the seventeenth century. Readings will include works by d'Urfé, Régnier, Descartes, Corneille, Rotrou, and Pascal.

386 The Novel in the Nineteenth Century Spring term. Credit four hours. N. Furman.

Readings will include novels by Stendhal, Balzac, Flaubert, and Zola. Conducted in French.

390 Film and Novel as "Language": A Comparative Semiotic Analysis of Motion Pictures and Novels Spring term. Credit three hours. No prerequisites. Credit four hours. Prerequisite for four hour course: French 201 or consent of instructor. Involves additional readings and class participation in French. D. Grossvogel.

391 What is "Absurd" in the Theater of the Absurd? Fall term. Credit four hours. Prerequisite: French 201 or permission of instructor. D. Grossvogel.

Certain concepts and experiments in modern "French" drama: Artaud, Ionesco, Beckett, Arrabal, etc.

419–420 Special Topics in French Literature Throughout the year. Credit four hours a term. Prerequisite: consent of instructor. Staff. Guided independent study of specific topics.

429–430 Honors Work in French May be taken without credit or for four hours with consent of the adviser. Open to juniors and seniors. See the director of the Honors Program, E. Morris.

447–448 Medieval Literature 447 fall term only; 448 spring term only. Credit four hours a term. Prerequisite: French 201–202 or consent of instructor. First term not prerequisite to the second. Additional hour to be arranged for students entering in the spring without previous training in Old French. A. Colby.

The first term deals with the epic and the theatre; the second, with the romance and the lyric. Facility in reading Old French and appreciation of these four major genres are the primary goals of this course.

467 Seventeenth-Century Poetry Fall term. Credit four hours. A. Sezec.

Major poets of the first half of the century: Malherbe, Régnier, Théophile, and Saint-Amant. New attitudes and positions; baroque, précieux, and official poetry.

473 Anthropology and Literature Fall term. Credit four hours. J. Harari.

The foundation of social and structural anthropology studied in conjunction with eighteenth-century travel literature (Lafitau, Demeunier, de Brosses, Rousseau, Lévi-Strauss, Radcliffe-Brown, etc.). Conducted in French.

483 Fact of Fiction Fall term. Credit four hours. R. Klein.

The notion of fiction is persistently at work in the text of Freud whenever it affirms a distinction between psychic and objective reality. The implication of fiction in fact will be examined with reference to works by Derrida, Nietzsche, Baudelaire, and Mallarmé.

494 Tales of Power Spring term. Credit four hours. R. Klein.

The work of Castaneda will be read in the light of some recent attempts on the French intellectual scene to reinscribe within the text of philosophy the category of experience. Readings (in English translation) will include texts of Derrida, Foucault, and Lacan.

639-640 Special Topics in French Literature Throughout the year. Credit four hours a term. To be taken by all new graduate students. Staff.

642 Medieval Seminar: The Miracle Play Spring term. Credit four hours. A. Colby.

The Shape of Fiction (Romance Studies 374)
[Will count as a regular course in French literature for majors.]

Science Fiction (Comparative Literature 313)

Seminar on The Status of Literature (Society for the Humanities 418-419)

German

E. Augsburg, D. H. Bansberg, A. J. Berger, V. T. Bjarnar, E. A. Blackall, D. Connor, H. Deinert, I. M. Ezergailis, S. L. Gilman, A. B. Groos, Jr., R. L. Jones, I. Kovary, H. L. Kufner, G. Valk, F. C. van Coetsem

German Major

Students majoring in German are encouraged to design their program in a manner that will allow for diversity in their course of study. It should enable them to become acquainted with an adequate selection of major works, authors, and movements of German literature and to develop their skill in literary analysis. Students majoring in German will normally proceed through German 201, 202, 203, 204. However, if their previous training qualifies them for immediate enrollment in 300- and 400-level courses, every effort will be made to permit them to do so. For details, students may consult the major advisers, D. H. Bansberg in the Department of German Literature, or R. L. Jones in the Department of Modern Languages and Linguistics. Students majoring in German are expected to complete successfully a minimum of six 300- and 400-level courses in addition to German 303-304 (of the 300-level courses listed below, those bracketed will be offered the following year). These courses should be a representative selection of subjects in German literature and/or Germanic linguistics. The attention of students majoring in German is called to the courses offered by the

Department of Comparative Literature, many of which complement the course offerings in German.

Students majoring in German are expected to become competent in the German language. This competence is normally demonstrated by the successful completion of German 304. Placement of German majors who have done no work in German at Cornell will be determined by the level of preparation they have obtained elsewhere. For information please consult the major advisers, D. H. Bansberg or R. L. Jones. All German majors, particularly those who have had no German prior to coming to Cornell, are encouraged to spend at least part of their junior year abroad. Student have the opportunity to enroll, for credit, in a Cornell-sponsored Summer Language Program in Germany. Information is available upon request at the departmental offices.

The German Area Studies Major

The major in German area studies consists of a set number of courses in German language to which is added a set number of courses in German area studies, presently taught in various departments of the University. The major in German area studies will be required to take language courses in the Department of Modern Languages and Linguistics through the 300 level, and will be required to take at least four courses above the 200 level in another area. It is strongly suggested that majors in German area studies also incorporate the basic German History Course (351-352) in their prospective program. The Department of German Literature will offer a tutorial for German area studies students to enable them to read and discuss their area of specialization in German. The major adviser will aid German area studies majors in the selection of the program. Each major will also have a minor area adviser who will aid in the area of further specialization. For details, students should consult the major adviser, D. H. Bansberg, in the Department of German Literature.

The Honors Program

The Honors Program in German is open to superior students who wish to work independently in an area of their own choice. Students are free to select any member of the Field of Germanic Studies to assist them in designing their Honors Program, to supervise their work, and to help them select a suitable topic for an honors essay. The independent study courses 451, 452 may form part of the program.

Teacher Preparation Program

Interested students see p. 106.

Distribution Requirement

The distribution requirement in the humanities is satisfied in German by any two German literature courses at the 200 level and above.

Freshman Seminar Requirement

The following courses will satisfy the freshman seminar requirement: German 107, 108, 109, and 175.

Languages and Linguistics

101-102 Basic Course 101 fall term only; 102 spring term only. Credit six hours a term. Students who have previously studied German should consult p. 00 before registering for this course. Prerequisite for 102 is 101 or equivalent. H. L. Kufner and staff. For course description see p. 106.

105-106 Elementary German for Literary Studies 105 fall term only; 106 spring term only. Credit four hours a term. Students who have previously studied German should consult p. 00 before registering for this course. Staff. For course description see p. 106.

131-132 Elementary Reading Course 131 fall term only; 132 spring term only. Credit three hours a term. Students who have previously studied German should consult p. 00 before registering for this course. Prerequisite for 132 is 131 or equivalent. R. L. Jones and staff. For course description see p. 106.

133-134 Elementary Reading Course II 133 fall term only; 134 spring term only. Credit three hours a term. Prerequisite for 133 is 132 or equivalent; prerequisite for 134 is 133 or equivalent. I. Kovary. For course description see p. 106.

203 Intermediate Composition and Conversation Fall term. Credit three hours. Prerequisite: Qualification in German. (For definition of Qualification, see p. 00. E. Augsberger, G. Valk. For course description see p. 106.

204 Intermediate Composition and Conversation Spring term. Credit three hours. Prerequisite: German 203 or consent of instructor. E. Augsberger and G. Valk. For course description see p. 106.

303-304 Advanced Composition and Conversation 303 fall term only; 304 spring term only. Credit four hours a term. Prerequisite for German 303 is German 204 or equivalent; Prerequisite for German 304 is 303 or equivalent. E. Augsberger. Emphasis is placed on increasing the student's oral and written command of German. Detailed study of present-day syntax and different levels of style.

402 History of the German Language Spring term. Credit four hours. Offered in alternate years. Prerequisite: German 204 and Linguistics 101, or consent of instructor. H. L. Kufner.

407 German for Teachers Fall term. Credit four hours. R. L. Jones. Survey of the current teaching methods, preparation of teaching materials, selection and use of textbooks and realia. Further study of structure of German as needed for professional preparation. Required of students seeking certification by New York State.

408 Linguistic Structure of German Spring term. Credit four hours. Prerequisite: German 204 and Linguistics 101, or consent of instructor. H. L. Kufner.

For complete descriptions of courses numbered 600 or above, consult the appropriate instructor.

601 Introduction to Germanic Linguistics Fall term. Credit four hours. Offered in alternate years. Prerequisite: Linguistics 101. H. L. Kufner.

[**602 Gothic** Fall term. Credit four hours. Offered in alternate years. Prerequisite: Linguistics 101. Not offered 1975-76.]

[**603-604 Old Saxon, Old High German, Old Low Franconian, Old Frisian** 603 fall term only; 604 spring term only. Credit four hours a term. Offered in alternate years. Prerequisite: Linguistics 102. Not offered 1975-76.]

609-610 Old Norse 609 fall term only; 610 spring term only. Credit four hours a term. V. Bjarnar.

710 Seminar in Germanic Linguistics Either term, subject to the needs of students and to the limitations of staff time. Credit four hours. Staff.

720 Seminar in Comparative Germanic Linguistics Either term, subject to the needs of students and to the limitations of staff time. Credit four hours. Staff.

[**721-722 Computer Methods in Germanic Studies** 721 fall term only; 722 spring term only. Subject to the needs of students and to the limitations of staff time. Credit four hours a term. R. L. Jones. Not offered 1975-76.]

730 Seminar in German Linguistics Either term, subject to the needs of students and to the limitations of staff time. Credit four hours. R. L. Jones.

740 Seminar in Dutch Linguistics Either term, subject to the needs of students and to the limitations of staff time. Credit four hours. F. C. van Coetsem.

Literature

Freshman Seminars

107 Sexuality in Art Fall term. Credit three hours. I. Ezergailis and staff. The seminar will examine the treatment of sex differences and love in some works of German literature where this theme is at the very core of the literary conception. Versions of the Tristan love story by medieval authors will be contrasted with Wagner's opera and with Thomas Mann's novella. Plays dealing with this problem are also included (by Brecht, Büchner, Schnitzler), along with Hesse's *Narcissus and Goldmund* and excerpts from theoretical texts (Freud, Jung, Rollo May). All readings in English translation.

108 The Problem of War Guilt Spring term. Credit three hours. I. Ezergailis and staff. The German reaction to the horrors of World War II will be examined through a close reading of major works of postwar German literature in English translation.

tion. Readings will reflect the myths as well as the realities of the war as seen through the eyes of writers of the East and West (Grass, Böll, Frisch).

109 Folktale and Folk Poetry Either term. Credit three hours. A. Berger and staff.

The course will discuss comparative folktales (Grimm, Hans Christian Andersen, etc.), ballads (Scottish, Danish, Faeroese, German) as well as popular literary forms (myths, ballads, and legends). Readings will be in English with supplemental readings from critics such as J. R. R. Tolkien and C. Levi-Strauss.

175 Yiddish Literature (in English translation)

Spring term. Credit three hours. S. L. Gilman. An introduction to the literary tradition of Eastern European Jewry. Lectures will cover the historical and sociological contexts of Yiddish literature from the Middle Ages to the present. Readings will concentrate in the tradition of the Yiddish novel during the nineteenth and twentieth centuries (Mendele, Sholem Aleichem, Peretz, Asch. I. J. Singer, I. B. Singer).

German Literature

201 Problems in the Analysis of Drama

Fall term. Credit three or four hours a term; for details, consult the instructor. Prerequisite: Qualification in German. (For definition of Qualification, see p. 11) D. Connor and staff.

Self-confrontation and social conflict in the plays of six major Austrian, Swiss, and German dramatists: Dürrenmatt, Brecht, Büchner, Hofmannsthal, Goethe, and Schiller. The texts will be used to help students to develop an analytic approach to drama and to enable them to improve their reading knowledge of German.

202 Problems in the Analysis of Prose

Spring term. Credit three or four hours a term; for details, consult the instructor. Prerequisite: Qualification in German. (For definition of Qualification, see p. 11) D. Connor and staff.

The complexities of inner and outer reality as expressed in selected prose works of Kafka, Mann, Kleist, Grass, Brentano, Tieck, and Hofmannsthal. These texts will be used to develop a critical method for the reading of modern narrative literature.

211 Intensive Workshop in Germanic Studies for Freshman Fall term only. Credit six hours.

H. Deinert.

The workshop is intended for entering freshman who come to Cornell with extensive training in the German language (a score of 680 or higher on the Placement Examination). The course will provide an intensive introduction to the study of German literature through the discussion of exemplary prose works, dramas, and poems from the eighteenth century to the present. In addition, the course will emphasize the various methods of literary interpretation and will introduce the student to German history and civilization through complementary outside reading. The course is not intended as a survey but rather as a rigorous

seminar designed to familiarize the student with literary forms and the tools of critical analysis. The course will meet three times a week and will be conducted in German. While ambitious, as reflected in the high number of credit hours, the workshop should provide the challenge and satisfaction of an early introduction to a demanding discipline.

354 Schiller Spring term. Credit four hours. Prerequisite: German 201, 202, or consent of instructor. A. B. Groos.

Discussion of selected plays and their social and intellectual background.

355 The Age of Goethe Fall term. Credit four hours. Prerequisite: German 201, 202, or consent of instructor. D. H. Bansberg.

356 Goethe's Faust Spring term. Credit four hours. Prerequisite: German 201, 202, or consent of instructor. E. A. Blackall.

A full study of both Part One and Part Two of Goethe's greatest masterpiece.

360 Lyrical Poetry from Heine to Hofmannsthal

Fall term. Credit four hours. Prerequisite: German 201, 202, or consent of instructor. I. Ezergailis. An investigation of selected works by a number of nineteenth century German lyrical poets, starting with late Romanticism and including such authors as Heinrich Heine, Eduard Mörike, Annette von Droste-Hülshoff, Conrad Ferdinand Meyer, and the early Hofmannsthal. Emphasis will be placed on a close reading of the poems.

405-406 Introduction to Medieval German

Literature 405 fall term only; 406 spring term only. Credit four hours. A. B. Groos.

Intended for students with no previous knowledge of Middle High German. The course will provide a survey of the most outstanding works of the court epic, the heroic epic, and minnesang. Emphasis will be placed on a thorough understanding of the Middle High German language.

Courses in English Translation

314 Nietzsche, the Man and the Artist

Spring term. Credit four hours. S. L. Gilman.

An intensive reading of selections from his poetry, letters, and philosophical writings: *The Birth of Tragedy*, *The Gay Science*, *Thus Spake Zarathustra*, *Beyond Good and Evil*, *Ecce Homo*. His work will be interpreted both as a reflection of his intellectual development and as a manifestation of his literary genius. In discussing the literary aspect of his work, close attention will be paid to Nietzsche's poetics.

387 Mozart, His Life, Works, and Times (also

Music 387) Fall term. Credit four hours. N. Zaslav, S. L. Gilman.

An introduction to the works of W. A. Mozart through the analysis of selected songs and operas reflecting the innovations as well as the traditions of late eighteenth-century Vienna.

413 Topics in German Literature I: The Modern German Novel Fall term. Credit four hours.

H. Deinert.

The spirit of the first half of this century as reflected in the form and content of prose works by a variety of major authors. Emphasis will be placed on Hesse (*Siddhartha*, *Demian*, *Steppenwolf*), Kafka (*Amerika*, *The Trial*, the major short stories), Rilke (*The Diary of Malte Laurids Brigge*), Remarque (*All Quiet on the Western Front*), Broch (*The Sleepwalkers*), Thomas Mann (*Tonio Kröger*, *Tristan*, *Death in Venice*, *Doctor Faustus*). Lectures and discussions.

414 Topics in German Literature II: The Modern Scandinavian Novel Spring term. Credit four hours.

A. Berger.

Novels, short stories, essays, and selected passages from Icelandic, Faeroese, Norwegian, Danish, and Swedish authors with special emphasis on Halldor Laxness, Karen Blixen, and Knut Hamsun.

Other Courses

451-452 Independent Study 451 fall term only; 452 spring term only. Variable credit: one to four hours a term. Staff.

Extensive reading of texts in addition to regular course work, under the direction of a member of the department.

Seminar on European Drama and Dramatic Criticism (Society for the Humanities 416)**Autobiograph as a Literary Form (Comparative Literature 473)****Theories of Interpretation: the Marxist Perspective (Comparative Literature 684)****Kierkegaard and Nietzsche (Comparative Literature 698)****Problems of the Modern Novel (Comparative Literature 699)**

For complete descriptions of courses numbered 600 or above, consult the appropriate instructor.

Seminars

611 Seminar in Old Norse Literature I: Skaldic Poetry Fall term. Credit four hours. Prerequisite: German 610 or consent of instructor. A Berger.

612 Seminar in Old Norse Literature II (Topic to be announced) Spring term. Credit four hours. Prerequisite: German 610 or consent of instructor. A. Berger.

623 Seminar in Middle High German Literature I: Walthar von der Vogelweide Fall term. Credit four hours. Prerequisite: German 405-406 or consent of instructor. A. B. Groos.

624 Seminar in Middle High German Literature II: Wolfram von Eschenbach

Spring term. Credit four hours. Prerequisite: German 405-406 or consent of instructor. A. B. Groos.

633 Kleist Spring term. Credit four hours. H. Deinert.

635 Heine Spring term. Credit four hours. I. Ezergailis.

639 Poetry of Expressionism Fall term. Credit four hours. D. H. Bansberg.

699 Colloquium on the Teaching of Literature

Either term. Variable credit: one to four hours a term. Open to teaching assistants in the Department of German Literature. Composed of all faculty members and assistants teaching undergraduate courses.

753-754 Tutorial in German Literature 753

fall term only; 754 spring term only. Variable credit: one to four hours a term. Open only with the consent of the instructor.

Tutorials for 1975-76:

753 Mozart's German Works (also Music 687) Fall term. S. L. Gilman, N. Zaslav.

754 Two Novels of Education Spring term. E. A. Blackall.

754 E. T. A. Hoffmann Spring term. E. A. Blackall.

Hindi-Urdu

J. W. Gair, G. B. Kelley

101-102 Hindi-Urdu Basic Course 101 fall term only; 102 spring term only. Credit six hours a term. Prerequisite for 102 is 101 or equivalent. For course description see p. 106.

201-202 Hindi Reading 201 fall term only; 202 spring term only. Credit three hours a term. Prerequisites: for 201, Qualification in Hindi; for 202, Hindi 201 or consent of instructor.

203-204 Composition and Conversation 203 fall term only; 204 spring term only. Credit three hours a term. Prerequisites: for 203, Qualification in Hindi; for 204, Hindi 203 or consent of instructor. For course description see p. 106.

301-302 Readings in Hindi Literature 301 fall term only; 302 spring term only. Credit four hours a term. Prerequisite for 301 is Hindi 202; prerequisite for 302 is Hindi 301 or equivalent.

303-304 Advanced Composition and Conversation 303 fall term only; 304 spring term only. Credit four hours a term. Prerequisite for 303 is Hindi 204 or equivalent; prerequisite for 304 is 303 or equivalent.

305-306 Advanced Hindi Readings 305 fall term only; 306 spring term only. Credit four hours a term. Prerequisite for 305 is Hindi 202 or equivalent; prerequisite for 306 is Hindi 305 or equivalent. Intended for those who wish to do readings in history, government, economics, etc., instead of literature.

401 History of Hindi Either term. Credit four hours. Prerequisite: Hindi 101-102, or equivalent, or Linguistics 102. For complete descriptions of courses numbered 500 and above, consult the graduate faculty representative.

700 Seminar in Hindi Linguistics Either term. Credit three hours. Prerequisite: consent of instructor. J. W. Gair, G. B. Kelley.

Indonesian

J. M. Echols, J. U. Wolff

101-102 Basic Course 101 fall term only; 102 spring term only. Credit six hours a term. Prerequisite for 102 is Indonesian 101. For course description see p. 106.

201-202 Indonesian Reading 201 fall term only; 202 spring term only. Credit three hours a term. Prerequisites: for 201, Qualification in Indonesian; for 202, Indonesian 201 or consent of instructor.

203-204 Composition and Conversation 203 fall term only; 204 spring term only. Credit three hours a term. Prerequisites: for 203, Qualification in Indonesian; for 204, Indonesian 203 or consent of instructor. For course description see p. 106.

300 Linguistic Structure of Indonesian Either term. Credit four hours. Prerequisite: Indonesian 101-102, or the equivalent, and Linguistics 101. J. U. Wolff.

301-302 Readings in Indonesian and Malay 301 fall term only; 302 spring term only. Credit four hours a term. Prerequisites: for 301, Indonesian 201-202 or the equivalent; for 302, Indonesian 301.

303-304 Advanced Indonesian Conversation and Composition 303 fall term only; 304 spring term only. Credit four hours a term. Prerequisite for 303 is Indonesian 204; prerequisite for 304 is Indonesian 303 or the equivalent.

401-402 Advanced Readings in Indonesian and Malay Literature 401 fall term only; 402 spring term only. Credit four hours a term. Prerequisite for 401 is Indonesian 302 or equivalent; prerequisite for 402 is Indonesian 401 or equivalent.

Malayo-Polynesian Linguistics (Linguistics)
655-656)

Italian

S. P. Durham, A. Grossvogel, R. A. Hall, Jr., G. Mazzotta

Italian Major

Students who wish to major in Italian should choose a faculty member to serve as major adviser; the general plan and the details of the student's course of studies will be worked out in consultation. Italian majors are encouraged to take courses in related subjects such as history, art history, music, philosophy, anthropology, Classics, linguistics, and other modern languages and literatures. While, theoretically, a Cornell major occupies only the junior and senior years, as a matter of practical fact it is wise for the student to seek faculty advice on the major as early as possible.

Students who elect to major in Italian ordinarily should have completed Italian Literature 201-202 and Italian Language 203-204 by the end of their sophomore year. Exemptions can be made on the basis of an examination. Students majoring in Italian are expected to become conversant with a fair portion of the masterworks of Italian literature, to acquaint themselves with the outlines of Italian literary history, and to develop some skill in literary analysis. To this end students will be expected to complete successfully twenty-four hours of Italian literature courses at the 300 level or higher, with papers to be written in Italian or English. One or more courses offered by the Department of Comparative Literature may be counted toward the required twenty-four hours if students obtain the prior approval of their major adviser.

Students majoring in Italian also will be expected to acquire competence in the handling of the language. That competence may be demonstrated by the successful completion of Italian 304 or by passing an oral and written examination to be arranged with the adviser.

Italian majors may study in Italy, generally during their junior year, under any one of those study-abroad plans, organized by American universities, that allow the transfer of grades and credit, such as the Syracuse Semester in Italy in Florence.

Graduate Program in Italy

The Department of Romance Studies has been affiliated in the past five years with the University of Bologna. Under normative conditions, a graduate student may expect to spend a spring term in Bologna to become familiar with the language and the culture of Italy. Whenever possible, the Program consists of three seminars, one offered by a Cornell professor, and the other two by Professor Luigi Heilmann (Linguistics as a Tool for Literary Criticism) and Professor Ezio Raimondi (Stylistics).

Distribution Requirement

The distribution requirement in the humanities is satisfied in Italian by Italian 201-202.

Courses dealing with literature are staffed and administered by the Department of Romance Studies, and inquiries in regard to them ought to be addressed to that department, 278 Goldwin Smith Hall.

The courses dealing with language and linguistics are offered and administered by the Department of Modern Languages and Linguistics, Morrill Hall.

Languages and Linguistics

101-102 Basic Course 101 fall term only; 102 spring term only. Credit six hours a term. Prerequisite for 102 is Italian 101 or equivalent. For course description see p. 106.

131-132 Elementary Reading Course 131 fall term only; 132 spring term only. Credit three hours a term. Prerequisite for 132 is Italian 131 or equivalent. For course description see p. 106.

203-204 Composition and Conversation 203 fall term only; 204 spring term only. Credit three hours a term. Prerequisite for 203 is Qualification in Italian; prerequisite for 204 is Italian 203 or equivalent. For course description see p. 106.

[300 Advanced Composition and Conversation According to demand. Credit two to four hours. Prerequisite: Italian 204. Not offered 1975-76.]

402 History of the Italian Language Fall term. Credit four hours. Offered in alternate years. Prerequisites: Qualification in Italian and Linguistics 101 or consent of instructor. S. P. Durham.

403 Structure of Italian Spring term. Credit four hours. Offered in alternate years. Prerequisites: Qualification in Italian and Linguistics 101 or consent of instructor. S. P. Durham.

[432 Italian Dialectology Spring term. Credit four hours. Offered in alternate years. R. A. Hall, Jr. Not offered 1975-76.]
For complete descriptions of courses numbered 700 and above, consult the graduate faculty representative.

[700 Seminar in Italian Linguistics Offered according to demand. Credit four hours. R. A. Hall, Jr. Not offered 1975-76.]

Literature

106 Freshman Seminar: Showing and Telling Spring term. Credit three hours. A. Grossvogel. Discussion of the contrast between theater and narrative as it is illustrated by writers who have worked in both genres. Readings will include a narrative and a play by such authors as Pirandello, Kafka, Manzoni, Svevo, Beckett, and Genet.

201-202 Introduction to Italian Literature Throughout the year. Credit three hours a term. Prerequisite: Qualification in Italian (for definition of Qualification, see p. 11). Classes will be conducted in Italian.

334 Dante in Translation (also Comparative Literature 344) Spring term. Credit four hours. Prerequisite: consent of instructor. G. Mazzotta.

348 Monumentality of Early Lyric Poetry Spring term. Credit four hours. G. Mazzotta. The course will focus on some crucial myths of the lyric (e.g., Pygmalion). The readings will include selections from Provençal poets, the Sicilian School, and Stilnovism.

349 Dante's Minor Works Fall term. Credit four hours. G. Mazzotta. The course will focus on *Vita Nuova*, *Convivio*, and *Monarchia*.

355 The Novella Fall term. Credit four hours. G. Mazzotta. A study of the structure and tradition of the genre. Selections from exempla, hagiographies and novelle from Passavanti, and Iacopus de Voragine, *Novellino* and *Decameron*.

396 Readings in Contemporary Fiction Spring term. Credit four hours. A. Grossvogel. Readings will include: Svevo, *Confessions of Zeno*; Gadda, *Acquainted with Grief*; Pelezzeschi, *The Materassi Sisters*; Landolfi, *Gogol's Wife and Other Stories*; Buzzati, *The Tartar Steppe*; Pavese, *The Moon and the Bonfire*; Calvino, *Cosmicomics*; Moravia, *The Lie*; Morante, *Arturo's Island*. The texts may also be read in the Italian originals, and a separate hour of discussion in Italian will be arranged if qualified students wish to have it.

419-420 Special Topics in Italian Literature Throughout the year. Credit four hours a term. Prerequisite: consent of instructor. Staff. Guided independent study of specific topics.

490 Futurism: The Movement that Wasn't Spring term. Credit four hours. A. Grossvogel. Poems, paintings, publicity, politics, and roses to Apollinaire, Picasso, Marinetti, Severini, Boccioni, Balla, Carrà, Palazzeschi, Govoni, Prampolini, Lucini, Valentine de Saint-Point.

Japanese

K. Brazell, E. H. Jordan, J. McCoy

101-102 Basic Course 101 fall term only; 102 spring term only. Credit six hours a term. Prerequisite for 102 is Japanese 101 or equivalent. For course description see p. 106.

201-202 Intermediate Japanese I 201 fall term only; 202 spring term only. Credit four hours a term. Prerequisite for 201 is Japanese 102 or equivalent; prerequisite for 202 is Japanese 201 or equivalent.

203-204 Japanese Conversation 203 fall term only; 204 spring term only. Credit two hours a term. Prerequisite for 203 is Japanese 102 or equivalent; prerequisite for 204 is Japanese 203 or equivalent. For course description see p. 106.

301-302 Intermediate Japanese II 301 fall term only; 302 spring term only. Credit four hours a term. Prerequisite for 301 is Japanese 202 or equivalent; prerequisite for 302 is Japanese 301 or equivalent. E. H. Jorden.

Reading of selected modern texts with emphasis on expository style.

303-304 Japanese Conversation — Intermediate 303 fall term only; 304 spring term only. Credit two hours a term. Prerequisite for 303 is Japanese 204 or equivalent; prerequisite for 304 is Japanese 303 or equivalent. E. H. Jorden.

305-306 Introduction to Literary Japanese 305 fall term only; 306 spring term only. Credit four hours a term. Prerequisite for 305 is Japanese 202 or equivalent; prerequisite for 306 is Japanese 305 or equivalent.

401-402 Advanced Japanese 401 fall term only; 402 spring term only. Credit four hours a term. Prerequisite for 401 is Japanese 302 or equivalent; prerequisite for 402 is Japanese 401 or equivalent.

[404 Linguistic Structure of Japanese Spring term. Credit four hours. Prerequisites: Japanese 102 or consent of instructor, and Linguistics 101. E. H. Jorden, J. McCoy. Not offered 1975-76.]

405-406 Intermediate Literary Japanese 405 fall term only; 406 spring term only. Credit four hours a term. Prerequisite for 405 is Japanese 402 or equivalent; prerequisite for 406 is Japanese 405 or equivalent.

421-422 Directed Readings 421 fall term only; 422 spring term only. Credit to be arranged. Prerequisite for 421 is Japanese 402 or equivalent; prerequisite for 422 is Japanese 421 or equivalent. Topics will be selected on the basis of student needs.

432 Introduction to Japanese Reading for Students of Chinese Spring term. Credit four hours a term. Prerequisite: Japanese 101 or equivalent. E. H. Jorden, J. McCoy.

Falcon

161-162 Intensive Course 161 fall term only; 162 spring term only. Credit sixteen hours per term. Prerequisite: consent of instructor. E. H. Jorden and staff.

Javanese

J. M. Echols, J. U. Wolff.

131-132 Elementary Course 131 fall term only; 132 spring term only. Credit three hours a term. Prerequisite for 131 is Qualification in Indonesian; prerequisite for 132 is Javanese 131 or equivalent.

133-134 Intermediate Course 133 fall term only; 134 spring term only. Credit three hours a term. Pre-

requisite for 133 is Javanese 132 or equivalent; prerequisite for 134 is Javanese 133 or equivalent.

Linguistics

L. H. Babby, N. C. Bodman, J. S. Bowers, E. W. Browne, S. P. Durham, J. M. Echols, J. W. Gair, J. E. Grimes, R. A. Hall, Jr., C. F. Hockett, F. E. Huffman, R. B. Jones, Jr., R. L. Jones, E. H. Jorden, G. B. Kelley, H. L. Kufner, R. L. Leed, G. M. Messing, J. McCoy, J. S. Nobliitt, D. F. Solá, M. A. Suárez, F. C. van Coetsem, J. F. Vigorita, L. R. Waugh, J. U. Wolff

Linguistics Major

The major in linguistics has three prerequisites: (1) Linguistics 101-102; (2) Qualification in two languages, one from the familiar European group (Latin, Greek, French, Italian, Portuguese, Spanish, German, Russian) and one from the other languages offered at Cornell, with six hours beyond Qualification in one or the other of these two; (3) a two-semester sequence in a related discipline (e.g., the literature of the language in which six hours beyond Qualification was offered as a prerequisite, anthropology, computer science, mathematics, philosophy, psychology, or sociology). Completion of the major requires: (1) Linguistics 303, 304, 311; (2) a course in historical linguistics, either a course in historical method such as Linguistics 404 or the history of a specific language or family; (3) a minimum of eight additional hours in linguistics chosen in consultation with the adviser. Prospective majors should see J. W. Gair.

The Honors Program

Applications for honors should be made during the junior year. Candidates for admission must have a 3.0 average overall and should have a 3.2 average in linguistics courses.

In addition to the regular requirements of the major, the candidate for honors will complete an honors thesis and take a final oral examination in defense of it. The thesis is usually written during the senior year, but may be begun in the second term of the junior year when the student's program so warrants. The oral examination will be conducted by the students honors committee consisting of the thesis adviser and at least one other faculty member in linguistics. Members of other departments may serve as additional members if the topic makes this advisable. Linguistics 493 and/or 494 may be taken in conjunction with thesis research and writing, but are not required.

Distribution Requirement

Linguistics 101-102, or the combination Linguistics 101 and any other course for which Linguistics 101 is a prerequisite, satisfies the distribution requirement in the social sciences.

101-102 Introduction to the Scientific Study of Language 101 either term; 102 spring term only.

Credit three hours a term. First term is prerequisite to the second. J. W. Gair and staff.
An introductory survey course designed to acquaint the student with the nature of human language and with its systematic study.

201-202 Phonetics 201 fall term only; 202 spring term only. Credit three hours a term. Prerequisite for 202 is Phonetics 201. J. E. Grimes.
Practical, experimental, and theoretical aspects of articulatory and acoustic phonetics.

203 Multilingual Societies and Cultural Policy Spring term. Credit four hours. D. F. Solá.
An interdisciplinary course on the linguistic, cultural, and political components of cultural policy in multilingual and multicultural societies.

244 Sex Roles and Linguistic Behavior (also Women's Studies 244) Spring term. Credit four hours. Prerequisite: Linguistics 101, Psychology 215, or consent of instructor. S. McConnell-Ginet.
Types of linguistic phenomena in which sex (or conversational participants or of referent) is a relevant variable will be surveyed; situations in different speech communities will be contrasted. Workshop sessions will include analysis of recorded interviews and conversational materials to increase understanding of English male/female speech differences. Possible origins and implications of sex-differentiated linguistic behavior also will be considered.

303 Phonology Fall term. Credit four hours. Prerequisite: Linguistics 101. L. R. Waugh.
A general survey of neo-Bloomfieldian and Jakobsonian phonology.

304 Morphology Spring term. Credit four hours. Prerequisite: Linguistics 303 or consent of instructor. L. R. Waugh.
A general survey of generative phonology and neo-Bloomfieldian, Jakobsonian and generative morphology.

306 Syntax Fall term. Credit four hours. Prerequisite: Linguistics 102 or consent of instructor. D. F. Sola.

[308 Dialectology Spring term. Credit four hours. Offered in alternate years. R. A. Hall, Jr. Not offered 1975-76.]

311-312 The Structure of English 311 fall term only; 312 spring term only. Credit four hours a term. Prerequisite for 311 is Linguistics 102 or consent of instructor; prerequisite for 312 is 311 or consent of instructor. Staff.

The first term is devoted to a study of the structure of English from the point of view of modern transformational analysis. Emphasis is on enabling students to develop the skills of analysis, though current works on English grammar are also examined. The second term is devoted to approaches to the semantic interpretation of English sentences.

325 Teaching English as a Foreign Language Spring term. Credit four hours. Prerequisite: Linguistics 102, 311 or equivalent or consent of instructor. Staff.

341 India as a Linguistic Area Fall term. Credit four hours. Offered in alternate years. Prerequisite: Linguistics 102. J. W. Gair or G. B. Kelley.

400 Analytic Techniques Fall term. Credit four hours. Prerequisite: consent of instructor. C. F. Hockett.

401 Linguistic Structures Fall term. Credit four hours. Prerequisite: Linguistics 304. J. W. Gair.

402 Contrastive Analysis Spring term. Credit four hours. Prerequisite: consent of instructor. C. F. Hockett.

403 Applied Linguistics and Second-Language Acquisition Spring term. Credit four hours. Prerequisite: structure of a language at 400 level. J. S. Noblitt.

404 Comparative Methodology Fall term. Credit four hours. Prerequisite: Linguistics 303. R. B. Jones, Jr.

405-406 Sociolinguistics 405 fall term only; 406 spring term only. Credit four hours a term. First term is prerequisite to the second, or consent of instructor. G. B. Kelley.

411-412 Transformational Grammar: Syntax and Semantics 411 fall term only; 412 spring term only. Credit four hours a term. First term is prerequisite to the second. J. S. Bowers.

Fall: introduction to the theory of syntax within a generative-transformational framework. Spring: advanced course on syntax and the relation of syntax to semantics.

413-414 Generative Phonology 413 fall term only; 414 spring term only. Credit four hours a term. Prerequisite for 413 is Linguistics 102; prerequisite for 414 is Linguistics 413. J. S. Bowers.
Fall: introduction to phonology within a generative-transformational framework. Spring: advanced course in generative phonology.

[440 Dravidian Structures Either term according to demand. Credit four hours. Prerequisite: Linguistics 102. G. B. Kelley. Not offered 1975-76.]

442 Indo-Aryan Structures Either term according to demand. Credit four hours. Prerequisite: Linguistics 102. J. W. Gair.

493 Honors Thesis Research Fall term. Credit four hours. Staff.
May be taken before or after Linguistics 494 or may be taken independently.

494 Honors Thesis Research Spring term. Credit four hours. Staff.

May be taken as a continuation of or before Linguistics 493.

For complete descriptions of courses numbered 600 or above see the *Announcement of the Graduate School: Course Descriptions*. If the course is not included there, consult the graduate faculty representative.

600 Field Methods Either term. Credit four hours. Prerequisites: Linguistics 102 and 201. F. E. Huffman.

601 Literature, Language, and Culture Spring term. Credit four hours. Given in alternate years. R. A. Hall, Jr.

[**602 Pidgin and Creole Languages** Spring term. Credit four hours. Prerequisite: Linguistics 102. R. A. Hall, Jr. Not offered 1975-76.]

603 History of Linguistics Fall term. Credit four hours. Given in alternate years. R. A. Hall, Jr.

605-606 Linguistic Data Processing 605 fall term only; 606 spring term. Credit two hours a term. Prerequisite for 605 is Linguistics 102 and consent of instructor; prerequisite for 606 is Linguistics 605. J. E. Grimes.

607 Schools of Linguistics Spring term. Credit four hours. Prerequisites: Linguistics 102 and consent of instructor. J. E. Grimes.

608 Discourse Analysis Spring term. Credit four hours. Prerequisite: consent of instructor. J. E. Grimes.

610 Topics in Transformational Grammar Either term. Credit three hours. Prerequisite: consent of instructor. J. S. Bowers.

[**623-624 Old Irish** 623 fall term only; 624 spring term only. Credit four hours a term. Offered in alternate years. Prerequisite for 624 is 623 or consent of instructor. J. F. Vigorita. Not offered 1975-76.]

625-626 Middle Welsh 625 fall term only; 626 spring term only. Credit four hours a term. Offered in alternate years. Prerequisite for 626 is 625. J. F. Vigorita. Either Old Irish or Middle Welsh will be offered according to demand.

[**627 Advanced Old Irish** Either term. Credit two to four hours. May be repeated for credit. Prerequisite: Linguistics 624 or consent of instructor. J. F. Vigorita. Not offered 1975-76.]

628 Comparative Celtic Grammar Spring term. Credit four hours. Prerequisite: one Celtic language or consent of instructor. J. F. Vigorita.

629 Advanced Middle Welsh Either term. Credit two to four hours. May be repeated for credit. Prerequisite: Linguistics 626. J. F. Vigorita.

631-632 Comparative Indo-European Linguistics 631 fall term only; 632 spring term only. Credit four hours a term. Prerequisite for 631 is consent of instructor; prerequisite for 632 is 631 or consent of instructor. J. F. Vigorita.

640 Elementary Pali Either term according to demand. Credit three hours. J. W. Gair.

641-642 Elementary Sanskrit 641 fall term only; 642 spring term only. Credit three hours a term. First term is prerequisite to the second. G. M. Messing.

644 Comparative Indo-Aryan Spring term. Credit four hours. Prerequisites: Linguistics 102 and a basic course in Indo-Aryan language, or consent of instructor. J. W. Gair.

[**646 Comparative Dravidian** Spring term. Credit four hours. Prerequisites: Linguistics 102 and a basic course in a Dravidian language, or consent of instructor. G. B. Kelley. Not offered 1975-76.]

651-652 Old Javanese 651 fall term only; 652 spring term only. Credit four hours a term. J. M. Echols. Not offered 1975-76.]

653-654 Seminar in Southeast Asian Linguistics 653 fall term only; 654 spring term only. Credit four hours a term. Prerequisites: Linguistics 303 and consent of instructor. First term is prerequisite to the second term. R. B. Jones, Jr.

655-656 Malayo-Polynesian Linguistics 655 fall term only; 656 spring term only. Credit four hours a term. Prerequisites: Linguistics 102 and consent of instructor. First term is prerequisite to the second. J. U. Wolff.

657 Seminar in Mon-Khmer Linguistics Fall term only. Credit four hours. Prerequisites: Linguistics 102 and consent of instructor. F. E. Huffman.

662 Sino-Tibetan Linguistics Spring term on student demand. Credit four hours. Prerequisites: Linguistics 102 or Chinese 401-402 and consent of instructor. N. C. Bodman.

[**671-672 Comparative Slavic Linguistics** 671 fall term only; 672 spring term only. Credit four hours a term. Offered in alternate years. Prerequisite: consent of instructor. First term is a prerequisite of the second. R. L. Leed. Not offered 1975-76.]

700 Seminar Either term. Credit to be arranged. Prerequisite: consent of instructor. Staff.

701-702 Directed Research

751 Thai Dialectology Fall term. Credit four hours. Prerequisites: Linguistics 303 and consent of instructor. R. B. Jones, Jr.

752 Comparative Thai Spring term. Credit four hours. Prerequisites: Linguistics 404 or equivalent and consent of instructor. R. B. Jones, Jr.

753 Tibeto-Burman Linguistics Fall term. Credit four hours. Prerequisites: Linguistics 404 or equivalent and consent of instructor. R. B. Jones, Jr.

Related linguistics courses offered in other departments are: Anthropology 302; Classics 425; English 601, 610; Philosophy 232, 437, 632, 633; and Psychology 215, 313, 416.

Polish

Listed under Russian, course 171-2-3-4, Elementary course in Slavic Languages.

Portuguese

L. King

101-102 Basic Course 101 fall term only; 102 spring term only. Credit six hours a term. Prerequisite for 102 is Portuguese 101 or equivalent.

Staff. For course description see p. 106.

131-132 Elementary Course 131 fall term only; 132 spring term only. Credit three hours a term. Prerequisites: Qualification in Spanish and consent of instructor. First term is a prerequisite to the second. Staff.

A basic course designed for students who have a strong background in Spanish or another Romance language.

203-204 Intermediate Composition and Conversation 203 fall term only; 204 spring term only. Credit three hours a term. Prerequisites: for 203, Qualification in Portuguese; for 204, Portuguese 203 or consent of instructor. Staff. For course description see p. 106.

303-304 Advanced Composition and Conversation 303 fall term only; 304 spring term only. Credit four hours a term. Prerequisite for 303 is Portuguese 204 or equivalent; prerequisite for 304 is Portuguese 303 or equivalent. Staff.

305-306 Advanced Readings 305 fall term only; 306 spring term only. Credit four hours a term. Prerequisite for 305 is Portuguese 304 or equivalent; prerequisite for 306 is Portuguese 305 or equivalent. Staff.

Designed for students needing further practice in reading Portuguese.

Quechua

D. F. Solá

131-132 Elementary Course 131 fall term only; 132 spring term only. Credit three hours a term. Prerequisite: Qualification in Spanish. For course description see p. 106.

A beginning conversation course in the Cuzco dialect of Quechua.

133-134 Intermediate Course 133 fall term only; 134 spring term only. Credit three hours a term. Prerequisite for 133 is Quechua 131-132 or equivalent; prerequisite for 134 is Quechua 133 or equivalent. An intermediate conversation and reading course. Study of the Huarochiri manuscript.

700 Seminar in Quechua Linguistics Either term. Credit to be arranged. Prerequisite: consent of instructor.

Romance Linguistics

S. P. Durham, R. A. Hall, Jr.

[321-322 History of the Romance Languages 321 fall term only; 322 spring term only. Credit four hours a term. Offered in alternate years. First term is prerequisite to the second. R. A. Hall, Jr. Not offered 1975-76.]

323-324 Comparative Romance Linguistics 323 fall term only; 324 spring term only. Credit four hours a term. Offered in alternate years. First term is prerequisite to the second. R. A. Hall, Jr.

620 Areal Topics in Romance Linguistics

Either term. Credit four hours. May be repeated for credit. R. A. Hall, Jr.

Topic for fall 1975: Old Provençal. Topic for spring 1976: Modern Provençal and Catalan.

[621 Problems and Methods in Romance Linguistics Fall term. Credit four hours. Offered every third year. Not offered 1975-76.]

622 Romance Dialectology Spring term. Credit four hours. Offered every third year. S. P. Durham.

Romance Studies

374 The Shape of Fiction Spring term. Credit four hours. J. Harari, R. González.

An examination and critique of genre theory as it applies to the novel — picaresque, epistolary, autobiographical, psychological, etc. Readings (in English translation) from Cervantes, Defoe, Laclós, Balzac, Lévi-Strauss, Carpentier, Borges, Sarduy, etc.

629 Principles of Esthetics and Literary Criticism

Fall term. Credit four hours. C. M. -Arroyo. A close reading of Heidegger's *Being and Time* will provide the basis for discussing the notions of literary discourse, hermeneutics, knowledge as work, difference, guilt, dread, time, and history.

Three Novelists: Cervantes, Rabelais, Sterne (Comparative Literature 468)

Autobiography as a Literary Form (Comparative Literature 473)

Fact of Fiction (French 483)

**Studies in the Lyric: Dante, Scève, and Yeats
(Comparative Literature 611)****The Historical Novel (Comparative Literature 683)****Russian**

L. H. Babby, E. W. Browne, P. J. Carden, G. Gibian,
A. Glasse, R. L. Leed, S. Loltridge, V. Ripp

Russian major

Russian majors study Russian language, literature,
and linguistics, with emphasis placed in accordance
with their specific interests.

It is desirable, although not necessary, for prospec-
tive majors to complete Russian 101–102, 201–202,
203–204 as freshman and sophomores since these
courses are prerequisite to most of the junior and
senior courses which count toward the major. Stu-
dents may be admitted to the major upon satisfactory
completion of Russian 102 or the equivalent.

Students who elect to major in Russian should con-
sult with both P. J. Carden and R. L. Leed as soon
as possible.

For a major in Russian, students will be required to
complete: (1) Russian 301–302 or 303–304; (2) twenty
hours from 300- and 400-level literature and linguis-
tics courses of which twelve hours must be in litera-
ture in the original.

Prospective teachers of Russian in secondary
schools see p. 106.

Major in Russian and Soviet Studies

Interested students see p. 167.

The Honors Program

Students taking honors in Russian undertake indi-
vidual reading and research, write an honors essay,
and take a comprehensive examination at the end
of the senior year.

Distribution Requirement

The distribution requirement in the humanities is
satisfied in Russian by any two Russian literature
courses at the 200-level and above.

Languages and Linguistics

101–102 Basic Course 101 fall term only; 102
spring term only. Credit six hours a term. Students
who have previously studied Russian should consult
p. 00 before registering for this course. Prerequisite
for 102 is Russian 101 or equivalent. For course
description see p. 106.

131–132 Elementary Reading Course I 131
fall term only; 132 spring term only. Credit three hours
a term. Students who have previously studied Rus-
sian should consult p. 106 before registering. Pre-

requisite for 132 is Russian 131 or equivalent. For
course description see p. 00.

133–134 Elementary Reading Course II 133
fall term only; 134 spring term only. Credit three hours
a term. Prerequisite for 133 is Russian 132 or equi-
valent; prerequisite for 134 is Russian 133 or equi-
valent. For course description see p. 106.

**171–172, 173–174 Elementary Course in Slavic
Languages** 171 and 173 fall term only; 172 and
174 spring term only. Credit three hours a term. First
term or equivalent is prerequisite to the second. E. W.
Browne.

In a given year one of the following languages will be
offered according to demand: Serbo-Croatian,
Bulgarian, Slovenian, Polish, Czech, or Ukrainian.

203–204 Composition and Conversation 203
fall term only; 204 spring term only. Credit three
hours a term. Prerequisite: Qualification in Russian
(for definition of Qualification see p. 00). First term or
equivalent is prerequisite to the second. R. L. Leed
and staff. For course description see p. 106.

**301–302 Advanced Russian Morphology and
Syntax** 301 fall term only; 302 spring term only.
Credit four hours a term. Prerequisite: Russian 202 or
203. First term is prerequisite to the second. L. H.
Babby.

This is a practical language course in which em-
phasis is placed on those areas of Russian that are
particularly hard for English speakers: aspect,
gerunds, participles, -SJA verbs, sequence of tense,
etc.

**303–304 Advanced Composition and
Conversation** 303 fall term only; 304 spring term
only. Credit four hours a term. Prerequisite for 303 is
Russian 204 or equivalent; prerequisite for 304 is
Russian 303 or equivalent. Staff.

305–306 Directed Individual Study 305 fall term
only; 306 spring term only. Credit two hours a term.
Prerequisite: Russian 303–304 or equivalent.
First term is prerequisite to the second. Staff.
This is a practical language course on an advanced
level and is designed to improve oral control of col-
loquial Russian.

[401–402 History of the Russian Language 401
fall term only; 402 spring term only. Credit four hours
a term. Offered in alternate years. Prerequisite for 401
is Qualification in Russian and Linguistics 101.
First term or equivalent is prerequisite to the second.
E. W. Browne. Not offered 1975–76.]

403–404 Linguistic Structure of Russian 403
fall term only; 404 spring term only. Credit four hours.
Offered in alternate years. Prerequisite: Qualification
in Russian; Linguistics 101–102 recommended.
First term or equivalent is prerequisite to the second
L. H. Babby.
A synchronic study and analysis of Russian linguistic
structure. The fall semester will deal primarily with

phonology and morphology and the spring semester with syntax.

407 Russian for Teachers Fall term in alternate years. Credit four hours. Prerequisites: Qualification in Russian, Linguistics 101, and Russian 403 (or concurrent registration). R. L. Leed.

450 Practice Teaching Either term. Credit six hours. Prerequisite: Russian 403. The methods course, Russian 407, may be taken concurrently with practice teaching. Open only to students enrolled in a teacher preparation program. Students will observe and then participate in teaching classes in the secondary school system. They will also become acquainted with a language laboratory.

601 Old Church Slavic Fall term. Credit four hours. This course is prerequisite to 602. E. W. Browne.

602 Old Russian Spring term. Credit four hours. Prerequisite: 601. L. H. Babby.

[**Comparative Slavic Linguistics (Linguistics 671-672)** Not offered 1975-76.]

700 Seminar in Slavic Linguistics According to demand. Credit four hours. L. H. Babby

Literature

103 Freshman Seminar: Russian Literature Either term. Credit three hours.

107 Freshman Seminar: Two Years in Russia — 1846 and 1929 Spring term. Credit three hours. Open only to freshmen who are concurrently enrolled in or have taken a Russian language course at any level. G. Gibian.

201-202 Readings in Russian Literature 201 fall term only; 202 spring term only. Credit three hours a term. Prerequisite: Qualification in Russian. Fall term: V. Ripp. Spring term: S. Lottridge. Completion of this series is the prerequisite for all 300- and 400-level courses in which the reading is done in Russian. Open to freshmen as a humanities seminar. Close reading of selected texts, with attention to their stylistic features and their significance in Russian literary history.

207 Russian Literature Fall term. Credit three hours. Enrollment limited to sixty students. P. Carden. An introduction to the major Russian prose writers of the first half of the nineteenth century. The class is conducted as a discussion. One of the goals is to encourage the student to become a more precise and responsive reader of literary texts in general. Works by Pushkin, Lermontov, Gogol, Turgenev, and Goncharov will be read in English translation.

208 Russian Literature Spring term. Credit three hours. Enrollment limited to sixty students. Students who have taken 207 have priority in registering for 208. P. Carden.

An introduction to major Russian prose writers of the second half of the nineteenth century and the beginning of the twentieth century. The course may be taken separately, but the themes and goals of the discussion are a continuation of Russian 207 and students are encouraged to register for both semesters. Works by Dostoevsky, Tolstoy, Chekhov, Babel, and Pasternak are read in English translation.

[**210 Images of Women in Russian Literature** Fall term. Credit three hours. Not offered 1975-76.]

[**312 Background of Russian Culture** Spring term. Credit four hours. A. Glasse. Not offered 1975-76.]

[**314 Intellectual Background of Russian Literature, 1750-1860** Spring term. Credit four hours. Conducted in Russian. Not offered 1975-76.]

331 Russian Poetry Fall term. Credit four hours. Prerequisite: Russian 202 or the equivalent and the consent of instructor. G. Gibian. A survey of Russian poetry with primary emphasis on analysis of individual poems by major poets. This course counts toward the fulfillment of twelve hours of literature in the original.

332 Russian Theatre and Drama Fall term. Credit four hours. Conducted in English. A. Glasse. A survey of Russian theatre and drama from the beginning to the present time. In translation.

[**335 Gogol** Spring term. Credit four hours. S. Lottridge. Not offered 1975-76.]

336 Society and Literature Fall term. Credit four hours. V. Ripp. Narrative fiction in the context of intellectual and social currents from the beginning of the nineteenth century to the Revolution. An attempt to establish the connection between literary and historical works, including Dostoevsky and Chernyshevsky, Zamiatin and Lenin, Babel and Trotsky. Some attention to early Soviet film (if available).

367 The Russian Novel in Translation Fall term. Credit four hours. G. Gibian. Works of Gogol, Turgenev, Tolstoy, Dostoevsky, Chekhov, and others. Study of individual works, as well as the tracing of the development of certain formal aspects of themes important to nineteenth- and twentieth-century Russia.

368 Soviet Literature in Translation Spring term. Credit four hours. G. Gibian. An introduction to selected works of Russian literature, from 1917 to date, examined as works of art and as social historical documents.

[**369 Dostoevsky** Spring term. Credit four hours. V. Ripp. Not offered 1975-76.]

[**380 Solzhenitsyn and Siniavsky** Fall term. Variable credit. G. Gibian. Not offered 1975-76.]

393 Honors Essay Tutorial Either term. Credit four hours.

431 Russian Prose Fiction Fall term. Credit four hours. Prerequisites: Russian 202 or the equivalent and consent of instructor. P. Carden. Topic for 1975: Turgenev and Tolstoy. Close analysis of selected Russian works.

432 Pushkin Spring term. Credit four hours. Prerequisites: Russian 202 or the equivalent and consent of instructor. A. Glasse.

492 Supervised Reading in Russian Literature Either term. Variable credit. By initiation of the Department.

499 Origins of the Avant Garde (also Comparative Literature 499) Spring term. Credit four hours. P. Carden.

Topic for 1976: encyclopedic works. An examination of the attempt by modernist authors to create a work which is an independent universe. An introduction to theories of modernism in the arts followed by discussion of representative works: Joyce's *Ulysses*, Biely's *St. Petersburg*, Pound's *Cantos*, and others. Comparison of similar phenomena in other arts to the extent that there is class interest.

For complete descriptions of courses numbered 600 and above, see the *Announcement of the Graduate School: Course Descriptions*. If the course is not included there, consult the appropriate graduate faculty representative.

611 Supervised Reading and Research Either term. Credit to be arranged. Prerequisite: consent of the Department.

[617 Russian Stylistics Fall term. Credit four hours. Conducted in Russian. A. Glasse. Not offered 1975-76.]

618 Russian Stylistics Spring term. Credit four hours. S-U grades only. Conducted in Russian. A. Glasse.

[620 Studies in Russian Poetry Spring term. Credit four hours. Not offered 1975-76.]

[621 Russian Literature from the Beginnings to 1700 Fall term. Credit four hours. P. Carden. Not offered 1975-76.]

622 Eighteenth-Century Literature Fall term. Credit four hours. Conducted in Russian. A. Glasse.

[623 Early Nineteenth-Century Literature Spring term. Credit four hours. A. Glasse. Not offered 1975-76.]

[624 Russian Romanticism Fall term. Credit four hours. A. Glasse. Not offered 1975-76.]

[628 Topics in Soviet Literature Fall term. Credit four hours. Not offered 1975-76.]

671 Seminar in Nineteenth-Century Russian Literature Fall term. Credit four hours. V. Ripp.

672 Seminar in Twentieth-Century Russian Literature Spring term. Credit four hours. S. Lottridge.

701 Introduction to Graduate Study Fall term. Credit four hours. S-U grades only. G. Gibian and staff.

Serbo-Croatian

Listed under Russian, course 171-2-3-4, Elementary course in Slavic Languages.

Sinhala (Sinhalese)

J. W. Gair

101-102 Basic Course 101 fall term only; 102 spring term only. Credit six hours a term. First term or equivalent is prerequisite to the second. For course description see p. 106.

201-202 Sinhala Reading 201 fall term only; 202 spring term only. Credit three hours a term. Prerequisite for 201 is Qualification in Sinhala; prerequisite for 202 is Sinhala 201 or equivalent.

203-204 Composition and Conversation 203 fall term only; 204 spring term only. Credit three hours a term. Prerequisite for 203 is Sinhala 202 or consent of instructor; prerequisite for 204 is Sinhala 203 or equivalent. For course description see p. 00. See also Linguistics 341, 442, 631, 640, 641, 644.

Slovenian

Listed under Russian, course 171-2-3-4, Elementary course in Slavic Languages.

Spanish

C. M.-Arroyo, U. J. DeWinter, R. O. González, L. Kerr, L. D. King, J. W. Kronik, D. F. Solá, M. A. Suárez

Spanish Major

The Spanish major is designed to give students proficiency in the oral and written language, to acquaint them with Hispanic culture, and to develop their skill in literary and linguistic analysis. Satisfactory completion of the major should enable students to meet language and literature requirements for a provisional teaching certificate, to continue with graduate work in Spanish, or to satisfy standards for acceptance into the training programs of the government, social agencies, or business concerns.

Students who elect a major in Spanish will work out a plan of studies in consultation with their major adviser or the director of undergraduate studies. Previ-

ous training and interests will be taken into account. They are encouraged to take related courses in fields such as history, philosophy, anthropology, linguistics, art, music, Classics, English, comparative literature, and other foreign languages and literatures. Interested students are encouraged to seek faculty advice about the major as early as possible. (Students interested in Spanish linguistics should consult with M. Suñer in the Department of Modern Languages and Linguistics.) The students' program of courses will be determined on the basis of their vocational goals. Students are free to combine a Spanish major with a concentration of courses in linguistics (in which case they may choose an adviser from the Department of Modern Languages and Linguistics), comparative literature, or sociology and anthropology, or with premedical or prelaw programs.

Spanish 201 and 204 or their equivalent are prerequisite to entering the major in Spanish. A typical Spanish major not split with another discipline would normally comprise: 1) two courses in the 315-316-317 series; 2) 303-304 or their equivalent (study abroad may be substituted); 3) twenty-four additional hours in Hispanic literature; and 4) 408.

Spanish majors are encouraged to spend all or part of their junior year in a Spanish-speaking country on one of the study-abroad programs organized by American universities that allow the transfer of grades and credits.

The J. G. White Prizes and Scholarships are available annually to students who achieve excellence in Spanish.

For acceptance into the major students must have approval of the chairperson of the Department of Romance Studies and of that Department's director of undergraduate studies in Spanish, R. González.

The Honors Program

The Honors Program in Spanish is open to superior students who wish to undertake guided independent reading and research in an area of their choice. Students in the senior year select a member of the Spanish faculty who will supervise their work and direct the writing of the honors essay.

Teacher Preparation Programs

Interested students see p. 106.

Distribution Requirement

The distribution requirement in the humanities is satisfied in Spanish by any two of the following courses: Spanish 201, 315, 316, 317, or any 300-level literature course.

Of the courses listed below, those dealing with literature, as well as Spanish 111-112, are staffed and administered by the Department of Romance Studies, and inquiries regarding them should be addressed to that department, 278 Goldwin Smith Hall.

The courses dealing with language and linguistics (except 111-112) are offered by the Department of

Modern Languages and Linguistics, and are administered by that department, 203 Morrill Hall.

Languages and Linguistics

101-102 Basic Course 101 fall term only; 102 spring term only. Credit six hours a term. Students who have previously studied Spanish should consult: p. 16 before registering for this course. Prerequisite: for 102 is Spanish 101 or equivalent. For course description see p. 106.

111-112 Basic Course 111 fall term only; 112 spring term only. Credit four hours a term. Prerequisite: consent of instructor. R. González and staff. For course description see p. 106.

131-132 Elementary Reading Course I 131 fall term only; 132 spring term only. Credit three hours a term. Students who have previously studied Spanish should consult p. 00 before registering for this course. Prerequisite: for 132 is Spanish 131 or equivalent. For course description see p. 106.

133-134 Elementary Reading Course II 133 fall term only; 134 spring term only. Credit three hours a term. Prerequisite for 133 is Spanish 132 or equivalent; prerequisite for 134 is Spanish 133 or equivalent. For course description see p. 106.

203 Intermediate Composition and Conversation Either term. Credit three hours. Prerequisite: Qualification in Spanish (for definition of Qualification see p. 11). Evening examinations. For course description see p. 106.

204 Intermediate Composition and Conversation Spring term. Credit three hours. Prerequisite: Spanish 203 or equivalent. For course description see p. 106.

303-304 Advanced Composition and Conversation 303 fall term only; 304 spring term only. Credit four hours a term. Prerequisite for 303 is Spanish 204 or equivalent; prerequisite for 304 is Spanish 303 or equivalent. The study of fundamental aspects of style in standard spoken and written Spanish.

401 History of the Spanish Language Fall term. Credit four hours. Prerequisites: Qualification in Spanish, and Linguistics 101 or consent of instructor.

402 Old Spanish Texts Spring term. Credit four hours. Prerequisites: Qualification in Spanish.

407 Spanish for Teachers Fall term. Credit four hours. Prerequisites: Qualification in Spanish, and Linguistics 101 or consent of instructor. A course in methodology and applied linguistics for prospective teachers of the Spanish language.

408 The Grammatical Structure of Spanish Spring term. Credit four hours. Prerequisites: Qualification in Spanish, and Linguistics 101 or consent of instructor.

Descriptive analysis of the morphological and syntactical structure of present-day standard Spanish. A survey of current attitudes, methods, materials, and techniques. Required for provisional New York State teacher certification.

450 Practice Teaching Either term. Credit six hours. Prerequisite: Spanish 408 (the methods course, Spanish 407 may be taken concurrently with practice teaching). Open only to students enrolled in a teacher preparation program. Students will observe and then participate in teaching classes in the secondary school system. They will also become acquainted with a language laboratory. For complete descriptions of courses numbered 600 or above, see the *Announcement of the Graduate School: Course Descriptions*. If a course is not included there, consult the graduate faculty representative.

601 Hispanic Dialectology Either term. Credit four hours. Offered according to demand.

602 Linguistic Structures of Ibero-Romance Either term. Credit four hours. Offered according to demand.

603 Contemporary Theories of Spanish Phonology Either term. Credit four hours. Offered according to demand.

604 Contemporary Theories of Spanish Grammar Either term. Credit four hours. Offered according to demand.

The Comparative Study of the Romance Languages (Romance Linguistics 321–322, 323–324, 620, 621, 622)

700 Seminar in Ibero-Romance Linguistics According to demand. Credit four hours.

Literature

105 Freshman Seminar: Myth and Hero in Spanish Literature Fall term. Credit three hours. A study of three characters in Spanish literature who have acquired universal dimensions: Celestina, Don Quijote, and Don Juan. Readings, papers, and class discussion in English.

106 Freshman Seminar: The Spanish-American Literary Avant-Garde Spring term. Credit three hours. L. Kerr. Today's Spanish-American linguistic and cultural reality as evidenced in several major novels of the last decade. Analysis of selected works of Julio Cortázar, Gabriel García Márquez, José Donoso, and others. Special focus on problems of narrative technique. Readings, papers, and class discussion in English.

201 Introduction to Hispanic Literature Either term. Credit three hours. Prerequisite: Qualification in Spanish or consent of instructor. (For definition of Qualification, see p. 11.) L. Kerr and staff.

An intermediate reading course in which texts from Spain and Spanish America are read and analyzed. The course is designed to increase reading and speaking facility in Spanish and to develop critical and analytical skills in the appreciation of literary texts. Conducted mainly in Spanish. (The literature course that normally follows 201 is either 315 or 316 or 317.)

315 Readings in Golden Age Spanish Literature Spring term. Credit four hours. Prerequisite: Spanish 201 or four years of entrance Spanish or consent of instructor. (This course is not prerequisite to 316 or 317.) R. González.

A study of the concepts of Renaissance, mysticism, and baroque as they are reflected in representative Spanish works of the sixteenth and seventeenth centuries.

316 Readings in Modern Spanish Literature Either term. Credit four hours. Prerequisite: Spanish 201 or four years of entrance Spanish or consent of instructor. J. Kronik.

Reading and discussion of representative texts from Spain from romanticism to the present: Zorrilla, Galdós, Unamuno, García Lorca, Cela, and others.

317 Readings in Modern Spanish-American Literature Spring term. Credit four hours. Prerequisite: Spanish 201 or four years of entrance Spanish or consent of instructor. L. Kerr.

Reading and discussion of representative texts of the nineteenth and twentieth centuries from Spanish America: Darío, Neruda, Borges, Paz, Cortázar, García Márquez, and others.

Note: The prerequisite for the following courses, unless otherwise indicated, is Spanish 315 or 316 or 317 or consent of instructor.

326 The Shape of Fiction (also Romance Studies 374) Spring term. Credit four hours. R. González, J. Harari.

An examination and critique of genre theory as it applies to the novel — picaresque, epistolary, autobiographical, psychological, etc. Readings (in English translation) from Cervantes, Defoe, Laciós, Balzac, Lévi-Strauss, Carpentier, Borges, Sarduy, etc.

[329 Spanish-American Literature to "Modernismo" Not offered 1975–76.]

332 Twentieth-Century Spanish-American Drama Spring term. Credit four hours. L. Kerr. Analysis of significant dramatic works from contemporary Spanish America, with emphasis on the development of a theater of social commitment. Readings and discussion of theories of dramatic literature to be included.

[334 The Spanish-American Short Story Not offered 1975–76.]

[362 Drama of the Spanish Golden Age Not offered 1975–76.]

367 Poetry of the Spanish Golden Age Fall term. Credit four hours.

Analysis of selected poetry of Boscán, Garcilaso, the *Romancero*, Luis de León, San Juan de la Cruz, Góngora, Quevedo, and others. Discussion of theoretical problems of poetry and the poetic tradition.

[385 The Nineteenth-Century Spanish Novel
Not offered 1975-76.]

391 The Post-Civil War Drama in Spain

Fall term. Credit four hours. J. Kronik.

A study of contemporary Spanish theater as an expression of social and esthetic protest under a totalitarian regime. Readings from Buero Vallejo and Sastre to Arrabal, with a preliminary discussion of García Lorca and Valle-Inclán.

[396 The Post-Civil War Novel in Spain
Not offered 1975-76.]

[398 Modern Poetry Not offered 1975-76.]

419-420 Special Topics in Hispanic Literature

Throughout the year. Credit four hours a term. Prerequisite: consent of instructor. Staff. Guided independent study of specific topics. For undergraduates interested in special problems not covered in courses.

429-430 Honors Work in Hispanic Literature

Throughout the year. Credit four hours a term. Prerequisite: senior status and consent of instructor. Staff.

433 Writing Taboos: The Erotic and the Political in Cortázar

Fall term. Credit four hours. L. Kerr. A study of the major novels and other writings of Julio Cortázar in the context of current literary theories and contemporary Spanish-American modes of writing.

[436 Contemporary Spanish-American Prose Fiction Not offered 1975-76.]

[440 Medieval Literature Not offered 1975-76.]

[455 The Picaresque Novel Not offered 1975-76.]

[466 Cervantes Not offered 1975-76.]

480 Romanticism in Spain Spring term. Credit four hours. J. Kronik.

A study of Spanish Romanticism, its background and its consequences, in the context of European Romanticism.

[481 Eighteenth- and Nineteenth-Century Spanish Drama Not offered 1975-76.]

629 Principles of Aesthetics and Literary Criticism. Seminar on Heidegger in Dialogue: A Reading of *Being and Time* Fall term. Credit four hours. C. M.-Arroyo.

Heidegger's redefinition of the basic concepts of criticism: phenomenology, hermeneutics, knowledge,

dread and guilt, time and history, in dialogue with Husserl, Marx, Freud, and Dilthey.

639-640 Special Topics in Hispanic Literature

Throughout the year. Credit four hours a term. To be taken by all new graduate students. Staff.

666 *Don Quijote*, An Experiment with Methods (also Society for the Humanities 425)

Swedish

J. M. Echols

[131-132 Elementary Reading Course 131 fall term only; 132 spring term only. Credit three hours a term. First term is prerequisite to the second. For course description see p. 106. Not offered 1975-76.]

Tagalog

J. U. Wolff

101-102 Basic Course 101 fall term only; 102 spring term only. According to demand. Credit six hours a term. Prerequisite: consent of instructor. First term or equivalent is prerequisite to the second. For course description see p. 00.

201-202 Tagalog Reading 201 fall term only; 202 spring term only. Credit three hours a term. Prerequisite for 201 is Tagalog 102 or equivalent. First term or equivalent is prerequisite to the second.

300 Linguistic Structure of Tagalog Either term. Credit four hours. Prerequisite: Linguistics 101.

J. U. Wolff.

Tamil

J. W. Gair

101-102 Basic Course According to demand. 101 fall term only; 102 spring term only. Credit six hours a term. First term or equivalent is prerequisite to the second. For course description see p. 106.

Telugu

G. B. Kelley

[101-102 Basic Course 101 fall term only; 102 spring term only. Credit six hours a term. First term or equivalent is prerequisite to the second. For course description see p. 106. Not offered 1975-76.]

[201-202 Telugu Reading 201 fall term only; 202 spring term only. Credit three hours a term. Prerequisite: Qualification in Telugu. First term or equivalent is prerequisite to the second. Not offered 1975-76.]

(See also Linguistics 341, 440, 646.)

Thai

R. B. Jones, Jr., R. Mendiones

101-102 Basic Course 101 fall term only; 102 spring term only. Credit six hours a term. First term or equivalent is prerequisite to the second. For course description see p. 106.

201-202 Thai Reading 201 fall term only. 202 spring term only. Credit three hours a term. Prerequisites: for 201, Qualification in Thai; for 202 Thai 201 or equivalent.

203-204 Composition and Conversation 203 fall term only; 204 spring term only. Credit three hours a term. Prerequisites: for 203, Qualification in Thai; for 204, Thai 203. For course description see p. 106.

301-302 Advanced Thai 301 fall term only; 302 spring term only. Credit four hours a term. Prerequisite: Thai 201-202 or the equivalent. Selected readings in Thai writings in various fields.

303-304 Thai Literature 303 fall term only; 304 spring term only. Credit four hours a term. Prerequisite: Thai 301-302 or the equivalent. Reading of some of the significant novels, short stories, and letters written since 1850.

401-402 Directed Individual Study 401 fall term only; 402 spring term only. For advanced students. Credit four hours a term. Prerequisite: consent of instructor.

Ukrainian

Listed under Russian, course 171-2-3-4, Elementary Course in Slavic Languages.

Vietnamese

F. E. Huffman

101-102 Basic Course 101 fall term only; 102 spring term only. Credit six hours a term. First term or equivalent is prerequisite to the second. For course description see p. 106.

201-202 Vietnamese Reading 201 fall term only; 202 spring term only. Credit three hours a term. Prerequisite: for 201, Qualification in Vietnamese; for 202, Vietnamese 201.

203-204 Composition and Conversation 203 fall term only; 204 spring term only. Credit three hours a term. Prerequisites: for 203, Qualification in Vietnamese; for 204, Vietnamese 203. For course description see p. 106.

301-302 Advanced Vietnamese 301 fall term only; 302 spring term only. Credit four hours a term. Prerequisite: Vietnamese 201-202 or the equivalent.

303-304 Vietnamese Literature 303 fall term only; 304 spring term only. Credit four hours a term. Prerequisite: Vietnamese 301-302 or the equivalent. Reading of selections from contemporary literature.

401-402 Directed Individual Study 401 fall term only; 402 spring term only. Credit four hours a term. Prerequisite: consent of instructor. For advanced students.

Music

D. M. Randel, chairman; W. W. Austin, M. Bilson, J. T. H. Hsu, K. Husa, S. Monosoff, R. M. Palmer, D. R. M. Paterson, T. A. Sokol, M. W. Stith, B. Troxell, J. Webster, N. A. Zaslav

There are two options available to the student planning to major in music. At the core of both options is a program which carries the study of music to an advanced level through the deliberate integration of performance, music theory, and music history. This core program sets standards which the Department of Music believes all serious students of music must meet, regardless of the role which music may ultimately play in their lives. Option I is designed to allow the student greater opportunity to elect courses in fields other than music. Option II is designed for the student interested in a more specialized program with a view toward graduate study and a career in music.

Option I presupposes some musical background and the satisfactory completion of Music 151-152 by the end of the sophomore year. Students must take a piano examination before admission to the major and will be expected to remedy through further study any deficiencies that may be revealed.

The requirements for the Bachelor of Arts degree with a major in music under Option I include four semester courses in music theory (251-252 and 351-352), three semester courses in music history (381-382 plus one other numbered 300 or above), and four semesters of participation in a musical organization or ensemble.

Option II presupposes considerable musical studies before entering and the satisfactory completion of Music 251-252, normally by the end of the sophomore year. Students must take a piano examination before admission to the major and will be expected to remedy through further study any deficiencies that may be revealed.

The requirements for the Bachelor of Arts degree with a major in music under Option II include three semester courses in music theory (351-352 and 451 or 453), three semester courses in music history (381-382 plus one other numbered 300 or above), and two semesters of participation in a musical organization.

In addition, the student majoring in music under Option II will concentrate in one of the following areas:

A. *Theory and Composition*. The student concentrating in theory and composition will elect, during the

junior and senior years, four additional semester courses in this area plus Music 462 or 463. These courses may include Music 401–402.

B. Music History. The student concentrating in music history will elect, during the junior and senior years, four additional semester courses in this area plus Music 462 or 463. These courses may include Music 401–402. Two of the four may be drawn from the offerings of other departments.

C. Performance. The student who has shown exceptional promise as a performer during the freshman and sophomore years, as demonstrated in part by a solo recital, may concentrate in performance by electing, during the junior and senior years, four semesters of private instruction in his or her major instrument plus two semesters of chamber music.

Students contemplating a program in music under either option should arrange for placement examinations and auditions during the orientation period of the freshman year or earlier if possible. Before entering the major, each student should choose an adviser from among the department's faculty members.

The Honors Program

The Honors Program in music is intended to provide a special distinction to the Department's ablest undergraduate majors. To become a candidate for honors in music a student must be invited by the faculty at the beginning of the second semester of the junior year. As soon as possible thereafter the student will form a committee of three faculty members to guide and evaluate the honors work. In the senior year the candidate will enroll in Music 401–402 with the chairperson of the Honors Committee as instructor. Candidates will be encouraged to formulate programs that will allow them to demonstrate their total musical ability. The level of honors conferred will be based on the whole range of the independent work in this program of which a major part will culminate in an honors thesis, composition, or recital, to be presented not later than April 1, and a comprehensive examination to be held not later than May 1.

Distribution Requirement

The distribution requirement in the expressive arts is satisfied in music with any six hours in music. A maximum of three hours in courses from Music 331 through 338 and 441 through 444 may be used to satisfy this requirement.

Facilities

A large collection of recorded music and scores is housed in the Department of Music, where listening facilities are provided in the Music Library. These facilities may be used by any member of the student body at hours to be announced each term.

Choral and instrumental ensembles are trained and directed by members of the departmental staff each term, and all students who are interested are invited

to join one or more of these groups. These ensembles include the Sage Chapel Choir, the Cornell Chorus, the Cornell University Glee Club, the bands (marching band, wind ensemble, symphonic band, brass ensembles), the Cornell Symphony Orchestra, the Cornell Chamber Orchestra, and chamber music groups. For rehearsal hours and conditions for academic credit, see Music 331 through 338 and 441 through 444. Announcements of tryouts for all organizations will be made at the beginning of the fall term.

Music Theory

141–142 Rudiments of Music Theory 141 fall term only; 142 spring term only. Credit three hours a term. May not be counted toward the requirements for the major in music. Some familiarity with music is desirable but not necessary. 141 with grade of B- or better is prerequisite to 142. J. Webster.

An elementary, self-contained introduction to music theory, emphasizing fundamental musical techniques, theoretical concepts, and their application. Music 141: ear training; notation, pitch, meter; intervals, scales, triads; basic concepts of tonality; extensive listening to music in various styles; intensive listening and analysis of representative works of Bach, Mozart, and Debussy. Music 142: a technical continuation, including a systematic introduction to counterpoint. Composition of short pieces in the style of J. S. Bach four-part chorales or short keyboard works of the eighteenth and nineteenth centuries.

151–152 Elementary Theory 151 fall term only; 152 spring term only. Credit four hours a term. First term or its equivalent prerequisite to the second. Students intending to major in music under Option II should enroll in Music 151–152 during their freshman year. A knowledge of the rudiments of music and some ability to perform are required for admission. Registration for this course is provisional, depending upon the demonstration of adequate background and ability in proficiency tests given on the first two days of the term. D. R. M. Paterson.

Designed for students expecting to major in music and other qualified students. An integrated theory course required for admission to the music major. Detailed study of the fundamental elements of tonal music: rhythm, scales, intervals, triads; melodic movement, two-part counterpoint, harmonic progression in the chorale style of J. S. Bach; and introduction to analysis of small forms. Drill in aural discrimination, sight singing, keyboard harmony, and elementary figured bass; rhythmic, melodic, and harmonic dictation; and score reading.

251–252 Intermediate Theory 251 fall term only; 252 spring term only. Credit four hours a term. Prerequisite: a grade of C or better in Music 152 or the equivalent. First term prerequisite to the second. J. T. H. Hsu.

Continuation of study and writing in the chorale style of J. S. Bach, concentrating on seventh chords; also

study of secondary dominants, modulation, augmented sixth chords, and the Neapolitan. Introduction to writing small forms using piano textures, combined with analysis of larger forms and sonatinas. Analysis and writing of two- and three-voice chorale preludes. Ear training, keyboard harmony, and score reading.

351-352 Advanced Theory 351 fall term only; 352 spring term only. Credit four hours a term. Prerequisite: a grade of C or better in Music 252 or the equivalent. First term prerequisite to the second.

351: inventions, chromatic harmony, analysis of larger forms and nineteenth-century music, ear training, score reading, and advanced keyboard studies including figured bass. 352: introduction to some techniques of composers from 1900 to 1950, including expanded tonal resources, atonality, and new approaches to form and rhythm. Analysis of representative smaller works by Bartók, Hindemith, Schoenberg, Stravinsky, Webern, and some American composers. Writing assignments in various styles.

[451 Modal Counterpoint and Analysis

Spring term. Credit four hours. Prerequisite: Music 352 or the equivalent with a grade of C or better. R. M. Palmer. Not offered 1975-76.]

[453 Fugue Spring term. Credit four hours. Prerequisite: a grade of C or better in Music 352 or the equivalent. R. M. Palmer. Not offered 1975-76.]

456 Orchestration Fall term. Credit four hours. Prerequisite: Music 352 or the equivalent. K. Husa. A study of the instruments of the orchestra and their use in representative works from 1700 to the present. Scoring for various instrumental groups including large orchestra. Students will occasionally attend rehearsals of the Cornell musical organizations and ensembles.

457 Analysis and Composition (Proseminar)

Fall term. Credit four hours. Prerequisite: Music 352 or its equivalent. R. M. Palmer. A development of the techniques for analyzing structure and function in twentieth-century music. New methods of tonal analysis will be employed, and atonal and serial music will be studied in the wider context of twentieth-century tonality. Compositional projects will concentrate on the acquisition of fundamental techniques and the assimilation of new materials. Students may concentrate on either analysis or composition.

460 Electronic Music Composition Fall term. Credit three hours. Prerequisite: Music 252 and consent of instructor. Enrollment limited to ten students. M. W. Stith and staff.

A study of the basic techniques of writing music by electronic means. This will involve *musique concrète*, tape recorder techniques such as re-recording and splicing. It will also include the use of synthesizers. Works by electronic music composers and readings from a bibliography of the current literature will be studied. Students will be allotted studio time for carrying out class projects and assignments.

462 Orchestral Conducting Spring term. Credit two hours. Prerequisite: Music 352. K. Husa. The fundamentals of score reading and conducting technique. Study of orchestral scores from baroque, classical, romantic, and contemporary periods. Students will occasionally conduct a small group, and those who qualify may conduct the University Orchestra.

[463 Choral Conducting Spring term. Credit two hours. Prerequisite: Music 252 or the equivalent. T. A. Sokol. Not offered 1975-76.]

464 Choral Style Spring term. Credit two hours. Prerequisite: Music 352 or the equivalent. T. A. Sokol. A study of the principal forms of choral music (Mass, cantata, oratorio, madrigal, motet, etc.) with emphasis on performance style.

Music History

101 Introduction to Music Fall term. Credit three hours. D. M. Randel and staff. An introduction to the elements of music and its principal forms in the West. Topics include pitch, rhythm, timbre, the principal forms of instrumental and vocal music, including symphony and opera, and musical aesthetics. Assigned listening includes masterpieces by composers as early as Bach and as recent as Stravinsky.

[204 *The Enchanted Island, Seven Days in May, 1664* Spring term. Credit three hours. M. A. Carlson, A. Seznec, and N. A. Zaslaw. Not offered 1975-76.]

214 Opera Spring term. Credit three hours. N. A. Zaslaw. The history of opera from its origins to the present, surveyed through intensive examination of a few outstanding examples of the genre. Students will be encouraged to study the social, literary, and theatrical, as well as musical, contexts of opera.

[218 Chopin, Chaikovsky, Musorgsky Spring term. Credit three hours. W. W. Austin, G. Gibian, and staff. Not offered 1975-76.]

[219 Chopin, Chaikovsky, Musorgsky Spring term. Credit one hour. Seminar for students capable of reading Russian. Open only to students concurrently enrolled in Music 218. G. Gibian. Not offered 1975-76.]

[315 Brahms, Wagner, and the End of an Era Fall term. Credit four hours. Prerequisite: any course in music or consent of instructor. D. M. Randel. Not offered 1975-76.]

[316 Music and Poetry in France: Late Middle Ages and Renaissance Spring term. Credit four hours. Prerequisite: consent of either instructor. Of most interest to students who have done some work in music or in French literature. A good reading knowledge of French will be a practical necessity. D. M. Randel, E. P. Morris, and guest lecturers. Not offered 1975-76.]

[318 Baroque Instrumental Music] Spring term. Credit four hours. Prerequisite: any course in music or consent of the instructor. N. A. Zaslav. Not offered 1975-76.]

381 Monteverdi to Mozart Fall term. Credit four hours. Prerequisite: Music 152 or consent of instructor. N. A. Zaslav.

The history of music from the emergence of baroque style around 1600 through the classical period at the end of the eighteenth century. Emphasis on works of Monteverdi, Schütz, Purcell, J. S. Bach, Handel, Haydn, and Mozart.

382 Beethoven to Debussy Spring term. Credit four hours. Prerequisite: Music 151 or consent of instructor. D. M. Randel.

The history of musical styles from Beethoven's time through the beginning of the twentieth century. Emphasis on works of Beethoven, Schubert, Schumann, Chopin, Verdi, Wagner, Brahms, Mahler, and Debussy.

[385 Schoenberg, Bartók, and Stravinsky] Fall term. Credit three hours. Prerequisite: ability to play (on any instrument) a piece from Bartók's *Mikrokosmos*, vol. 1. W. W. Austin. Not offered 1975-76.]

387 Mozart, His Life, Works, and Times (also German 387) Fall term. Credit four hours. N. A. Zaslav and S. L. Gilman.

An introduction to the works of W. A. Mozart through the analysis of selected songs and operas reflecting the innovations as well as the traditions of late eighteenth-century Vienna.

[481 Music in Western Europe to Josquin] Fall term. Credit four hours. Prerequisite: consent of instructor. Not offered 1975-76.]

[482 Josquin to Monteverdi] Fall term. Credit four hours. Prerequisite: Music 382 or consent of instructor. Not offered 1975-76.]

Independent Study

301-302 Independent Study in Music Either term. Credit one to four hours a term. Limited to juniors and seniors who are majoring in music. Department approval required. Staff.

The Honors Program

401-402 Honors in Music Credit four hours a term. Open only to honors candidates in their senior year. Staff.

Musical Performance

321-322 Individual Instruction in Voice, Organ, Piano, String, Woodwind, and Brass Instruments 321 fall term only; 322 spring term only. Credit two

hours a term. Undergraduate credit only. Music 321 is not prerequisite to Music 322. Admission by audition only; students may not preregister.

Basic fee for one half-hour lesson weekly during one term (carrying no credit), \$60. Fees for a practice schedule of six hours weekly during one term: \$30 for the use of a pipe organ; \$15 for a practice room with piano; \$5 for a practice room without piano. For credit: one hour lesson weekly (or two half-hours) and a double practice schedule earn two hours credit per term, provided that the student has earned, or is earning, at least three hours credit in courses in music history or music theory for every four hours credit in Music 321-322. The basic fees involved are then multiplied by one and one-half (lesson fee \$90; practice fee \$45, \$22.50, and \$7.50). All fees are nonrefundable once classes begin, even if registration is subsequently canceled by the student. A student may register for this course in successive years. The Department of Music offers a limited number of scholarships for lesson fees. For information inquire at the Department of Music office.

391-392 Advanced Individual Instruction 391 fall term only; 392 spring term only. Credit four hours a term. Open only to juniors and seniors who are majoring under Option II with concentration in performance. Music 391 is not prerequisite to Music 392.

Musical Organizations and Ensembles

Students may participate in musical organizations and ensembles throughout the year and obtain one credit hour per term. Consent of the instructor is required, and admission is by audition only, except in the Sage Chapel Choir. Registration is permitted in two of these courses simultaneously, and students may register in successive years, but no student may earn more than six hours of credit in these courses. Membership in these and other musical organizations is also open to students without credit, if desired.

331-332 Sage Chapel Choir No audition for admission. M 7-8:30 p.m., Th 7-8:30 p.m., Sunday 9:30 a.m.

333-334 Cornell Chorus T 7:15-9 p.m., Sunday 2:15-3:45 or 7:15-9 p.m. Consent of the instructor is required. T. A. Sokol.

335-336 Cornell Orchestra Rehearsals for the Cornell Symphony Orchestra: full orchestra, W 7:30-10 p.m.; sectional rehearsals, alternate T or Th 7:30-10 p.m. Rehearsals for the Cornell Chamber Orchestra, M 7:30-10 p.m. (Limited to more experienced players.) K. Husa.

337-338 University Bands Marching band during football season: T 7:15-9:15 p.m., Th 4:30-5:45, F 4:30-5:45, S 11:00. Symphonic band during spring and fall terms: T 4:30-5:45, Th 7:15-9:15 p.m. Wind ensemble, spring term only: M 7:15-9:15 p.m., Th 4:30-5:45. M. W. Stith.

339-340 Ear Training and Sight Singing Open only to students who are participating in a University musical ensemble. Prerequisite: consent of instructor. Music 339 is not prerequisite to Music 340. T. A. Sokol.

A practical course designed to improve the student's conception of melody and rhythm and to help sight reading ability. Progressive class exercises in intervals, rhythms, melodies, and counterpoints.

441-442 Chamber Music Ensembles Consent of instructor is required. Staff.

Study and performance of chamber music literature; string and wind groups, piano trios and quartets, trio sonatas, etc. Emphasis on musical problems, with some practice in sight reading.

443-444 Chamber Singers Consent of instructor is required. T. A. Sokol.

Study and performance of selected vocal chamber music.

Graduate Courses and Seminars

Primarily for graduate students. Open to qualified undergraduates with consent of the instructor. For complete descriptions of courses numbered 500 or above see the *Announcement of the Graduate School: Course Descriptions*. If a course is not included there, consult the graduate faculty representative.

[616 Music and Poetry in France: Late Middle Ages and Renaissance Spring term. Credit four hours. D. M. Randel and E. P. Morris. Not offered 1975-76.]

651 Twentieth-Century Classics, European and American Spring term. Credit four hours. R. M. Palmer.

[653 Analysis of Structure and Function in Tonal Music Spring term. Credit four hours. Qualified upperclassmen may enroll with consent of instructor. Not offered 1975-76.]

655 Seminar in Analytic Techniques for Twentieth-Century Music Fall term. Credit four hours.

657-658 Composition 657 fall term only; 658 spring term only. Credit four hours a term. R. M. Palmer.

659-660 Seminar in Composition 659 fall term only; 660 spring term only. Credit four hours a term. K. Husa.

681 Introduction to Bibliography and Research Fall term. Credit four hours. Prerequisites: a reading knowledge of French and German, and an elementary knowledge of music theory and general music history. M. A. Keller.

[683 Early Theories of Tonality Fall term. Credit four hours. J. Webster. Not offered 1975-76.]

[684 Seminar in Renaissance Music Spring term. Credit four hours. N. A. Zaslaw. Not offered 1975-76.]

[685 Schoenberg, Bartók, and Stravinsky Fall term. Credit five hours. Prerequisites: ability to play Stravinsky's *Pieces for the Five Fingers*, and a reading knowledge of one relevant foreign language — French, German, Russian, or Hungarian. W. W. Austin. Not offered 1975-76.]

686 Beethoven Spring term. Credit four hours.

687 Mozart, His Life, Works, and Times (also German 757) Fall term. Credit four hours. N. A. Zaslaw and S. L. Gilman.

[688 Music of the Grand Siècle Spring term. Credit four hours. N. A. Zaslaw. Not offered 1975-76.]

689 Haydn Fall term. Credit four hours. Prerequisites: Music 653 or the equivalent, and a reading knowledge of German. J. Webster.

690 Ballad Opera Spring term. Credit four hours. N. A. Zaslaw.

[783-784 Seminar in Medieval Music 783 fall term only; 784 spring term only. Credit four hours a term. D. M. Randel. Not offered 1975-76.]

785-786 History of Music Theory 785 fall term only; 786 spring term only. Credit four hours a term. Prerequisites: 785: a reading knowledge of Latin, Italian, or German; 786: a reading knowledge of French or German. J. Webster.

[787-788 Debussy to Boulez 787 fall term only; 788 spring term only. Credit four hours a term. W. W. Austin. Not offered 1975-76.]

[789-790 Liturgical Chant in the West 789 fall term only; 790 spring term only. Credit four hours a term. D. M. Randel. Not offered 1975-76.]

Philosophy

S. Shoemaker, chairman; M. Black, R. N. Boyd, O. Chateaubriand, G. Fine, C. A. Ginnet, T. Irwin, N. Kretzmann, D. B. Lyons, N. A. Malcolm, R. W. Miller, R. C. Stalnaker, N. L. Sturgeon, A. W. Wood

Students expecting to major in philosophy should begin their study of it in their freshman or sophomore year. Admission to the major is granted by the chairman of the Department on the basis of the student's work during the first two years.

Eight philosophy courses are required for the major. They must include at least one course in ancient philosophy, at least one other course in the history of philosophy, and at least three courses numbered above 300, one of which must be numbered above 400 (with the exception of 490). Philosophy 201 and 231, while not required, are especially recommended for majors or prospective majors; and Philosophy 301

and 302 are also strongly recommended for majors.

Philosophy majors must also complete at least eight hours of course work in related subjects approved by their major advisers.

Occasionally, majors may serve as teaching or research aides working with faculty members familiar with their work.

The Honors Program

A candidate for honors in philosophy must be a philosophy major with a cumulative average of B- or better for all work in the College of Arts and Sciences and an average of B or better for all work in philosophy. In either or both terms of the senior year a candidate for honors enrolls in Philosophy 490 and undertakes research leading to the writing of an honors essay by the end of the final term. Prospective candidates should apply to the Department of Philosophy.

Distribution Requirement

The distribution requirement in the humanities is satisfied in philosophy by completing any two courses in philosophy, with the following exceptions: (a) Philosophy 100 if used in satisfying the freshman seminar requirement; (b) a combination of two courses in formal logic, such as 231, 431, 432, and 436.

Introductory Courses

100 Freshman Seminar in Philosophy Either term. Credit three hours. Open only to freshmen who have not taken Philosophy 101. Independent sections. Fall term: N. Sturgeon, R. Stalnaker, T. Irwin, G. Fine, and an instructor to be announced. Spring term: S. Shoemaker, C. Ginet, G. Fine, and an instructor to be announced. Central topics in various areas of philosophy are studied and discussed in sections of this course. Offered as part of the Freshman Seminars Program.

101 Introduction to Philosophy Either term. Credit three hours. Open only to students who have not taken Philosophy 100. Fall term: C. Ginet and N. Kretzmann. Spring term: D. Lyons. An introduction to philosophical ideas and problems through a study of the writings of several philosophers. Topic for the fall term: space and time. Topic for the spring term: relativism and objectivity in morality and science.

131 Logic: Evidence and Argument Fall term. Three hours credit. Open only to students who have not taken Philosophy 231. R. Boyd. A course designed to develop skills at analyzing and evaluating reasoning, argumentation, and evidence in the sciences, religion, ethics, the law, politics, and philosophy.

Courses Primarily for Undergraduates

All 200- and 300-level courses in philosophy are designed primarily for undergraduates and are open to sophomores, juniors, and seniors except as noted in the course descriptions. The 200-level courses generally have no prerequisites. Some 300-level courses have prerequisites which instructors may waive in individual cases. (Graduate students may enroll in 300-level courses only with permission of the instructor.)

201 Philosophical Problems Fall term. Credit four hours. C. Ginet. Topic for 1975-76: free will.

211 Ancient Philosophy Spring term. Credit four hours. G. Fine. A study of major themes in ancient thought, particularly that of Plato and Aristotle.

212 Modern Philosophy Spring term. Credit four hours. Also open to freshmen who have taken Philosophy 100 or 101. A. Wood. A survey of the history of European philosophy in the seventeenth and eighteenth centuries.

213 Existentialism and Literature (also Comparative Literature 213) Fall term. Credit four hours. P. Gottschalk and A. Wood. An exploration of several major technical issues of existentialist philosophy and of their treatment in drama and fiction. The readings will include such philosophical works as Heidegger, *Being and Time*, and such literary works as Sartre, *Nausea*, Dostoevsky, *The Brothers Karamazov*, and Shakespeare, *Hamlet*.

231 Formal Logic Spring term. Credit four hours. Also open to freshmen. R. Stalnaker. The analysis and evaluation of deductive reasoning in terms of formalized languages (the sentential calculus and the first-order predicate calculus with identity).

[232 Semantics Not offered 1975-76.]

241 Ethics Fall term. Credit four hours. D. Lyons. An introduction to the philosophical study of moral problems and to ethical theories.

[242 Social and Political Philosophy Not offered 1975-76.]

[243 Aesthetics Not offered 1975-76.]

[244 Philosophy in Literature Not offered 1975-76.]

261 Knowledge and Reality Fall term. Credit four hours. Also open to freshmen who have taken Philosophy 100 or 101. R. Miller. An introduction to philosophical problems concerning the nature of knowledge, of certainty and belief, and of cause, truth, substance, identity, essence, and ab-

stract entities. Topic for 1975–76: scepticism and the nature of knowledge.

262 Philosophy of Mind Spring term. Credit four hours. S. Shoemaker.
An introduction to philosophical problems concerned with the mind-body problem, knowledge of other minds, the nature of self-consciousness and self-awareness, personal identity, and freedom of the will.

263 Religion and Reason Fall term. Credit four hours.
A survey of topics related to the rational understanding and assessment of theism in the Western tradition.

301–302 Majors Seminar 301 fall term; 302 spring term. Credit four hours each term. Open to majors in philosophy. 301 not prerequisite to 302. Staff.
A survey of contemporary research in philosophy, conducted in two-week segments in which the students are presented with and discuss a sample of material of current interest to a member of the Department.

311 Modern Rationalism Fall term. Credit four hours. Prerequisite: at least one course in philosophy. N. Kretzmann.
Topic for 1975–76: the philosophy of Spinoza.

[312 **Modern Empiricism** Not offered 1975–76.]

[313 **Medieval Philosophy** Not offered 1975–76.]

314 Topics in Ancient Philosophy Spring term. Credit four hours. Prerequisite: one course in philosophy. T. Irwin.
Topic for 1975–76: Aristotle's metaphysics, philosophy of science, and philosophy of mind.

315 Special Topics in the History of Philosophy Spring term. Credit four hours. Prerequisite: one course in philosophy. N. Kretzmann.
Topic for 1975–76: eternity, time, and change.

317 Kant and Hegel Fall term. Credit four hours. Prerequisite: one course in philosophy. A. Wood.
Topic for 1975–76: Hegel's *Phenomenology of Mind*.

318 Twentieth-Century Philosophy Fall term. Credit four hours. Prerequisite: one course in philosophy. S. Shoemaker.
Topic for 1975–76: Russell, Moore, and Wittgenstein on knowledge.

[319 **Philosophy of Marx** Not offered 1975–76.]

341 Ethical Theory Fall term. Credit four hours. Prerequisite: one course in philosophy. T. Irwin.
A comparison of two or more selected theories of ethics, with respect to one or more ethical issues. Both historical and contemporary sources will be used. Topic for 1975–76: morality and self-interest.

342 Law, Society, and Morality Fall term. Credit four hours. Prerequisite: one course in philosophy. D. Lyons.
Topics include: coercion and the nature of law; problems of legal punishment; limitations on liberty; justice and the general welfare.

[361 **Metaphysics and Epistemology** Not offered 1975–76.]

381 Philosophy of Science Fall term. Credit four hours. Prerequisite: one course in philosophy. R. Boyd.
An examination of certain topics that arise in attempting to understand the historical development and the logical setting of science: theories and observation, explanation, and the testing of hypotheses.

[382 **Philosophy and Psychology** Not offered 1975–76.]

383 Philosophy of Choice and Decision Spring term. Credit four hours. Prerequisite: one course in philosophy or at least one course related to the subject matter of the course. R. Stalnaker.
A conceptual analysis of the factors that typically enter into rational decision under risk or uncertainty, including calculation of alternatives and the associated possibilities, the corresponding values or utilities attached to the various outcomes, the subject's scales of preference, and so on.

[386 **Philosophical Problems in the History of Biology** Not offered 1975–76.]

387 Philosophy of Mathematics Spring term. Credit four hours. Prerequisite: Philosophy 231 or the equivalent, or permission of the instructor. O. Chateaubriand.
An examination of the meaning of basic mathematical terms and the justification of mathematical principles. Topics may include: the definition of an integer; relations between arithmetic, set theory, and logic; the limits of formalism; intuitionist criticisms of classical mathematics; the sources of mathematical truth.

388 Social Theory Fall term. Credit four hours. Prerequisites: one course in philosophy or two in the social sciences. R. Miller.
A study of leading modern conceptions of society, including those of Marx, Durkheim, Weber, and Parsons. Topics will include the function of the state, the nature of ideology, the origins and consequences of economic systems, and the relation between sociological and psychological explanation. (May be taken in addition to the fall 1974, Philosophy 388.)

[389 **Philosophy of History** Not offered 1975–76.]

390 Informal Study Either term. Credit to be arranged. To be taken only in exceptional circumstances and by arrangement made by the student with his or her adviser and the faculty member who has agreed to direct the study. Staff.

Advanced Courses and Seminars

All 400-level courses in philosophy are designed primarily for advanced undergraduates, philosophy majors, and graduate students. All 600-level courses in philosophy are seminars designed primarily for graduate students. The 400- and 600-level courses are open to others only by consent of the instructor as indicated in the course description.

412 Medieval Philosophy Spring term. Credit four hours. Prerequisite: Philosophy 313 or consent of the instructor. N. Kretzmann.

An intensive study of some philosophical topic or of the work of some philosopher of the Middle Ages.

413 Plato and Aristotle Fall term. Credit four hours. Open to graduate students and to undergraduates who have had at least two courses in philosophy. G. Fine.

Topic for 1975-76: Plato's metaphysics, epistemology, and ethics.

431 Deductive Logic Spring term. Credit four hours. Prerequisite: Philosophy 231 or the equivalent. O. Chateaubriand. The first-order predicate calculus: proof theory and model theory; the completeness theorem. Theories and definitions. Axiomatic set theory: sets, functions, relations, cardinals, ordinals, the recursion theorem.

[432 **Deductive Logic** Not offered 1975-76.]

[433 **Philosophy of Logic** Not offered 1975-76.]

[435 **Inductive Logic** Not offered 1975-76.]

[436 **Intensional Logic** Not offered 1975-76.]

[437 **Problems in the Philosophy of Language** Not offered 1975-76.]

441 Contemporary Ethical Theory Spring term. Credit four hours. Open to graduate students and undergraduates who have had at least two courses in philosophy. D. Lyons.

Topic for 1975-76: to be announced.

442 Problems in Ethics and the Philosophy of Mind Fall term. Credit four hours. Open to graduate students and to undergraduates who have had at least two courses in philosophy. N. Sturgeon.

Topic for 1975-76: intuitionism and emotivism.

461 Metaphysics Spring term. Credit four hours. Open to graduate students and to undergraduates who have had at least two courses in philosophy. O. Chateaubriand.

Topic for 1975-76: to be announced.

[462 **Theory of Knowledge** Not offered 1975-76.]

[481 **Problems in the Philosophy of Science** Not offered 1975-76.]

490 Special Studies in Philosophy Either term. Credit four hours. Open to honors students in their senior year. Staff.

611 Ancient Philosophy Spring term. Credit four hours. T. Irwin.

[612 **Medieval Philosophy** Not offered 1975-76.]

613 Modern Philosophers Spring term. Credit four hours. A. Wood.

[619 **History of Philosophy** Not offered 1975-76.]

[631 **Logic** Not offered 1975-76.]

632 Semantics Spring term. Credit four hours. C. Ginet.

[633 **Philosophy of Language** Not offered 1975-76.]

[641 **Ethics and Value Theory** Not offered 1975-76.]

661 Theory of Knowledge Fall term. Credit four hours. R. Stalnaker.

662 Philosophy of Mind Fall term. Credit four hours. S. Shoemaker.

[663 **Philosophy of Religion** Not offered 1975-76.]

[664 **Metaphysics** Not offered 1975-76.]

[665 **Metaphysics** Not offered 1975-76.]

681 Philosophy of Science Fall term. Credit four hours. M. Black.

700 Informal Study Either term. Credit to be arranged. To be taken by graduate students only in exceptional circumstances and by arrangement made by the student with his or her Special Committee and the faculty member who has agreed to direct the study. Staff.

Related Courses in Other Departments

[Chinese Philosophical Literature (Asian Studies 371)]

Elementary Mathematical Logic (Mathematics 381)

[Foundations of Western Thought (Comparative Literature 336)]

Greek Philosophy (Classical Civilization 224)

Introduction to History of Religions (Asian Studies 203)

Kierkegaard and Nietzsche (Comparative Literature 698)**Seminar in Jewish and Islamic Philosophy (Semitics 243)**

Physics

R. M. Littauer, chairman; V. Ambegaokar, N. W. Ashcroft, K. Berkelman, H. A. Bethe (emeritus), R. Bowers, D. G. Cassel, G. V. Chester, R. M. Cotts, J. W. DeWire, M. E. Fisher, D. B. Fitchen, B. Gittelman, K. Gottfried, K. Greisen, L. N. Hand, D. L. Hartill, P. L. Hartman, D. F. Holcomb, T. Kinoshita, J. B. Kogut, J. A. Krumhansl, D. M. Lee, E. C. Loh, H. Mahr, B. W. Maxfield, B. D. McDaniel, N. D. Mermin, N. B. Mistry, H. F. Newhall, M. E. Nordberg, J. Orear, R. O. Pohl, J. D. Reppy, R. C. Richardson, E. E. Salpeter, R. H. Siemann, A. J. Sievers, R. H. Silsbee, A. Silverman, P. C. Stein, R. M. Talman, S. A. Teukolsky, M. Tigner, D. H. White, J. W. Wilkins, K. G. Wilson, W. M. Woodward, T.-M. Yan, D. R. Yennie

Four introductory physics sequences are open to freshmen: 101–102, 112–213–214–315, 207–208, and 201–202. Advanced placement and credit are offered as outlined on p. 17; see also the leaflet *Advanced Placement of Freshmen*, or consult Professor R. Cotts, 522 Clark Hall. Physics 101–102 (noncalculus) has a prerequisite of three years of college-preparatory mathematics. Both 112 and 207 require calculus (e.g., Mathematics 191 or 111), and additional mathematics is required for subsequent courses in sequence. 101–102 or 207–208 may be taken as terminal physics courses. 201–202 is specifically designed for students not intending to major in any science, and does not prepare them for more advanced work. The three- or four-term sequence 112–213–214(–315) is recommended for physics majors and engineers.

For those wishing to pursue some physics beyond the introductory level, several courses may be appropriate: 205 Energy, 330 Modern Experimental Optics, and 360 Introductory Electronics. Transfer students requesting credit for physics courses taken at another college should consult the Department office.

Physics Major

Various options permit the student to concentrate heavily on physics, or to take less physics and pursue an accompanying constellation of courses in a related area. Those desiring a physics concentration as preparation for professional or graduate work should complete 112–213–214 or 112–217–218 (and preferably 315) by the end of the sophomore year; also Mathematics 191–192–293–294 (or Mathematics 193–194–295–296) or Mathematics 111–122–221–222. A basic preparation for a less intensive physics program may include 112–213–214 or 207–208, with Mathematics 111–112(–214 through 218)–315. Prospective majors are urged to make an early appointment at the Physics office for advice in planning

their program. Acceptance into the major is normally granted after completion of a year of physics and mathematics at a satisfactory level; the student should propose a tentative plan for completing his graduation requirements as well as those for the major. The plan may change from time to time, but it must be approved by the major adviser. The major requirements have two components — a core and a concentration.

Core

The core requirements consist of: (a) 112–213–214 (or 112–217–218) or 207–208; (b) an intermediate physics course in each of four areas: mechanics (318 or 431); electricity and magnetism (325 or 432); modern physics (315 or 443); and laboratory physics (310, 360, or 410). Mathematics courses prerequisite for the physics courses are also necessary. The choice of core courses is influenced by the intended concentration: for a concentration in physics, courses 112–213–214 (or 112–217–218), 318, 325, 315 or 443, and 310 or 410 are appropriate; while for concentrations outside physics part (b) of the core might consist of 315, 431, 432, and 410.

Concentration

This component reflects the student's interest in some area related to physics; the array of courses must have internal coherence. The concentration must include at least fifteen credit hours, unless otherwise stated, with at least eight credit hours at the junior-senior level (above 300). Examples of concentrations: physics; mathematics; biology and chemistry; astrophysics; natural sciences; engineering; computer science; science, technology, and society; environmental studies; intellectual history; history and philosophy of science; city planning and urban development; and business and economics.

The concentration in physics is recommended as preparation for professional or graduate work in physics or a closely related discipline. Twelve credit hours from physics courses above 300, in addition to those selected for part (b) of the core, are required; the program must include 410. Also, the following are strongly advised: Physics 443; Mathematics 421, 422, and 423; and at least one from physics 341, 444, 454, Applied Physics IPD401, Astronomy 431–432, and Geological Sciences 485–486. Students with a concentration in physics who wish to emphasize preparation for astronomy or astrophysics should consult the Astronomy section of this *Announcement*.

A combined biology-chemistry concentration is recommended for premedical students or those who wish to prepare for work in biophysics. The concentration in natural science is particularly appropriate for teacher preparation.

Foreign Language Requirement

Students interested in eventual graduate work in physics are advised to meet this requirement with French, German, or Russian.

The Honors Program

A student may be granted honors in physics upon the recommendation of the Physics Advisers Committee of the physics faculty.

Distribution Requirement

The requirement in physical science is met by any two sequential courses such as 101–102, 207–208, or 201–202 (the last designed for students not intending to do further work in science), 205, or another 200-level topical course that may be offered from time to time, may be substituted for 201 or 202. "Crossovers" between sequences are permitted if prerequisites are satisfied; however, such crossovers (or the use of a truncated sequence such as 112–213) should be regarded as accidents in the evolution of a student's schedule, not as sound planning.

101–102 General Physics 101 fall term only, except by special permission; 102 spring term only. (101–102 usually is offered also in the Summer Session.) Credit four hours per term. Prerequisites: three years of high school mathematics, including some trigonometry. Course 101 (or 112 or 207) is prerequisite to 102. Includes more modern physics and less mathematical analysis than 207–208 or 112–213–214, but more mathematics than courses in the group 200 to 206. Students planning to major in a physical science should elect 207–208 or 112–213–214. A self-paced, mastery-oriented, audiotutorial format; students work in a learning center at hours of their own choice. Repeated tests on each unit are given until mastery is demonstrated. One large group meeting in first week only, W 9:05 or 10:10. K. Greisen and staff. Basic principles treated quantitatively but without calculus. Major topics for 101: particle structure of matter; kinematics; forces and fields (including electric fields); momentum, angular momentum, energy (including nuclear energy); relativity; sound waves. For 102: electricity and magnetism; optics; thermal physics; quantum physics. Laboratory emphasizes instrumentation, measurement, and interpretation of data. Text: *Physics for College Students — with Applications to the Life Sciences* by Tilley and Thumm.

112 Physics I: Mechanics and Heat Either term. (Usually offered also during the Summer Session.) Credit four hours. Primarily for students of engineering and for prospective physics majors. Prerequisite: coregistration in Mathematics 192 (or 194 or 112); or *substantial* previous contact with introductory calculus, combined with coregistration in mathematics 191 (or 193 or 111). Lectures, discussion, and one two-hour laboratory period in alternate weeks. Evening exams will be scheduled. Fall, K. Berkelman. Spring, R. Siemann. Mechanics of particles: kinematics, dynamics, special relativity, conservation laws, central force fields, periodic motion. Mechanics of many-particle systems: center of mass, rotational mechanics of a rigid body,

static equilibrium. Kinetic theory and thermodynamics of simple gases. At the level of *Fundamentals of Physics* (Revised Printing, 1974) by Halliday and Resnick.

201 Great Ideas of Physics Fall term. Credit three hours. Intended for nonscientists; does not serve as a prerequisite to further science courses (except Physics 202 and 205). Assumes no scientific background, but may use some high school mathematics. Lecture and discussion. P. Stein. Students will investigate the basic concepts involved in some of the milestones in the evolution of physics. Topics will be selected from Newtonian mechanics; special relativity; gravitation; the difference between left and right; entropy and the "heat death" of the universe; the nature of light; quantum theory and the indeterminacy principle.

202 Physics in the World Around Us

Spring term. Credit three hours. Intended for nonscientists; does not serve as a prerequisite to further science courses (except Physics 205). Assumes no scientific background, but may use some high school mathematics. Lecture and discussion. G. Chester and visitors. This course will show how the principles of physics explain many of the most striking phenomena we see in the world around us. Typical phenomena which may be included are: weather and storms, tides, the flight of birds and airplanes, the color of the sky and sea, and the formation of crystals. Some everyday phenomena that are as yet unexplained may be included for discussion. The level of the course will be that of a typical article in the *Scientific American*.

205 Energy

Spring term. Credit three hours. Prerequisites: one term of college-level physics or chemistry and one term of college-level mathematics, or consent of instructor. D. Holcomb. Energy sources and conversion processes will be studied from two perspectives: the basic physics of energy and its conversion from one form to another, and the use of energy by man. Topics will include gravitational and mechanical energy, electromagnetic energy, thermal processes, the laws of thermodynamics, chemical and nuclear reactions, radioactivity, solar energy, and the behavior of exponential processes. Study of the history of man's use of energy and future prospects for energy sources for the earth will be based upon quantitative examination of relevant conversion processes.

207–208 Fundamentals of Physics 207 fall term only; 208 spring term only. Credit four hours a term. Prerequisites for 207: high school physics; coregistration in Mathematics 192 or 112, or *substantial* previous contact with introductory calculus, combined with co-registration in Mathematics 191 or 111. Prerequisites for 208: Physics 207 (or 112 or 101), and at least coregistration in Mathematics 192 or 112. Physics 207–208 is intended as the first college physics course for students majoring in a physical science, mathematics, or an analytically oriented biological science. Demonstration lectures, discussions, and one three-hour laboratory period in alter-

nate weeks. Evening examinations will be scheduled. H. Newhall.

Core-plus-branch plan. The first nine weeks of each semester devoted to core material (lecture/discussion/lab format): 207, particle mechanics and waves; 208, electromagnetic fields and circuits. For the last five weeks each term, each student selects one branch topic and the work on this topic is done on an unstructured, self-paced basis. Possible branches: 207, thermodynamics, acoustics and the physics of music, special relativity, gravitation; 208, optics, introduction to quantum mechanics, nuclear physics, electronics. The core material at the level of *Elementary Classical Physics*, 2nd ed., by Weidner and Sells.

213 Physics II: Electricity and Magnetism

Either term. (Usually offered also during the Summer Session.) Credit four hours. Primarily for students of engineering and for prospective physics majors. Prerequisites: Physics 112 and coregistration in the continuation of the mathematics sequence required for 112. Lectures, discussions and laboratory. Evening exams will be scheduled.

Electrostatics, behavior of matter in electric fields, magnetic fields, Faraday's Law, electromagnetic oscillations and waves, magnetism. At the level of *Fundamentals of Physics* (Revised Printing, 1974) by Halliday and Resnick. Laboratory work supplements the written and oral work: electrical measurements, dc and ac circuits, resonance phenomena, physical electronics, electrical conduction, selected properties of electric and magnetic fields.

214 Physics III: Optics, Waves, and Particles

Either term. (Usually offered also during the Summer Session.) Credit four hours. Primarily for students of engineering and for prospective physics majors. Prerequisites: Physics 213 and coregistration in the continuation of the mathematics sequence required for 112. Lectures, discussions, and laboratory. (Physics 310 may be taken, by consent of the instructor, in place of the 214 laboratory; credit for 214 is then three hours.) Evening exams will be scheduled. Fall, J. Orear. Spring, H. White.

Wave phenomena; electromagnetic waves; physical optics; quantum effects, matter waves; uncertainty principle; introduction to wave mechanics, elementary applications. At the level of *Optics and Modern Physics* by Young.

217 Physics II: Electricity and Magnetism.

Either term. Credit four hours. A more rigorous version of Physics 213 for students who have done very well in Physics 112 and desire a more analytic treatment than that of 213. Acceptance into the course will be determined by the instructor. Engineering students should seek the approval of their adviser before registering. Physics majors are encouraged to select 217. Students are required to do the laboratory work offered in 213 in order to obtain credit for 217. Evening exams may be scheduled. Fall, A. Sievers. Spring, L. Hand.

Fundamentals of electricity and magnetism, including the use of vector calculus. At the level of *Electricity*

and *Magnetism* by Purcell (Vol. II, Berkeley Physics Series).

218 Physics III: Optics, Waves, and Particles

Either term. Credit three hours. A special section of 214. Conditions governing enrollment are similar to those for 217. Students are required to do the laboratory work offered in 214 (for which one credit hour will be given) or to enroll concurrently in 310. Evening exams may be scheduled. Fall, T.-M. Yan. Spring, R. Pohl.

310 Intermediate Experimental Physics

Either term. Credit two or three hours. Prerequisite: Physics 208 or 213. Laboratory. May be taken concurrently with Physics 214 or 218 in place of the laboratory work offered in 214, with consent of student's adviser. Physics majors coming from 208 who wish to use 310 in satisfaction of the core requirement should register for three hours credit. A. Silverman and staff.

Students select from a variety of experiments, and as a final project design and perform an experiment of their own choice. An individual, independent approach is encouraged. Facilities of the 410 laboratory will be available for some experiments.

315 Microphysics

Spring term. Credit three hours. Primarily for students of engineering and prospective majors in physics. Prerequisites: Physics 214; Mathematics 294 (or coregistration in 315).

S. Teukolsky. Introduction to quantum and statistical physics of atoms, solids, and nuclei; and current topics. At the level of *Modern Physics*, 2nd ed., by Sproull.

318 Analytical Mechanics

Spring term. Credit four hours. Prerequisites: Physics 208 or 214 and Mathematics 421. (Applied Physics IPA333, fall term, is approximately equivalent.) N. Ashcroft.

Newtonian mechanics of particles and systems of particles including rigid bodies; oscillating systems; gravitation and planetary motion; moving coordinate systems, relativistic kinematics; wave propagation; Euler's equations; Lagrange's equations; Hamilton's equations; normal modes and small vibrations. At the level of *Mechanics*, 3rd ed., by Symon.

325 Electricity and Magnetism

Fall term. Credit four hours. Prerequisites: Physics 208 or 214 and coregistration in Mathematics 421. R. Cotts.

Electrostatics: electric charge and fields, potential, multipoles, conductors, Laplace equation and formal solutions, field energy, dielectric materials, polarization. Magnetostatics: currents, magnetic fields and vector potential, magnetic materials, field energy. Maxwell's equations, Poynting vector. Electrodynamics: plane waves, fields from moving and oscillating charges. At the level of *Lectures on Physics*, Volume II, by Feynman and *Foundations of Electromagnetic Theory* by Reitz and Milford.

326 Electromagnetic Waves and Physical

Optics Spring term. Credit four hours. Prerequisite: Physics 325. A. Sievers.

Electrodynamics: applications of Maxwell's equations, wave equation, transmission lines, wave guides, radiation, special relativity. Physical optics: reflection, refraction, dispersion, polarization, Fresnel and Fraunhofer diffraction. At the level of *Classical Electromagnetic Radiation* by Marion.

[330 Modern Experimental Optics Spring term. Credit three hours. Prerequisite: one year of physics. Lecture and laboratory. H. Mahr and staff. Not offered 1975-76.]

341 Thermodynamics and Statistical Physics

Fall term. Credit four hours. Prerequisites: Physics 214 and Mathematics 294. J. Krumhansl. Statistical physics: developing both thermodynamics and statistical mechanics simultaneously. Concepts of temperature, laws of thermodynamics, entropy, thermodynamic relations, free energy. Applications to phase equilibrium, multicomponent systems, chemical reactions and thermodynamic cycles. Application of statistical mechanics to physical systems; introduction to treatment of Maxwell-Boltzmann, Bose-Einstein, and Fermi-Dirac statistics with applications. Elementary transport theory. At the level of *Fundamentals of Statistical and Thermal Physics* by Reif, or *Thermal Physics* by Morse.

360 Introductory Electronics

Either term. Credit four hours. Prerequisite: Physics 208 or 213 or consent of instructor; no previous experience with electronic circuits is assumed. Lecture and laboratory. Fall, R. Siemann. Spring, P. Steirn. Basic analysis and design of semiconductor circuits useful in electronic instrumentation, such as: amplifiers; oscillators and waveform generators; switching, digital, and timing circuits; power supplies. At the level of *Introductory Electronics for Scientists and Engineers*, 1974, by Simpson.

400 Informal Advanced Laboratory Either term. (Usually offered also during Summer Session.) Credit three hours. Prerequisite: two years of physics and consent of instructor. P. Hartman and staff. Experiments of widely varying difficulty in one or more areas, as listed under course Physics 410, may be done to fill the student's special requirements.

410 Advanced Experimental Physics Either term. Credit four hours. Limited to seniors except by special permission. Prerequisites: Physics 214 (or 310 or 360), 318, and 325; or consent of instructor. Lecture and laboratory. P. Hartman and staff.

Lectures and problems on selected topics in experimental concepts and techniques. About seventy different experiments are available among the subjects of mechanics, acoustics, optics, spectroscopy, electrical circuits, electron and ion physics, heat, X rays and crystal structure, solid state physics, cosmic rays, and nuclear physics. The student is expected to perform three to six diverse experiments, depending on difficulty, selected to meet individual needs and interests. Independent work is stressed.

431-432 Introductory Theoretical Physics I and II 431 fall term only; 432 spring term only. Credit

four hours a term. Prerequisites: 431, Physics 207-208 or equivalent; 432, Physics 431 or equivalent, and coregistration in Mathematics 421-422, or consent of instructor. Primarily for graduate students in a science other than physics (e.g., chemistry, engineering, biology) and for physics majors with concentrations outside physics. Fall, H. White. Spring, E. Salpeter.

431: mechanics. Includes Newtonian mechanics, Lagrange's and Hamilton's equations, central forces, rigid-body motion, and small oscillations. At the level of *Classical Dynamics* by Marion. 432: electricity and magnetism. Includes electrostatics, magnetostatics, boundary value problems, dielectric and magnetic media, circuit theory, Maxwell's equations, and electromagnetic waves. At the level of *Classical Electromagnetic Radiation*, 3rd ed., by Marion.

443 Introductory Quantum Mechanics Fall term. Credit four hours. Prerequisites: Physics 318 and 325, or 431-432; Mathematics 421; and some knowledge of atomic physics at the level of *Modern Physics* by Sproull, S. Teukolsky.

Introduction to concepts and techniques of quantum mechanics, at the level of *Introduction to Quantum Theory* by Park.

444 Nuclear and High-Energy Particle Physics

Spring term. Credit four hours. Prerequisite: Physics 443 or consent of instructor. D. Hartill. Behavior of high-energy particles and radiation; elementary particles; basic properties of nuclei; nuclear reactions; nuclear forces; cosmic rays; general symmetries and conservation laws. At the level of *Subatomic Physics* by Frauenfelder and Henley.

454 Introductory Solid State Physics

Spring term. Credit four hours. Prerequisite: Physics 443, or Chemistry 793, or consent of instructor. D. Mermin. A topical treatment of condensed-matter physics, including electron theory of metals, superconductivity, superfluidity, and magnetism. At the level of *Solid State Physics* by Ashcroft and Mermin.

[464 Physics of Macromolecules Fall term.

Credit three hours. Prerequisite: a course in quantum mechanics. Lecture, discussion, and guest lectures, D. Fitchen. Not offered 1975-76.]

481-489 Special topics Seminars Either term.

Credit two hours. Prerequisite: senior physics major status or consent of instructor. S-U grades only. J. Reppy.

One selected topic of current interest will be studied. Students will participate in organization and presentation of material. Topic for fall 1975: superfluidity.

490 Independent Study in Physics Either term.

Credit one to three hours. Ordinarily limited to seniors. Prerequisite: consent of professor who will direct proposed work. Individual project work (reading or laboratory) in any branch of physics.

All courses numbered 500 or above carry three hours credit a term, except as noted.

500 Informal Graduate Laboratory Either term. Variable credit. P. Hartman and staff.

505-506 Design of Electronic Circuitry 505 fall term only; 506 spring term only. Lecture and laboratory. Fall, R. Pohl. Spring, R. Cotts.

510 Advanced Experimental Physics Either term. P. Hartman and staff.

520 Projects in Experimental Physics Either term. Credit one to three hours. To be supervised by faculty member.

551 Formalism of Classical Mechanics Fall term. Credit two hours. V. Ambegaokar.

[**553-554 General Relativity** 553 fall term only; 554 spring term only. S. Teukolsky. Not offered 1975-76.]

561 Classical Electrodynamics Fall term. G. Chester.

[**562 Thermal, Statistical, and Continuum Physics** Spring term. Not offered 1975-76. Chemistry 796 is closely equivalent.]

572 Quantum Mechanics I Either term. Fall, D. Yennie. Spring, J. Kogut.

574 Quantum Mechanics II Spring term. T. M. Yan.

612 Experimental Atomic and Solid State Physics Offered upon sufficient demand.

614 Experimental High-Energy Physics Offered upon sufficient demand.

635 Solid State Physics I Fall term. N. Ashcroft.

636 Solid State Physics II Spring term. J. Krumhansl.

645 Nuclear Physics Fall term. D. Cassel.

646 High-Energy Particle Physics Spring term. J. DeWire.

Only S-U grades will be given in courses numbered 650 or above.

651 Advanced Quantum Mechanics Fall term. K. Gottfried.

652 Quantum Field Theory Spring term. T. Kinoshita.

653 Statistical Physics Fall term. D. Mermin.

654 Theory of Many-Particle Systems Spring term. V. Ambegaokar.

661 High-Energy Phenomena Fall term. K. Wilson.

665 Topics in Theoretical Astrophysics Fall term. E. Salpeter.

681-689 Special Topics Offerings to be announced each term.

690 Independent Study in Physics Either term. Variable credit.

Psychology

B. P. Halpern, chairman; H. A. Alker, A. W. Boykin, U. Bronfenbrenner, J. Catlin, R. B. Darlington, J. M. Farber, H. M. Feinstein, E. J. Gibson, J. J. Gibson, R. E. Johnston, S. C. Jones, R. Kraut, W. W. Lambert, J. L. Laws, E. H. Lenneberg, H. Levin, D. Levitsky, J. B. Maas, R. D. Mack, L. Meltzer, M. P. Naditch, U. Neisser, D. T. Regan, T. A. Ryan, S. R. Shattuck-Hufnagel, K. E. Weick, D. Zahorik

The Major

Prerequisites for admission are: (a) any three courses in psychology (Human Development and Family Studies 115 may be counted toward the three course requirement; credit cannot be received for both Psychology 101, and Education 110). The student will generally begin with Psychology 101; (b) no grade below C+ in any psychology course; (c) acceptance by the Admissions Committee of the Department of Psychology.

Application forms may be obtained at the departmental office and should be filed two weeks before the preregistration period.

Requirements for the major are: (a) a total of forty hours in psychology (including prerequisites) in which students majoring in psychology are expected to choose, in consultation with their advisers, a range of courses which cover the basic processes in psychology; laboratory and/or field experience is recommended; (b) completion, by the beginning of the senior year, of an approved course in statistics, or the passing of an achievement examination administered by the department.

With the permission of the major adviser, courses in other departments may be accepted toward the major requirements.

Concentration in Social Psychology

In cooperation with the Department of Sociology, a concentration in social psychology is available. Psychology majors who wish to specialize in social psychology are expected to meet the general requirements set by the Department, including statistics. To ensure a solid interdisciplinary grounding, students in the concentration will be permitted to include in the major, courses in sociology and related fields. Advisers will assist the student in the

selection of a coherent set of courses in social organization, cultural anthropology, experimental psychology, social methodology, and several aspects of social psychology. Seniors in the concentration may elect graduate seminars.

The Honors Program

The Honors Program is intended to give students an opportunity to examine selected problems in depth, and carry out independent research under the direction of a faculty member. During the spring term of the junior year an honors student will develop a proposal and begin work on a research project. The student will consult with an honors adviser and a faculty sponsor. At the end of the spring term, a report of the semester's work will be submitted for faculty review.

By the fall term of the senior year, honors students will have begun work on their final research projects. They will also enroll in a senior honors seminar, in which research projects will be discussed. Thesis research will continue in the spring with enrollment in Psychology 498, Senior Honors Dissertation. (Psychology 498 may count as a "laboratory course.") Final Honors standing is based on a written thesis and an oral defense of the thesis, as well as on general academic performance.

Prospective applicants are advised to file applications early in the fall term, junior year. It is possible for a student who has satisfactorily completed independent study or research to be admitted to the program at the end of the junior year. For consideration by the honors committee, applicants must have a minimum cumulative grade average of B in all courses in psychology.

Distribution Requirement

The distribution requirement in social science is satisfied by any two courses in psychology. (Human Development and Family Studies 115 and Education 110 may be counted.)

101 Introduction to Psychology: the Frontiers of Psychological Inquiry Fall term. Credit four hours. Students may not receive credit for both Psychology 101 and Education 110. Open to freshmen. Those planning to major in psychology should begin with this course. Three lectures and one seminar a week. J. Maas.

The study of human behavior from the standpoint of the basic processes. Topics include brain control, dreaming, psychological testing, perception, learning, motivation, abnormal behavior, and psychotherapy. Emphasis is upon contemporary problems confronting psychologists.

HDFS 115 Human Development: Infancy and Childhood Fall term. Credit three hours. H. Ricciuti and staff.

Provides a systematic analysis of the forces affecting human development from infancy through childhood.

Attention is focused on the interplay of biological factors, interpersonal relationships, social structure, and cultural values in changing behavior and shaping the individual. Special emphasis is given to the social implications of existing knowledge.

102 Introduction to Psychology: Personality and Social Behavior Spring term. Credit three hours. Open to freshmen. L. Meltzer and staff.

An examination of personality and social influences on the individual's adjustment to self and environment. Both classic and contemporary viewpoints will be considered and evaluated in the light of empirical evidence.

123 Introduction to Psychology: Biopsychology

Fall term. Credit three hours. Limited to sixty students. E. Adkins.

A survey of behavior emphasizing evolutionary and physiological approaches, designed to introduce students to the interface between biology and psychology. Both human and nonhuman behavior will be included, together with theoretical issues pertaining to the application of biological principles to human behavior. Films, demonstration, discussion.

201 Introduction to Psychology as a Laboratory Science Fall term. Credit three hours. Prerequisite: Psychology 101. D. Zahorik.

Introduction to experimental methods in psychology. Two lectures and one two-hour laboratory period a week. Lectures and laboratory exercises will emphasize basic concepts of measurement, research design, and the relation between theory and experiment. Experiments will be drawn from several areas of psychology, and will be designed to provide experience with some of the most useful psychological research procedures.

205 Perception Fall term. Credit four hours.

J. M. Farber.

Basic concepts and phenomena in the psychology of perception, with emphasis on the stimulus variables and sensory mechanisms involved. Visual and auditory perception will be discussed in detail, with some attention paid to other senses. Weekly laboratory sessions will demonstrate important phenomena.

206 Psychology in Business and Industry (also Hotel Administration 314) Spring term. Credit three hours. Prerequisite: Psychology 101 or Human Development and Family Studies 115, or consent of instructor. Not recommended for upper class students in ILR. S. Davis.

The principles of psychology applied to industrial and business systems: personnel selection; placement and training; problems of people at work including evaluation, motivation, efficiency, and fatigue; and the social psychology of the work organization.

207 Motivation Theory: Contemporary Approaches and Applications Fall term. Credit four hours. Prerequisite: Psychology 101; Psychology 201 recommended but not required. A. W. Boykin. Models and research in human motivation will be

examined and integrated. The traditional S-R drive approach will be considered only as a departure point for the study of more current themes such as: curiosity and other forms of intrinsic motivation; arousal and activation; and achievement motivation. Also a sizable amount of attention will be given to how well these various themes might help us understand, predict, and explain motivation in real-life behavioral settings. Periodical demonstration discussion sections will be conducted.

210 Attention and Memory Spring term. Credit three hours. Prerequisite: Psychology 101 or consent of instructor. U. Neisser.

A study of the relations between the constructive processes of attention and memory, emphasizing recent studies of attentive and preattentive processes in vision, of selective listening, of short-term memory and recording, and of long-term memory and imagery.

212 Historical Roots of Modern Psychology

Spring term. Credit four hours. Prerequisite: one course in psychology or consent of instructor. J. Catlin.

A survey of the major historical antecedents of contemporary psychology, including the philosophical tradition (from Aristotle through the Enlightenment), the medical-therapeutic tradition, and the rise of modern science and experimental psychology.

215 Linguistics and Psychology Spring term. Credit three or four hours. The four credit option involves an additional laboratory project or paper. Open to freshmen. S. Shattuck-Hufnagel.

An introductory course covering the recent developments in a new field of study based on psychology and linguistics. Topics covered will be the nature of language and its acquisition, the influence of the sounds and grammar of language on perception, memory, and production of sentences.

280 Social Influence Processes: Attitude and Behavior Change (also Sociology 280)

Spring term. Credit three hours. D. Regan. Intended to provide an extensive review of the literature on social influence processes. Beginning with the effects of the mere presence of others on behavior, we will discuss theory and empirical research related to conformity, compliance, imitation and modeling, group decision making, and attitude change. The relationship between attitudes and behavior will be examined in detail, and application will be made to naturally occurring social influence situations.

284 Applied Social Psychology (also Sociology 284)

Fall term. Credit three hours. Prerequisite: Psychology 102 or a course in social psychology. L. Meltzer. The application — actual and potential — of selected theories or empirical investigations drawn from the study of personality, interpersonal relationships, and small group interaction. Emphasis will be upon those approaches which suggest effective means of dealing with social and personal problems. Areas of ap-

plication include advertising, child-rearing practices, education, interpersonal relationships, political decision making, and therapy.

285 Personality and Social Systems (also Sociology 285) Fall term. Credit four hours. Prerequisite: one course in either psychology or sociology. M. Naditch.

Perspectives will be developed for understanding personality and behavior in a cultural context. A number of theories and conceptual approaches that have been used to understand the relationship between personality and social systems will be critically examined. Some themes in contemporary American culture will be discussed.

303 Learning Spring term. Credit three hours. Prerequisite: Psychology 201 or a 300-level laboratory course in psychology. D. Zahorik.

The fundamental conditions and principles of learning, with emphasis on the basic phenomena of classical and operant conditioning. Traditional and contemporary theories of learning will be reviewed, and selected experimental literature will be discussed with special emphasis upon recent developments in the field.

304 Learning Laboratory Spring term. Credit two hours. Prerequisite: Psychology 201 or a 300-level laboratory course in psychology. D. Zahorik.

Experiments performed in laboratory illustrate equipment and techniques commonly used in studies of learning. Although some of the experiments involve human subjects, most of the experiments will be performed with rats or pigeons. A proposal for an original experiment will be required, and should include a review of the research literature on which the proposal is based.

305 Visual Perception Spring term. Credit three or four hours depending on whether the student chooses to do an independent laboratory project. Prerequisite: Psychology 205 or permission of instructor. J. Farber. A detailed examination of theories and processes in visual perception. Topics will include the perception of color, space, and motion; perceptual constancies; adaptation; pattern perception; and aspects of perceptual learning and development.

[307 Motivation Fall term. Credit four hours. Prerequisites: Psychology 101 and 201, or 303–304 or consent of instructor. Not offered 1975–76.]

308 Perceptual Learning Fall term. Credit three hours. Prerequisite: Psychology 201 or 305 or permission of the instructor. E. Gibson.

Theories of perceptual learning will be compared and evaluated in the light of current research and their application to the reading process.

309 Development of Perception and Attention

Spring term. Credit three hours. Prerequisite: Psychology 201, 305, or 308, or permission of instructor. E. Gibson. Effects of early rearing conditions, phylogenetic development and imprinting, and development in

children of perception of objects, events, the spatial layout, pictures, and symbols.

[313 Cognitive Processes Intersession term. Credit three hours. Prerequisite: six hours of psychology or consent of instructor. Not offered 1975-76.]

316 Auditory Perception Fall term. Credit four hours. Prerequisites: Psychology 205 or consent of instructor. S. Shattuck-Hufnagel.

Basic problems in audition with special consideration of speech perception.

322 Physiological Psychology Laboratory (also Biological Sciences 322) Spring term. Credit three hours. May be taken on an S-U basis with consent of the instructor. Enrollment limited. Prerequisites: Psychology 201, Biological Sciences 321, and consent of instructor; concurrent or prior registration in Psychology 323. E. Adkins.

Experiments will be done on physiological aspects of conditioning and memory in vertebrates and invertebrates, interactions between hormones and behavior, and effects of reversible brain lesions on behavior.

323 Physiological Psychology (also Biological Sciences 323) Spring term. Credit three hours. Prerequisites: Psychology 201 or a 300-level laboratory course in psychology, one year of introductory biology for majors, or its equivalent, and Chemistry 103-104 or its equivalent. E. Adkins.

A selective examination of neural, endocrine, and biochemical functions related to emotion, memory, learning, and sleep.

325 Introductory Psychopathology Fall term. Credit three or four hours. The three credit option entails the lectures, readings, and two exams. The four credit option requires an additional seminar-recitation meeting and a term paper. May be taken concurrently with Psychology 327 (for three credits in Psychology 325 and two credits in Psychology 327) with consent of instructor. Enrollment in Psychology 327 is limited. R. Mack.

An introduction to the study of the various forms of psychopathology as they relate to the experiences of human growth and development. Presents a description of the major syndromes, investigations, theories of etiology, and approaches to treatment. Provides students with an opportunity to explore their own life experiences and the life experiences of others as they play a role in psychological health, growth, disturbance, and self-defeat.

326 Comparative Psychology Fall term. Credit four hours. Prerequisite: Psychology 201 or 205, or Biological Sciences 101-102, or consent of instructor. R. Johnston.

Centers on communication and social behavior of animals. Included will be topics such as the nature and function of animal signals, the development of social behavior in individuals, courtship, mating, parental behavior, fighting, and the evolution of communication systems and social organization. The laboratory is an integral part of the course and pro-

vides an opportunity to observe and describe the behavior of several different species and to learn several methods of recording behavior for quantitative analysis.

327 Continuing Fieldwork in Psychopathology and the Helping Relationship Either term. Credit two hours per semester, not to exceed a total of ten hours. Prerequisites: Psychology 325 or concurrent registration in Psychology 325 or 426 and permission of instructor. R. Mack.

This course is designed to allow students who have begun fieldwork as part of Psychology 325 or Psychology 426 to begin or continue their field placements, under supervision and for academic credit. In addition to the fieldwork there will be a weekly seminar meeting to discuss the assigned readings and issues pertaining to the various field placements.

[328 Behavioral Maturation (also Biological Sciences 328) Fall term. Credit three hours. Prerequisites: one year of college biology and one physiological psychology course or equivalent. Enrollment limited to fifty students. E. Lenneberg. Not offered 1975-76.]

[345 Afro-American Perspectives in Experimental Psychology (also Africana Studies 345)

Spring term. Credit three or four hours. Offered in alternate years. Enrollment limited to forty students. Prerequisites: sophomore status, six hours in the behavioral sciences or permission of instructor. A. W. Boykin. Not offered 1975-76.]

350 Statistics and Research Design Fall term. Credit four hours. Prerequisite: a course in the behavioral sciences. Evening preliminary examinations will be held. R. Darlington. Devoted about equally to elementary applied statistics — both estimation and hypothesis testing — through two-way analysis of variance, and to general problems in the design and analysis of research projects.

[361 Drugs and Behavior Fall term. Credit three hours. Prerequisites: Biological Sciences 101-102 and at least two courses in psychology; senior standing. D. Levitsky. Not offered 1975-76.]

380 Role Theory (also Sociology 380)

Spring term. Credit four hours. Prerequisites: Sociology 101 and Psychology 101 or 102 or consent of instructor. Limited to twenty students. J. L. Laws. Traditional perspectives on social roles will be integrated with current research. Topics include role as a concept linking society and individual; symbolic interaction; socialization processes; role-taking; self identity; occupational roles; sex roles; role networks. Methods of studying social roles will be examined. Some applications of role theory will be examined, most notably in experimental methodology and psychodrama.

381 Social Psychology (also Sociology 381)

Fall term. Credit four hours. Prerequisites: three hours

of psychology or three hours of sociology. R. Kraut. An advanced introduction to social psychology. Topics covered include methodology, attitudes and attitude change, conformity, cognitive consistency, attribution theory, deviance, roles and self-presentation, nonverbal communication, the social psychology of language, youth and social change, and social psychology as a profession.

382 Individual Differences and Psychological Assessment (also Sociology 382) Spring term. Credit four hours. Prerequisites: a previous or concurrent course in statistics or junior standing. H. Alker. A survey concerning major dimensions of individual differences: intelligence, creativity, motives, race, sex, class, and cognitive styles. Also considered will be alternative ways of assessing such differences: traits, behavioral sampling, and conjoint person-environment assessment.

[383 Social Psychological Aspects of Social Change (also Sociology 383)] Spring term. Credit four hours. Prerequisites: one course in either psychology or sociology. M. Naditch. Not offered in 1975-76.]

384 Social Psychology of Women (also Sociology 384 and Women's Studies 384) Fall term. Credit four hours. Prerequisites: two of: Psychology 102, Sociology 101, and Women's Studies 101. J. L. Laws.

Theories on women's personalities, roles, and capacities are compared with current research evidence. Special attention is given to the structure of thinking regarding women in the social sciences. Topics include women in the labor force, sex differences, marriage and the family, socialization of girl children, female sexuality, women's aspiration and achievement, sex roles, the Women's Liberation Movement, and men's liberation.

385 Theories of Personality (also Sociology 385) Spring term. Credit four hours. Prerequisite: Psychology 101 or 102, or consent of instructor. Some sociology or anthropology also helpful. W. Lambert. A critical survey of modern theories of personality. An analysis of the relation of personality theory and related research to the social sciences, psychology, and literature. The emphasis is upon "normal" personality, and upon clarifying hypotheses for systematic empirical testing.

387 Psychological Aspects of Political Behavior (also Sociology 387) Fall term. Credit four hours. Prerequisites: junior standing and a course in social or personality psychology, or consent of instructor. H. Alker. A survey of contributions from personality, social, clinical, and developmental psychology to the explanation of political behavior. Topics include: power styles, ideology, social movements, psychocultural theories of war, manipulation techniques, and political rationality.

389 Conformity and Deviance (also Sociology 389) Spring term. Credit four hours. Prerequisites: three hours of psychology or three hours of sociology. R. Kraut. What are the ways in which conformity pressures, in all their variation, can lead to deviance? To attempt an answer we will examine some of the conformity bases for run-of-the-mill, normal behavior, and then use the concepts developed to illuminate such behavior as mob violence, suicide, juvenile crime, and craziness.

401 Psychological Testing Fall term. Credit four hours. Prerequisites: six hours in psychology and a course in elementary statistics. Offered in alternate years. R. Darlington. Not offered 1975-76.]

[408 In Search of the Engram Three credit hours. Not offered 1975-76.]

411 Memory as a Cognitive Skill Fall term. Credit four hours. Prerequisites: Psychology 210 or consent of instructor. U. Neisser. Memory and various memory-based performances will be considered in their cultural context and in the terms of the cognitive skills by which they can be explained. Topics to be covered include the development of memory in children; individual and cultural differences; effects of literacy and schooling; memory for stories, events, people, and dreams; specific skills including rehearsal, verbal labeling, categorization, imagery, and mnemonic devices. The relevant experimental evidence will be scrutinized carefully.

416 Psychology of Language Fall term. Credit four hours. Prerequisite: Psychology 215 or consent of instructor. J. Catlin. An advanced treatment of the nature of the human capacity for language. Topics will include the nature of linguistic theory, syntax and semantics, universals of language, linguistic intuitions as data, aspects of language use (comprehension, memory/knowledge, thought and action, communication), and language acquisition.

420 Principles of Neurobiology Laboratory (also Biological Sciences 420) Spring term. Credit four hours. Prerequisite: Biological Sciences 326, or 427, or 428 (may be taken concurrently) or permission of instructors. Enrollment limited to thirty-six students. Each student to sign up for two sections. Z. Wiesenfeld and staff.

Laboratory practice with neurobiological preparations and experiments, designed to teach the students the techniques, experimental designs, and research strategies used to study biophysical and biochemical properties of excitable membranes, sensory receptors, and the central nervous system transformation of afferent activity, and the characteristic composition and metabolism of neural tissue. The course will be divided into an initial segment (approximately eight weeks) in which fundamental techniques will be learned and used in experiments by all students, and a second segment (approximately eight weeks) in

which students will learn and use more specialized techniques for experiments in either elementary neurophysiology of excitable membranes, or sensory function, or neurochemistry.

[424 Brain and Behavior (also Biological Sciences 424)] Fall term. Credit three hours. Prerequisite: one year of college biology, one physiological psychology course or equivalent. Enrollment limited to forty students. E. Lenneberg. Not offered 1975-76.]

426 Seminar and Practicum in Psychopathology Spring term. Credit four hours. Open to majors in psychology who have taken Psychology 325, junior or senior status, and consent of instructor. R. Mack.

Designed as a fieldwork and seminar course for advanced students who have mastered the fundamental concepts of personality theory and psychopathology. Provides an opportunity for the student to explore in depth the various forms of psychopathology, their etiology and settings.

[427 Sensory Function (also Biological Sciences 427)] Fall term. Credit three hours. Prerequisite: Biological Sciences 321 or equivalent. Offered in alternate years. B. P. Halpern and D. N. Tapper. Not offered 1975-76.]

440 Sleep and Dreaming Spring term. Credit four hours. Prerequisites: advanced undergraduate or graduate standing and consent of the instructor. Enrollment limited to fifteen students. J. Maas. Investigation of animal and human physiological and psychological research on sleep and dreaming. Explores the relationship between physiological evidence, empirical laboratory research, and clinical findings in the process and content of the dream state. Focuses on research designs and techniques used in the animal and human sleep laboratory.

442 Physiological Mechanisms of Animal Social Behavior Spring term. Credit four hours. Prerequisites: course experience in both psychology and behavior, Psychology 323 and 326 or Biological Sciences 320, or permission of instructor. R. Johnston. This course attempts to integrate physiological and behavior levels of analysis. It concentrates on the ways in which hormones affect behavior and behavior affects hormones. Species similarities and differences will be evaluated from a functional and evolutionary point of view.

[444 Theories of Human Behavior Spring term. Credit four hours. Prerequisites: senior or graduate status. Not offered 1975-76.]

445 Research Excursions in Black Psychology Spring term. Credit four hours. Prerequisites: Psychology 345, or twenty hours of behavioral sciences, or graduate standing, and permission of instructor. Offered in alternate years. A. W. Boykin. An in-depth probe of a selected topic in psychology that pertains directly to black Americans with heavy

emphasis on the research process. The course will revolve around five major concerns: 1) critically appraising the relevant research and theorizing already in existence; 2) advancing alternative conceptual models whenever necessary; 3) formulating rigorous and heuristic research paradigms; 4) discussing implications and applications for community-level programs and institutions; and 5) developing a practical yet analytical understanding of research design, methodology, and the dynamics of problem selection and data inference.

462 Intentional Behavior Fall term. Credit four hours. Prerequisites: one of: Psychology 207, 303, 308, 310, 385, or consent of instructor. Offered in alternate years. T. A. Ryan. A critical review of theories of motivation; their explanations of voluntary and involuntary behavior and psychological processes such as memory, attention, and thinking. Analysis of specific theories (e.g., Lewin, Freud, McClelland, Skinner, and S-R) as a basis for discussion of general issues such as the role of cognitive and conscious factors in the control of behavior; usefulness of the concepts of drive and motive; individual vs. universal motives; research methods for the realistic study of motivation.

[464 Motivation and Human Learning Spring term. Credit four hours. Offered in alternate years. Prerequisites: Psychology 303-304, 307, or 310, or consent of instructor. Not offered 1975-76.]

[465 Mathematical Behavior Theory Fall term. Credit four hours. Prerequisite: one year of calculus. Not offered 1975-76.]

467 Seminar: the Examined Self — a Psychohistorical View Spring term. Credit four hours. Prerequisite: consent of the instructor. H. Feinstein. A study of American biographical literature which provides material for analysis of changing views of selfhood in historical context. The texts will be studied as illustrating both the ideology of the period and as samples of persistent problems of self-development. A second focus will be on personal involvement with the text.

469 Seminar: Psychotherapy, Its Nature and Influence Spring term. Credit four hours. Prerequisites: nine hours of psychology including Psychology 325 or equivalent, and consent of instructor before preregistration. Enrollment limited. R. Mack and staff. A discussion seminar on the nature of psychotherapy in terms of the communication of affect, both verbally and nonverbally, within the psychotherapeutic situation. Issues related to therapeutic goals, differing views of the nature of man, ethical concerns, and research problems will also be considered.

471-472 Statistical Methods in Psychology. 471 fall term; 472 spring term. Credit four hours a term. Prerequisites: Psychology 101 or Human Development and Family Studies 115, Psychology 201 or consent of instructor. Psychology 471 or 350 is prerequisite to 472. T. A. Ryan.

An analysis of the methods of treating various kinds of psychological data. Fall term: probability and treatment of frequency data; tests of significance, confidence limits, and other methods of statistical inference; parametric and non-parametric tests. Spring term: analysis of variance and treatment of complex experimental designs; linear, curvilinear and multiple regression, and correlation.

475 Analysis of Nonexperimental Data Fall term. Credit four hours. Offered in alternate years. Prerequisite: Psychology 350 or equivalent. R. Darlington. Multiple regression and its application to problems of unequal frequencies in analysis of variance and covariance; path analysis; factor analysis; empathy and person perception; clinical vs. statistical prediction; Bayesian analysis; canonical analysis. Examples are drawn primarily from behavioral genetics, political behavior, cross cultural studies, and other non-laboratory areas. Little emphasis on computational procedures since standard computer programs are used for most of the techniques discussed.

[480 Attitude Theory (also Sociology 480)] Fall term. Credit four hours. Prerequisite: a course in social psychology or graduate status. L. Meltzer. Not offered 1975-76.]

481 Advanced Social Psychology (also Sociology 481) Fall term. Credit four hours. Prerequisite: a course in social psychology or consent of the instructor. D. Regan. Selected topics in social psychology are examined in depth, with a heavy emphasis on experimental research. Readings consist for the most part of original research reports. Topics discussed may include some of the following: social comparison theory, social and cognitive determinants of the emotions, cognitive dissonance, attribution processes, interpersonal attraction, aggression, altruism, and research methods in social psychology.

483 Social Interaction (also Sociology 483) Spring term. Credit four hours. Prerequisites: three hours in psychology and three hours in sociology. Enrollment limited to fifteen students. D. Hayes. A course dealing with the major conceptions of the organization and dynamics of face-to-face interaction.

[485 Advanced Personality] Spring term. Credit four hours. Prerequisites: previous course at 200 or 300 level in personality or graduate standing. Offered in alternate years. H. Alker. Not offered 1975-76.]

487 Selected Problems in Psychopathology and Society (also Sociology 487) Spring term. Credit four hours. Prerequisites: one course in personality or psychopathology and one course in statistics. M. Naditch. The course will focus on one or two select topics related to personality, situational and social structural aspects of psychopathology, and maladaptive behavior. These topics will be in the general area of sociocultural stress, social psychiatry, and specific problem areas such as alcoholism and drugs.

488 Experiments in Real Life Situations (also Sociology 488) Spring term. Credit four hours. Prerequisites: two courses in social psychology or human development and one course in statistics, or consent of instructor. U. Bronfenbrenner. An analysis of research designs and findings on human behavior and development in real-life social situations. Attention is focused on theoretical and methodological issues as well as implications for social policy.

489 Seminar: Selected Topics in Social Psychology (also Sociology 489) Fall term. Credit four hours. Prerequisites: consent of instructor and three hours of psychology and three hours of social psychology or sociology. S. Jones.

494 Junior Honors Spring term. Credit four hours. Prerequisite: admission to the departmental Honors Program. Staff.

496 Supervised Study Either term. Credit two hours. Undergraduates must attach to their pre-registration material written permission from the staff member who will supervise the work and assign the grade. Staff.

497 Supervised Study Either term. Credit four hours. Undergraduates must attach to their pre-registration material written permission from the staff member who will supervise the work and assign the grade. Staff.

498 Senior Honors Dissertation Fall term. Credit four hours. Prerequisite: admission to the departmental Honors Program. Staff.

499 Senior Honors Dissertation Spring term. Credit four hours. Prerequisite: admission to the departmental Honors Program. Staff.

Advanced Seminars

Primarily for graduate students, but, with the consent of the instructor, advanced seminars may be taken by qualified undergraduates. The selection of seminars to be offered each term will be determined by the needs of the students.

A listing and description of advanced seminars is available at the beginning of each semester. Please contact the Department of Psychology office. Except where indicated, the following courses may be offered either term. Credit four hours.

510-511 Perception

512-514 Visual Perception

513 Learning

515 Motivation

517 Language and Thinking

518 Psycholinguistics

- 519-520 **Cognition**
- 521 **Psychobiology**
- 523 **Physiological Psychology**
- 525 **Mathematical Psychology**
- 531 **History of Psychology**
- 535 **Animal Behavior**
- 541 **Statistical Methods**
- 543 **Psychological Tests**
- 545 **Methods in Social Psychology**
- 547 **Methods of Child Study**
- 561 **Human Development and Behavior**
- 580 **Experimental Social Psychology (also Sociology 580)**
- 583-584 **Proseminar in Social Psychology (also Sociology 583-584)** Throughout the year. Prerequisites: graduate major or minor in social psychology. W. Lambert and L. Meltzer.
- 586 **Interpersonal Interaction**
- 587 **Personality (also Sociology 587)**
- 588 **Social Change, Personality, and Modernization (also Sociology 588)**
- 591 **Educational Psychology**
- 595 **The Teaching of Psychology**
- 599 **Interactive Computer Applications in Psychological Research**
- 611 **Practicum in Research**
- 621 **Thesis Research**
- 682 **Social Psychology (also Sociology 682)**
- 683 **Seminar in Interaction (also Sociology 683)**
- 684 **Feminine Identity (also Sociology 684)**
- 690 **Nutrition and Behavior**
- 691 **Independent Research**
- 692 **Independent Study**

Semitic Languages and Literatures

D. I. Owen, chairman; C. M. Carmichael, B. Netanyahu, M. Pelli, I. Rabinowitz, N. H. Tannebaum.

The Department of Semitic Languages and Literatures offers Cornell undergraduates access to the languages and literatures, history and archaeology, and philosophy and thought of the cultures that produced Judaism, Christianity, and Islam, and that today help define and characterize the many millions of people who live in the countries that comprise the region we call the Middle East. Studies pursued in this Department will, therefore, be found of lasting benefit to all whose career interests involve the modern Middle East, and to all whose interest in the cultures of the ancient Near East is more than casual. Students who elect as their major study one of the fields of Semitic languages and literatures should consult the Department with regard to their special requirements.

Distribution Requirement

The distribution requirement in humanities is satisfied in Semitic studies by any two courses at the 200 level or above, except language courses. However, Hebrew 300-301, which will also emphasize literary aspects, will satisfy the distribution requirement.

Hebrew

100-101 Elementary Hebrew Language 100 fall term only; 101 spring term only. Credit five hours a term. Prerequisite: for 101, 100 or consent of instructor. Oral and literary approaches combined.

102-103 Elementary Classical Hebrew 102 fall term only; 103 spring term only. Credit three hours a term. Prerequisite: for 103, 102 or consent of instructor. C. M. Carmichael.

The aim of the course is to enable students to acquire as rapidly as possible a reading knowledge of the Hebrew Bible.

200-201 Intermediate Hebrew Language 200 fall term only; 201 spring term only. Credit five hours a term. Prerequisite: for 200, one year of college Hebrew or consent of instructor; for 201, 200 or consent of instructor. Staff.

300-301 Advanced Hebrew Language 300 fall term only; 301 spring term only. Credit four hours a term. Prerequisite: for 301, 300 or consent of the instructor. M. Pelli.
Readings of texts from biblical, postbiblical, and modern Hebrew literature.

302 Independent Study Either term. Credit two hours a term. For qualified students. Staff.

303 Independent Study Either term. Credit four hours a term. For qualified students. Staff.

Arabic

110-111 Elementary Arabic 110 fall term only; 111 spring term only. Credit six hours a term. Prerequisite: for 111, 110 or consent of instructor. Staff.

210-211 Intermediate Arabic 210 fall term only; 211 spring term only. Credit three hours a term. Prerequisite: for 210, one year of Arabic or consent of instructor; for 211, 210 or consent of instructor. Staff.

310-311 Advanced Arabic 310 fall term only; 311 spring term only. Credit four hours a term. Prerequisite: for 310, consent of instructor; for 311, 310 or consent of instructor. Staff. 310: readings of classical Arabic texts, including parts of the Koran. 311: reading of postclassical and modern Arabic texts.

350 Independent Study Either term. Credit two hours a term. For qualified students. Staff.

351 Independent Study Either term. Credit four hours a term. For qualified students. Staff.

Akkadian

[**323-324 Elementary Akkadian** 323 fall term only; 324 spring term only. Credit four hours a term. Prerequisite: for 324, 323 or consent of instructor. D. I. Owen. Not offered 1975-76.]

325 Independent Study (Readings in Akkadian Texts) Three credit hours. Either term. May be repeated for credit. D. I. Owen.

Aramaic

327 Aramaic Fall term. Credit four hours. Prerequisite: consent of instructor. Staff. The Western Aramaic of the Bible, the Qumran Scrolls, and the Targums; reading of selected texts.

Biblical Literature

330 The Literature of Ancient Israel (also Comparative Literature 323) Fall term. Credit four hours. Not open to freshmen. I. Rabinowitz. The ancient Israelite beliefs and cultural assumptions needed to comprehend the texts as literature will be discussed. All readings in English.

333 Biblical Law Fall term. Credit four hours. Not open to freshmen. C. Carmichael. A study of biblical laws, proverbs, and narratives against the background of ancient Near Eastern law and custom.

334 Studies in Christian Origins Spring term. Credit four hours. Not open to freshmen. C. Carmichael. The religious and moral ideas, customs, and conventions found in the New Testament will be traced in the Old Testament and other Jewish writings.

Arabic Literature

270-271 Survey of Arabic Literature from Pre-Islamic Times to the Present Day 270 fall term only; 271 spring term only. Credit three hours a term. Staff. 270: The Classical Period. Consideration of classical

genres, modes, poetics, and aesthetics. The poet and the court, the poet and Islam, the poet and the critics. 271: The Modern Period. The renaissance of the twentieth century. The impact of the West, modernism, and tradition, new forms and themes.

Modern Hebrew Literature

261 Modern Hebrew Literature in English Translation: The Israeli Short Story Spring term. Credit four hours. No prerequisites. M. Pelli.

Themes in the Hebrew short story reflecting cultural and social problems confronting the state of Israel at the present will be given special attention. In addition to such classics as Agnon and Hazaz, major young writers such as Shamir and Meged will be studied and analyzed.*

264 Modern Hebrew Literature in English Translation: The Israeli Novel Fall term. Credit four hours. No prerequisites. M. Pelli.

The contemporary Hebrew novel, its literary forms, styles, and social message will be examined as an expression of Jewish experience in Israel. Among the authors to be discussed: Agnon, Yizhar, Oz, and Tamuz.*

*Special sessions will be arranged for students who may wish to read and discuss the above mentioned authors in Hebrew.

362-363 Seminar in Modern Hebrew Literature: The Enlightenment (1780-1880) 362 fall term only; 363 spring term only. Credit four hours a term. First term not prerequisite to the second. M. Pelli.

A study of the early period of modern Hebrew literature in Central Europe and in Russia. Among the principal forms and genres to be analyzed: poetry, the epistolary novel, the short story, satire, and autobiography. Concurrently, the ideology of Hebrew Enlightenment in its struggle to emancipate the Jews and modernize their world outlook will be examined against the background of European literary and intellectual trends.

General Judaic Studies

[240 What is Judaism?] Fall term. Credit three hours. B. Netanyahu. Not offered 1975-76.]

320 From Spinoza to Buber Fall term. Credit four hours. B. Netanyahu.

The reassessment of the Judaic heritage by the foremost Jewish thinkers in modern times and their contribution to the emergence of modern Judaism will be surveyed and analyzed. A number of representative works will be studied in English translation.

[321 Nationalism and Religion in Modern Jewish History, 1789-1948] Spring term. Credit three hours. B. Netanyahu. Not offered 1975-76.]

History of the Jewish People

243-244 The History of Ancient Israel 243 fall term only; 244 spring term only. Credit three hours

a term. First term not prerequisite to the second.
D. I. Owen.

243: from earliest times to the Babylonian Exile; 244: from the Babylonian Exile through the fall of Masada and the Bar Kochba Rebellion.

A detailed survey of the history of ancient Israel based on biblical and Near Eastern sources and illustrated by the most recent archaeological discoveries.

[341-342 A Synoptic Course of the History of the Jewish People (614-1789) 341 fall term only; 342 spring term only. Credit four hours a term. First term not prerequisite to the second. B. Netanyahu. Not offered 1975-76.]

343 A Synoptic Course of the History of the Jewish People (1789-1973) Fall term. Credit four hours. B. Netanyahu.

A general survey of the major political, social, and intellectual developments in Jewish history from the French Revolution to the present time (1789-October War, 1973).

344 Age of the Patriarchs Fall term. Credit four hours. D. I. Owen.

A critical study of the patriarchal narratives of the Book of Genesis in the light of recent discoveries in biblical and Near Eastern history and archaeology.

446 Independent Study Fall term. Credit three hours. Medieva
jewish History. Readings in Hebrew texts from the thirteenth to fifteenth centuries.
B. Netanyahu.

History of Ancient Near Eastern Civilizations

282 Ancient Near Eastern Literature (also Comparative Literature 226) Spring term. Credit four hours. D. I. Owen.

Readings in translation from the major literary works of the Sumerians, Babylonians, Hittites, Canaanites, and Egyptian. Selected readings from the epic, religious, magical, and historical texts. Discussion of epic themes, Near Eastern mythology, and comparison of literary and mythological motifs with biblical and early Greek literature.

[345 The History of the Ancient Near East in Biblical Times Fall term. Credit three hours.
D. I. Owen. Not offered 1975-76.]

Sociology

J. A. Kahl, chairman; H. A. Alker, R. Avery.
S. Caldwell, P. Chi, R. K. Goldsen, G. Gordon, D. P. Hayes, J. B. Jacobs, J. A. Kahl, R. Kraut, W. W. Lambert, J. L. Laws, R. McGinnis, L. Meltzer, M. P. Naditch, A. Paris, B. C. Rosen, C. A. Sheingold, G. F. Streib, J. M. Stycos, W. F. Whyte, R. M. Williams, Jr.

Sociology Major

General Sociology

Students majoring in sociology have considerable flexibility in prerequisites and in their major programs. Students thinking of majoring are advised to consult with the department early in their careers, and well in advance of the deadline for selecting a major. By consulting early, students may select prerequisites appropriate to their major interests and career goals.

Prerequisites: Sociology 101 and one 200-level course in sociology or equivalents are required. In addition, students should present one course from the biosciences or from areas with a logical or symbolic content relevant to the social sciences. Among appropriate courses are: Mathematics 107-108 or 111; Philosophy 231; Linguistics 101-102; Biological Science 101-102 or 109-110; and four hours in computer science. Other courses may be recommended by a departmental adviser. Minimum grade requirements are an average of C in all subjects and an average of C+ in courses offered as prerequisites.

Upperclass courses: students accepted in the major must complete thirty-two hours of courses at the 300 level or higher, chosen in consultation with their advisers. Realizing the variety of other academic interests and career intentions to which sociology is relevant (for example, law, public service, medicine, and government) and which a major in sociology should serve, the Department wishes to allow students and their advisers freedom to construct an appropriate sequence of courses. Students should, however, include among the thirty-two hours one course in the techniques of research (for example, Sociology 321, 325, 462 or 470) and one course in theory (for example, Sociology 385, 402, 404). For students intending to pursue graduate studies, additional courses in theory and methods may be recommended.

Senior year requirement: all students will either (1) include within their thirty-two hours of advanced courses a graduate seminar during their senior year, writing for the seminar a comprehensive term paper, or (2) present to the Department during their last term of residence a substantial essay using empirical or library research.

Concentrations

Within the general major, concentrations are available in social psychology, urban studies, and population studies. The student in a concentration generally takes from within the specialty area three or more courses at the 300 to 500 level and the graduate seminar (if this form of fulfilling the senior requirement is selected). Related areas of study are also suggested for each concentration.

Concentration in Social Psychology. Sponsored jointly with the Department of Psychology. Most of the social psychology courses may be taken for credit in

either sociology or psychology. Related specialties or areas which may be recommended to the student are social organization, social methodology, experimental psychology, and cultural anthropology. A number of seminars (e.g., Sociology 580, 583-584, 585, 587, 588, 682, 683, 684) will fulfill the senior seminar requirement.

Concentration in Population Studies. Courses covering the basic demographic concerns of fertility, mortality and morbidity, migration, urbanization and population policy, and techniques of analysis are primarily within the Department, but students may be encouraged to take related courses in economics, planning, and international studies. There are several courses at the 500 level which meet the senior year requirement.

Concentration in Urban Studies. In this strongly interdisciplinary concentration related courses may be recommended from population, social psychology, economics, government, or planning. Many courses are within the College, but the student will be urged also to consider courses in the Colleges of Architecture, Art, and Planning; Engineering; Human Ecology; or Industrial and Labor Relations. Sociology 472 or 671 will fulfill the senior year requirement.

Social Relations Major

The major in social relations is offered jointly by the Department of Anthropology and the Department of Sociology. It provides the student with basic competence in cultural anthropology, social psychology, and sociology, and gives particular emphasis to the common methods of research in these disciplines. The student is expected to obtain a grasp of the common interests and unique insights of the three disciplines, and in the senior Social Relations Seminar is expected to integrate aspects of their theory and data.

Prerequisites to the Major. The candidate must apply to the Committee on Admission to the Social Relations Major, offering the following: (a) either Sociology 101 or Anthropology 201; (b) either Psychology 101 or 102 or Sociology 280; and (c) either Industrial and Labor Relations 210 or equivalent.

The Major. The major calls for a minimum of thirty-six hours of course work as follows: (a) three pairs or other combinations of related courses at the 300 level or above, to be selected in consultation with the major adviser. These six courses must include two courses from each of the following disciplines: anthropology, social psychology, sociology; (b) at least one course in methods, to be selected from the following: anthropological methods, techniques of experimentation (psychology), methods in sociology, advanced psychological statistics, the philosophy of science or of social science, advanced statistics (such as Industrial and Labor Relations 311); (c) at

least one course in theory which is related to social relations; (d) the senior seminar in social relations (Sociology 497 or Anthropology 495).

A list of the courses that may be used to satisfy the requirements for a major in social relations is available from any of the major advisers.

Students seeking admission to the program in social relations should apply to the Social Relations Committee, 323 Uris Hall.

The Honors Program

For admission to the Honors Program, students should file application with the Department during the second semester of their junior year. Honors candidates must have a general average of at least B- and an average in departmental courses of at least B, or show exceptional promise.

Distribution Requirement

The distribution requirement in social sciences is satisfied in sociology by any two courses in the Department of Sociology.

Seminars

Seminars may be taken by qualified undergraduates with the consent of the instructor, except as otherwise noted in course listings.

Participation in Research

Participation in sociological research may be required as part of course work for any student when the instructor considers that it will be to the student's educational advantage.

101 The Social Condition Fall term. Credit three hours. S. Caldwell, A. Paris, and C. Sheingold. An analysis of major perspectives, theories, and methods in contemporary sociology in the context of selected problem areas of importance for American society.

230 Population Problems Spring term. Credit three hours. J. M. Stycos. The practical and scientific significance of population growth and composition. Fertility, migration, and mortality in relation to social and cultural factors and in relation to questions of population policy. National and international data will receive approximately equal emphasis.

248 Law in Society Spring term. Credit three hours. J. Jacobs.

262 Public Opinion Spring term. Credit three hours (four credit option is available). R. K. Goldsen. Analysis of television, radio, and the press as institutions — how they work and how they create the cultural habitat within which public opinion is incubated.

264 Intergroup Relations: Social Conflict and Cooperation

Spring term. Credit three hours. Prerequisite: Sociology 101 or consent of instructor. R. M. Williams, Jr.

Sources of collective conflict and cooperation among ethnic, racial, and religious groups. Relation of conflict to social order and social change. Analysis of social and political movements in the United States, as well as of strategies of confrontation and conflict resolution.

272 Urban Society

Spring term. Credit three hours. The sociological analysis of urbanism and urbanization. Alternative explanations of industrial urban development will be assessed, including ecology-demography, modernization, dependency, and other theories of urban change. Trends in the United States and in other countries will be examined, using such information as a basis for considering urban problems and the urban future. Discussion sections are organized around specific topics.

280 Social Influence Processes: Attitude and Behavior Change (also Psychology 280)

Spring term. Credit three hours. D. Regan. Intended to provide an extensive review of the literature on social influence processes, beginning with the effects of the mere presence of others on behavior; discussions of the theory and empirical research related to conformity, compliance, imitation and modeling, group decision making, and attitude change. The relationship between attitudes and behavior will be examined in detail, and application will be made to naturally occurring social influence situations.

284 Applied Social Psychology (also Psychology 284)

Fall term. Credit three hours. Prerequisite: Psychology 102 or a course in social psychology. L. Meltzer. The application — actual and potential — of selected theories or empirical investigations drawn from the study of personality, interpersonal relationships, and small group interaction. Emphasis will be upon those approaches that suggest effective means of dealing with social and personal problems. Areas of application include advertising, child-rearing practices, education, interpersonal relationships, political decision making, and therapy.

285 Personality and Social Systems (also Psychology 285)

Fall term. Credit four hours. Prerequisite: one course in psychology or sociology. M. Naditch. Perspectives will be developed for understanding personality and behavior in a cultural context. A number of theories and conceptual approaches that have been used to understand the relationship between personality and social systems will be critically examined. Some themes in contemporary American culture will be discussed.

321 Techniques of Sociological Research

Fall term. Credit four hours. Prerequisite: a course in sociology. D. Hayes.

Research design and the operational side of laboratory methodology, with a series of field and laboratory projects. Students will carry out several studies from planning to analysis stages.

325 Analysis of Sociological Data

Spring term. Credit four hours. S. Caldwell. A first course in statistical analysis of data for students in the social sciences. Begins with two variable tabular analysis and ends with an introduction to regression and path analysis. Focuses on using data to test multivariate causal hypotheses.

330 Population and the Environment

Fall term. Credit four hours. R. Avery. Course will concentrate on the question of the existence of environmental problems related to population variables. Emphasis will be on the assumptions, framework of analysis and underlying data used in theories relating population and the environment. National and international studies will be covered.

[343 The Family

Fall term. Credit four hours. G. Streib. Not offered 1975-76.]

345 Inequality in America

Spring term. Credit four hours. Prerequisite: a course in the social sciences. J. Kahl. Recent trends in the unequal distribution of income, occupation, and education in the United States; inheritance of riches and of poverty; importance of ethnic membership; sex differences; deliberate attempts by government policy to alter these trends; evaluation of the "war on poverty."

346 Race, Class and Power

Fall term. Credit four hours. Prerequisite: Sociology 101 or equivalent. A. Paris. An examination of race and ethnicity from the perspectives of power and interest group politics. Attention will be focused on groups (ethnic, social, and otherwise) in the urban context. J. M. Furnivall's Plural Society thesis will be examined for its domestic applicability. Some attention will also be given to rural populations, e.g., Appalachian poor whites and Chicanos in the Southwest.

350 Comparative Social Change

Fall term. Credit four hours. Prerequisite: a course in the social sciences. B. C. Rosen. An examination of social and psychological factors that affect the modernization process. Emphasis is placed upon cross-national data that show how social structure and personality interact to influence the transition of communities from traditional to modern forms of social organization. Among topics to be covered are psychological factors in economic development, the impact of industrialization on family structure and socialization, and personality elements that affect the political process in developing societies.

352 Prison Communities

Fall term. Credit four hours. Prerequisite: a course in the social sciences. J. B. Jacobs.

Comparative survey of prison communities. Analysis of various kinds of imprisonment or confinement, such as prisons (minimum security through maximum security mega-prisons), concentration camps, POW camps, exile communities.

354 Religions and Secularism in Western Society

Spring term. Credit four hours. Prerequisite: Sociology 101 or consent of instructor. G. Streib. The interrelationship of culture, society, and religion. Religion and social stratification, religion and economic and political institutions, social change and religion. The major emphasis will be upon American society and American religious institutions.

363 Party Systems and Social Groups: the Structure of American Politics

Spring term. Credit four hours. Offered in alternate years. Prerequisite: a course in sociology or American political history or consent of instructor. C. Sheingold. The historical pattern of the relationship between social groups and the party system in America. The core of this pattern is a regular cyclical alternation between periods of stability (when the relationship is smooth and rigid) and periods of crisis (when the relationship is chaotic and open to change). The causes, implications, and future of this pattern will be explored. Concern will be with concrete questions about the causes and dynamics of cyclical phenomena more generally.

367 After the Revolution: Mexico and Cuba

Fall term. Credit four hours. Prerequisite: two courses in the social sciences. Not offered 1975-76.]

368 Contemporary Brazil (also History 348)

Fall term. Credit four hours. Prerequisite: two courses in the social sciences. J. Kahl, T. Holloway.

A study of the style of development in economy, polity, and society followed by contemporary Brazil, and an analysis of the contradictions that led to the military coup of 1964 and its aftermath; some comparisons with other Latin American countries will be made. Assigned readings will be in English.

378 Economics, Population, and Development (also Economics 378)

Spring term. Credit four hours. M. Haines. An introduction to the economic aspects of population and the interaction between population change and economic change. Particular attention will be paid to economic views of fertility, mortality, and migration and to the impact of population growth on economic growth, development, and modernization.

380 Role Theory (also Psychology 380)

Spring term. Credit four hours. Prerequisites: Sociology 101 and Psychology 101 or 102 or consent of instructor. Limited to twenty students. J. L. Laws. Traditional perspectives on social roles will be integrated with current research. Topics include role as a concept linking society and individual; symbolic interaction; socialization processes; role taking; self identity; occupational roles; sex roles; role networks. Methods of studying social roles will be examined.

Some applications of role theory will be examined, most notably in experimental methodology and psychodrama.

381 Social Psychology (also Psychology 381)

Fall term. Credit four hours. Prerequisite: three hours of psychology or three hours of sociology. R. Kraut. An advanced introduction to social psychology. Topics that will be covered include methodology; attitudes and attitude change, conformity, cognitive consistency, attribution theory, deviance, roles and self-presentation, nonverbal communication, the social psychology of language, youth and social change, and social psychology as a profession.

382 Individual Differences and Psychological Assessment (also Psychology 382)

Spring term. Credit four hours. Offered alternate years. Prerequisites: junior class standing and a previous or concurrent course in statistics. H. Alker. A survey concerning major dimensions of individual differences: intelligence, creativity, motives, race, sex, class, and cognitive styles. Also considered will be alternative ways of assessing such differences: trait, behavior sampling, and conjoint person-environment assessment.

383 Social Psychological Aspects of Social Change (also Psychology 383)

Spring term. Credit four hours. Prerequisite: one course in psychology or sociology. M. Naditch. Not offered 1975-76.]

384 Social Psychology of Women (also Psychology 384 and Women's Studies 384)

Fall term. Credit four hours. Prerequisites: two of: Psychology 102, Sociology 101, Women's Studies 101, J. L. Laws.

Theories on women's personalities, roles, and capacities are compared with current research evidence. Special attention is given to the structure of thinking regarding women in the social sciences. Topics include women in the labor force, sex differences, marriage and the family, socialization of girl children, female sexuality, women's aspiration and achievement, sex roles, the Women's Liberation Movement, and men's liberation.

385 Theories of Personality (also Psychology 385)

Spring term. Credit four hours. Prerequisite: Psychology 101 or 102 or consent of instructor. Some sociology or anthropology also helpful. W. Lambert. A critical survey of modern theories of personality. An analysis of the relation of personality theory and related research to the social sciences, to psychology, and to literature. The emphasis is upon "normal" personality, and upon clarifying hypotheses for systematic empirical testing.

387 Psychological Aspects of Political Behavior (also Psychology 387)

Fall term. Credit four hours. Prerequisites: junior class standing and a course in social or personality psychology or consent of instructor. H. Alker. A survey of contributions from personality, social, clinical, and developmental psychology to the expla-

nation of political behavior. Topics include: power styles, ideology, social movements, psychocultural theories of war, manipulation techniques, and political rationality.

389 Conformity and Deviance (also Psychology 389) Spring term. Credit four hours. Prerequisite: three hours of psychology or three hours of sociology. R. Kraut.

What are the ways in which conformity pressures, in all their variation, can lead to deviance? To attempt an answer we will examine some of the conformity bases for run-of-the-mill, normal behavior, and then use the concepts developed to illuminate such behavior as mob violence, suicide, juvenile crime, and craziness.

402 Social Theory Spring term. Credit four hours. Prerequisite: two courses in the social sciences or consent of instructor. A. Paris.

Survey of selected theories and concepts in contemporary sociology, reviewed in historical perspective. Course will focus upon the sociology of knowledge and will be concerned with the social and historical location of human thought and the attendant problems, both under its initial formulation (Marx, Scheler, Mannheim, etc.) and its more recent development (Schutz, Berger, Luckmann, etc.). Empirical applications of this theoretical perspective will also be examined.

403 Sociology of Science and Technology

Spring term. Credit four hours. Prerequisite: upper-class or graduate student standing. G. Gordon. Part one deals with the organization and institutionalization of science and technology with reference to scientific accomplishment, leadership, and reward. Part two deals with the support structure of science with particular reference to government. Questions to be dealt with will be related to control of science and technology. Part three deals with science and technology in terms of consequences for quality of life over the next ten to fifteen years.

404 Major Themes in Sociological Thought and Analysis Spring term. Credit four hours.

Prerequisites: major in sociology or social relations and consent of instructor. C. Sheingold. An advanced undergraduate seminar in sociology. Focus of discussion will be a diverse selection of major sociological works. Goal of the course will be to provide the student with an exposure to and opportunity to develop a broad and integrated sense of the "sociological imagination."

[420 Mathematics for Sociologists Fall term. Credit four hours. Prerequisite: consent of instructor. R. McGinnis. Not offered 1975-76.]

[421 Mathematical Sociology Spring term. Credit four hours. Prerequisite: Sociology 420. R. McGinnis. Not offered 1975-76.]

424 Theory Construction and Data Analysis Fall term. Credit four hours. Prerequisite: Sociology 325 or equivalent. R. McGinnis.

An intermediate course in construction and testing formal theories against data. The linear model is examined in detail. Both cross-section and time series data are investigated. The necessary matrix algebra is taught concurrently.

431 Techniques of Demographic Analysis

Spring term. Credit four hours. Prerequisite: Sociology 230 or 330. R. Avery.

A description of the nature of demographic data and the specific techniques used in their analysis. Mortality, fertility, migration, and population projection will be covered, as well as applications of demographic techniques to other classes of data.

[433 Human Fertility In Developed Nations

Spring term. Credit four hours. Prerequisite: Sociology 230 or 330 or consent of instructor. R. Avery. Not offered 1975-76.]

434 Human Fertility in Developing Nations

Fall term. Credit four hours. Prerequisite: Sociology 230 or consent of instructor. J. M. Stycos.

A review of the major literature dealing with the social causation of variation in human fertility. Emphasis will be on international comparisons and on the methodology of field research.

[435 Mortality and Morbidity Spring term. Credit four hours. Prerequisite: Sociology 230 or consent of instructor. R. Avery. Not offered 1975-76.]

[438 Human Migration and Residential Mobility

Spring term. Credit four hours. Prerequisite: Sociology 230 or consent of instructor. P. Chi. Not offered 1975-76.]

441 Structure and Functioning of American

Society—I Fall term. Credit four hours. Prerequisite: Sociology 101 or consent of instructor. R. M. Williams, Jr.

Critical study of the institutions of kinship, stratification, the economy, the polity, education, and religion. Special attention is given to values and their interrelations, and to deviance and evasion. A survey of groups and associations making up a pluralistic nation is included.

442 Structure and Functioning of American

Society—II Spring term. Credit four hours. Prerequisite: Sociology 441 or consent of instructor. R. M. Williams, Jr.

New evidence on interrelations of institutions; analysis of relations between economic and political systems. Group cooperation and conflict are surveyed. Emphasis on change in institutions, values, and social organization.

[447 Sociology of Health and Medicine Fall term.

Credit four hours. Prerequisite: background in the social sciences, premedical status, or consent of instructor. 1975-76.]

462 The Logic of Research Methods

Spring term. Credit four hours. Prerequisite: undergraduate major in a social science or consent of

instructor. R. K. Goldsen.

Models of explanation underlying current social science research methods are examined. Some alternative models are explored, such as ethnomethodology, transactional psychology, humanistic psychology, social cybernetics, and general systems theory.

[470 Urban Research Methods Fall term. Credit four hours. Prerequisites: Sociology 272 and a college course in statistics or consent of instructor. P. Chi. Not offered 1975-76.]

[472 International Urbanization Spring term. Credit four hours. Prerequisite: a course in urban studies or consent of instructor. P. Chi. Not offered 1975-76.]

[480 Attitude Theory (also Psychology 480) Fall term. Credit four hours. Prerequisite: a course in social psychology or graduate student standing. L. Meltzer. Not offered 1975-76.]

481 Advanced Social Psychology (also Psychology 481) Fall term. Credit four hours. Prerequisite: a course in social psychology or consent of instructor. J. Regan. Selected topics in social psychology are examined in depth, with a heavy emphasis on experimental research. Readings consist for the most part of original research reports. Topics discussed may include some of the following: social comparison theory, social and cognitive determinants of the emotions, cognitive dissonance, attributive processes, interpersonal attraction, aggression, altruism, and research methods in social psychology.

483 Social Interaction (also Psychology 483) Spring term. Credit four hours. Prerequisites: three hours of sociology and three hours of psychology. Enrollment limited to fifteen students. D. Hayes. A course dealing with the major conceptions of the organization and dynamics of face-to-face interaction.

[485 Advanced Personality (also Psychology 485) Spring term. Credit four hours. Offered alternate years. Prerequisite: a 200- or 300-level course in personality or graduate student standing. H. Alker. Not offered 1975-76.]

487 Selected Problems in Psychopathology and Society (also Psychology 487) Spring term. Credit four hours. Prerequisites: one course in personality or psychopathology and one course in statistics. M. Naditch. Course will focus on one or two selected topics related to personality, situational and social structural aspects of psychopathology; and maladaptive behavior. These topics will be in the general area of sociocultural stress, social psychiatry, and specific problem areas such as alcoholism and drugs.

488 Experiments in Real Life Situations (also Psychology 488) Spring term. Credit four hours. Prerequisites: two courses in social psychology or

human development and one course in statistics, or consent of instructor. U. Bronfenbrenner. An analysis of research designs and findings on human behavior and development in real-life social situations. Attention is focused on theoretical and methodological issues as well as implications for social policy.

489 Seminar: Selected Topics in Social Psychology (also Psychology 489) Fall term. Credit four hours. Prerequisites: consent of instructor and three hours of psychology and three hours of sociology or social psychology. S. Jones.

491 Selected Topics in Sociology Either term. Credit two hours. By consent of an instructor. Staff.

492 Selected Topics in Sociology Either term. Credit four hours. By consent of an instructor. Staff.

495 Honors Research: Senior Year Fall term. Credit four hours. Open only to students in the sociology Honors Program. Staff.

496 Honors Thesis: Senior Year Spring term. Credit four hours. Prerequisite: Sociology 495. Staff.

497 Social Relations Seminar (also Anthropology 495) Spring term. Credit four hours. Open only to seniors majoring in social relations. For complete descriptions of courses numbered 500 or above see the *Announcement of the Graduate School: Course Descriptions* or consult with the department.

521 Advanced Techniques of Social Research Fall term. Credit four hours. Prerequisites: graduate student standing or consent of instructor and one course in college statistics. D. Chubin.

526 Panel Data Analysis Spring term. Credit four hours. Prerequisite: graduate student standing or consent of instructor. S. Caldwell.

529 Demographic and Ecological Models of Science Spring term. Credit four hours. Prerequisite: consent of instructor. D. Chubin.

530 Introduction to Social Demography Fall term. Credit four hours. Prerequisite: graduate student standing or consent of instructor. P. Chi.

536 Demographic Research Methods Fall term. Credit four hours. Prerequisites: Sociology 530 and one year of college mathematics or consent of instructor. R. Avery.

541 Social Organization and Change Fall term. Credit four hours. Prerequisite: graduate student standing or consent of instructor. R. M. Williams, Jr.

Methods in Social Psychology (Psychology 545)

580 Experimental Social Psychology (also Psychology 580) Spring term. Credit four hours. Prerequisite: graduate student standing or consent of instructor. D. Regan.

583-584 Proseminar in Social Psychology and Personality (also Psychology 584) Fall and spring terms. Credit four hours. Prerequisite: graduate major in social psychology or graduate minor in social psychology with consent of an instructor. W. Lambert, L. Meltzer.

587 Personality (also Psychology 587) Spring term. Credit four hours. Prerequisite: graduate student standing or consent of instructor. H. Alker.

588 Social Change, Personality, and Modernization (also Psychology 588) Fall term. Credit four hours. Prerequisite: graduate student standing or consent of instructor. B. C. Rosen.

623 Advanced Techniques of Formal Modeling Spring term. Credit four hours. Prerequisite: consent of an instructor. R. Avery, S. Caldwell, P. Chi.

644 Seminar: Political Sociology Spring term. Credit four hours. Prerequisite: graduate student standing or consent of instructor. C. Sheingold.

647 Seminar: Inequality In America Fall term. Credit four hours. Prerequisites: graduate student standing and consent of instructor. S. Caldwell.

655 Seminar: Sociology of Latin American Politics (also Government 655) Spring term. Credit four hours. Prerequisite: graduate student standing or consent of instructor. (Reading knowledge of Spanish or Portuguese is recommended.) J. Kahl.

663 Seminar: Simulation and Policy Analysis Spring term. Credit four hours. Prerequisite: consent of instructor. S. Caldwell.

Government Bureaucracies in Social and Economic Development (Industrial and Labor Relations 671)

Systems of Labor Participation in the Management of Enterprises (Industrial and Labor Relations 676)

670 Seminar: Economic Demography and Development (also Economics 670) Fall term. Credit four hours. Prerequisite: consent of instructor. M. Haines.

683 Seminar in Social Interaction (also Psychology 683) Spring term. Credit four hours. Prerequisite: consent of instructor. D. Hayes.

684 Seminar in Feminine Identity (also Psychology 684) Spring term. Credit four hours. Prerequisites: graduate student standing with a course in personality theory and a course on women in literature or consent of instructor. J. Laws.

691-692 Directed Research Either term. Credit to be arranged (up to four hours). Staff.

Theatre Arts

M. A. Carlson, chairman; F. L. Churchill, J. H. Churchill, J. H. Clancy, S. Clancy, S. R. Cole, P. J. Curtis, K. Draudt, L. I. Eilenberg, D. L. Fredericksen, C. B. Jenkins, M. Lawler, L. L. Light, D. Marme, B. O. States, P. A. Stelzer, R. Sudre.

All students who wish to major in theatre arts must complete Theatre Arts 240 and thirty additional hours in the Department which will include substantial work in theatre history, literature, and theory, and in any two of the following four areas: (1) technical production and design, (2) acting/directing, (3) dance, (4) cinema. In addition, majors must complete at least twelve hours of related work outside the Department.

Students who wish to major in dance must have completed or proved competency in Intermediate Modern Technique by the beginning of their junior year. Dance majors are required to take a minimum of one technique class each term. The courses required of all majors are: (1) 301 (four semesters, one credit hour each semester), (2) 210-211, (3) 314-315, and (4) 316. In addition to the twenty-three units listed above, dance majors are required to take twenty units in related fields to be chosen in consultation with an adviser.

Opportunities for performance in theatre, dance, and cinematography are available to the entire student body through the facilities of the Department. Students may participate in the wide variety of theatrical performances presented each term in the University Theatre of Willard Straight Hall, the Drummond Studio in Lincoln Hall, and the Dance Studio in Helen Newman Hall, as actors, dancers, directors, playwrights, designers, or technicians. Auditions for particular productions are scheduled throughout the year.

The Department administers the Charles B. Moss Scholarship. The recipient is chosen by the Department from among those majors in the Department who demonstrate exceptional ability.

Distribution Requirement

The distribution requirement in the expressive arts is satisfied by any two of the three- or four-credit courses in the Department of Theatre Arts.

Freshman Seminar Requirement

The freshman seminar requirement may be satisfied by Theatre Arts 120, 130, or 140.

Theatre Laboratory

Courses 151 and 152 are offered either term. Course sequence 155-156 is offered throughout the year. These courses may be repeated for credit but no student may earn more than four hours of credit applicable towards graduation. Acting, directing, managerial, and technical responsibilities in

production of theatre and dance are under the supervision of the departmental staff. Participation is also open to students without credit.

Courses 151, 152, 155, and 156 may be added or dropped without penalty at any time during the semester.

151 Technical Theatre Either term. Credit one hour S-U grades only. First meeting in Willard Straight Theatre at 7:30 p.m. on the first day of instruction. R. Churchill.
Practice in construction, painting, and lighting for the University Theatre productions under the supervision of the set designer or the technical director.

152 Technical Theatre Either term. Credit one hour S-U grades only. First meeting in Willard Straight Theatre at 7:30 p.m. on the first day of instruction. D. Marme.
Practice in costuming for the University Theatre productions under the supervision of the costume designer.

155-156 Rehearsal and Performance Credit one hour a term. S-U grades only.
Credit for participation in producing the play (acting, directing, etc.) under the supervision of faculty of this Department. The student should add this course after having received a position on the production staff or having been cast in a play.

Acting

280 Introduction to Acting Either term. Credit three hours. May not be repeated for credit. Prerequisite: registration through departmental roster in Room 104, Lincoln Hall. Sections limited by number of students. S. Clancy, B. Jenkins.
Introduction to the problems and basic technique of the actor. Practice in creative exercises, improvisation, psychological sets, and physical images.

380 Intermediate Acting Either term. Credit three hours. May not be repeated for credit. Prerequisite: Theatre Arts 280 and registration through departmental roster in Room 104, Lincoln Hall. Sections limited by number of students. B. Jenkins, L. Light.
A continuation of Introduction to Acting 280 with emphasis on methodology and scene study.

381 Acting Either term. Credit three hours. Prerequisite: Theatre Arts 380 and consent of instructor. P. Stelzer.
Practical emphasis upon integration of conception, preparation of role, and techniques of presentation.

580 Graduate Acting Either term. Credit four hours. M.F.A. candidates only. May be repeated for credit. P. Stelzer and staff.

585 Weaponry Fall term. Credit two hours. May be repeated for credit by M.F.A. candidates. R. Sudre.

586 Weaponry Spring term. Credit two hours. Prerequisites: Theatre Arts 585 or consent of instructor.

May be repeated for credit by M.F.A. candidates. R. Sudre.

American Mime

575 American Mime Orientation I Fall term. Credit two hours. Prerequisite: Theatre Arts 280. P. Curtis and other teachers from the American Mime Theatre.

American Mime is a complete theatre medium different from the pantomime of the French School or the dance of Eastern Mime disciplines. Essentially, it is a medium for actors who, in characterization; perform symbolic activities through a unique form of movement.

Students enrolled in American Mime must contact the Theatre Arts Department about supplies one month before the beginning of classes.

576 American Mime Orientation II Spring term. Credit two hours. Prerequisite: Orientation I or consent of instructor. P. Curtis and other teachers from the American Mime Theatre.
Continuation of Theatre Arts 575.

Voice and Speech

382 Voice and Speech for Performance

Fall term. Credit two hours. Primarily for M.F.A. candidates; others with consent of instructor. L. Light.
Emphasis is on ear training and the techniques of voice production to achieve precision of articulation, and to improve vocal range, resonance, and flexibility.

383 Voice and Speech for Performance

Spring term. Credit two hours. Prerequisite: Theatre Arts 382. L. Light.
Stage dialects and continued work in the techniques of voice production to improve range, resonance, and flexibility.

582 Graduate Voice and Speech for Performance

Fall term. Credit two hours. M.F.A. candidates only. L. Light.

583 Graduate Voice and Speech for Performance

Spring term. Credit two hours. M.F.A. candidates only. L. Light.

Dance

Enrollment in all dance courses will be in Helen Newman Hall.

Courses in dance technique are offered each semester — modern: elementary through advanced; ballet: elementary and intermediate. Freshmen and sophomores may satisfy the physical education requirement by taking any of the technique courses. Juniors and seniors may earn one unit of credit each semester for high intermediate and advanced modern technique only.

200 Dance and Movement for the Theatre

Fall term. Credit three hours. P. Lawler.
Basic dance technique, improvisation, and composi-

tion designed to help the actor improve use of the body as an expressive instrument.

201 Dance and Movement for the Theatre

Spring term. Credit three hours. Prerequisite: Theatre Arts 200. P. Lawler.

Continuation of Theatre Arts 200.

210 Beginning Dance Composition and Music Resources (also Women's Physical Education 210)

Fall term. Credit four hours. Prerequisites: Music 141, intermediate technique level, and consent of instructor. Staff.

Parallel studies in the basic vocabulary of movement and in fundamental problems of musical expression in relation to dance.

211 Beginning Dance Composition and Music Resources (also Women's Physical Education 211)

Spring term. Credit four hours. Prerequisite: Theatre Arts 210. Staff.

Continuation of Theatre Arts 210.

301 Dance Technique (also Women's Physical Education 301)

Either term. Credit one hour (see below). May be repeated for credit. S-U grades only. See Women's Physical Education for schedule of sections. Staff.

Credit will be given only for enrollment in high intermediate or advanced modern technique and only to students of at least junior standing.

310 Advanced Dance Composition (also Women's Physical Education 310)

Fall term. Credit four hours. Prerequisite: Theatre Arts 211. Staff. Problems in composition for groups, and music resources for dancers.

311 Advanced Dance Composition (also Women's Physical Education 311)

Spring term. Credit four hours. Prerequisite: Theatre Arts 310. Staff. Further problems in composition for groups.

[314–315 **History of Dance** Not offered 1975–76.]

316 Human Biology for the Performing Arts (also Anthropology 316)

Fall term. Credit five hours.

A. R. Kennedy, J. Kosstrin.

A laboratory course of anatomy, physiology, and kinesiology for students of dance, physical education, performing arts, fine arts, and anthropology. Body systems and functions are studied from an evolutionary perspective.

318 Period Dance

Spring term. Credit two hours. Prerequisite: beginning ballet or intermediate modern technique. P. Lawler.

A sampling of the social dances from the Renaissance to the present with emphasis on pinpointing basic differences in movement styles and customs in the various periods.

410 Individual Problems in Composition (also Women's Physical Education 410)

Either term. Credit three hours. Prerequisite: Theatre Arts 311. Staff. Individual problems in composition.

[418 **Seminar in History of Dance** Not offered 1975–76.]

Directing

398 First Principles of Directing Fall term. Credit three hours. Prerequisite: one semester of acting class and one semester of stagecraft or stage design. J. Clancy.

The structure of visual and temporal patterns as interpretation of the script; rehearsal procedures and techniques; the relationship of the technical and design arts to the directorial approach.

498 Advanced Directing Spring term. Credit four hours. Prerequisite: Theatre Arts 398 or consent of instructor. J. Clancy.

Investigation of the theatrical meaning of a play and the methods by which such meaning may be communicated in the modern theatre.

499 Projects in Directing Either term. Credit to be arranged. Prerequisite: consent of the departmental staff. Staff.

The planning and execution of directing projects by advanced students in the public facilities of the Theatre Arts Department.

Theatre Production and Design

351 Theatre Practice Either term. Credit two hours. May be repeated for credit. Prerequisites: previous technical assistance in Cornell University Theatre productions, and consent of instructor. J. Churchill, R. Churchill.

Advanced projects in design or technical production under the supervision of the set designer or the technical director.

352 Theatre Practice Either term. Credit two hours. May be repeated for credit. Prerequisites: previous technical assistance in Cornell University Theatre productions and consent of instructor. D. Marme.

Advanced projects in design or technical production under the supervision of the costume designer.

354 Stagecraft Either term. Credit four hours.

R. Churchill.

Lectures and demonstrations on theatre structure and equipment, scene construction and painting, and stage lighting. Practice in scene construction and lighting for University Theatre productions.

362 Stage Lighting Spring term. Credit three hours. Prerequisite: Theatre Arts 354. R. Churchill.

An introduction to lighting design for the theatre, concentrating on the principal approaches for the designer using light as the medium. A technical foundation in the types and functions of the different lighting instruments, control equipment, light sources, and color will be dealt with during arranged laboratory sessions.

364 Stage Design I Fall term. Credit four hours. Prerequisite: Theatre Arts 354 or consent of instructor. J. Churchill.

Stage scenery design from the specifics of mass, space, and color to the completed theatrical design.

365 Stage Design II Spring term. Credit four hours. Prerequisite: Stage Design I or consent of instructor. J. Churchill.
Continuation of Stage Design I.

366 Costume Design I Fall term. Credit four hours. Prerequisite: consent of the instructor. D. Marme.
Practice in costume design, period research, rendering techniques, and construction.

367 Costume Design II Spring term. Credit four hours. Prerequisite: Costume Design I or consent of instructor. D. Marme.
Continuation of Costume Design I.

466 Advanced Costume Design Either term. Credit to be arranged. Prerequisite: consent of instructor. May be repeated for credit. D. Marme.
Projects in stage costume design and rendering techniques. Emphasis on design of total production.

467 Advanced Costume Construction Either term. Credit to be arranged. Prerequisite: consent of instructor. May be repeated for credit. D. Marme.
Projects in application of historical patterning for the stage.

Playwriting

348 Playwriting Fall term. Credit four hours. Prerequisite: consent of instructor. B. States.
A laboratory for the discussion of student plays. Each student is expected to write two or three one-act plays, or one full-length play.

[349 **Advanced Playwriting** Not offered 1975-76.]

Theatre History, Literature, and Theory

240 Introduction to the Theatre Either term. Credit three hours. L. Eilenberg.
A survey of the elements of drama and theatre intended to develop appreciation and rational enjoyment of the theatre in all its forms. Not a production course.

300 Independent Study Either term. Credit one to four hours; no more than four credit hours per semester. May be repeated for credit. Staff.
Individual study of special topics. Open to juniors and seniors with consent of the departmental member directing the study.

325 Classic and Renaissance Drama (also Comparative Literature 352) Fall term. Credit four hours. A. Caputi.

326 European Drama, 1660 to 1900 (also Comparative Literature 353) Spring term. Credit four hours. M. Carlson.

327 Modern Drama (also Comparative Literature 354) Spring term. Credit four hours. B. States

333 History of the Theatre I Fall term. Credit four hours. L. Eilenberg.
A survey of the characteristics of primitive theatre and of theatrical styles and production modes in Classical Greece and Rome, medieval Europe, the Orient, Renaissance England and Spain.

334 History of the Theatre II Spring term. Credit four hours. M. Carlson.
A survey of theatrical styles and production modes since 1642. Among the areas considered will be Renaissance France; the English Restoration; the eighteenth and nineteenth centuries in England, France, and Germany; and the modern international stage.

335 American Drama and Theatre Fall term. Credit four hours. L. Eilenberg.
A study of the American theatre and representative American plays with emphasis on the drama from O'Neill to the present.

336 Theory of the Theatre and Drama Spring term. Credit four hours. L. Eilenberg.
A survey of dramatic and theatrical theories with emphasis on the Aristotelian tradition of dramatic criticism and on the theatrical theories and practices of Stanislavski, Brecht, and Grotowski.

427 Shakespeare: King Lear and the Stages of History (also English 427) Spring term. Credit four hours. M. Carlson and S. McMillin.

442 Ibsen and Strindberg (also Comparative Literature 472) Fall term. Credit four hours. B. Pedersen.

530 Literature and the Theatre Both terms. Credit four hours. M.F.A. candidates only. May be repeated for credit. J. Clancy.

[633 **Seminar in Theatre History** Not offered 1975-76.]

636 Seminar in Dramatic Criticism Spring term. Credit four hours. L. Eilenberg.

[637 **Seminar in Dramatic Theory** Not offered 1975-76.]

638 Seminar in Theory of the Theatre Fall term. Credit four hours. J. Clancy.

[699 **Seminar in Theories of Directing** Not offered 1975-76.]

[700 **Introduction to Research and Bibliography in Theatre Arts** Not offered 1975-76.]

990 Theses and Special Problems in Drama and the Theatre**Introduction to Drama (English 272)****Shakespeare (English 327)****Representative English Dramas (English 372)****Seminar on European Drama and Dramatic Criticism (Society for the Humanities 416)****Russian Theatre and Drama (Russian 332)****What is "Absurd" in the Theatre of the Absurd? (French 391)****The Miracle Play (French 642)****Problems in the Analysis of Drama (German 201)****Schiller (German 354)****Goethe's *Faust* (German 356)****Kleist (German 633)****Japanese No Theatre (Asian Studies 400)****Cinema****375 History and Theory of the Cinema I**

Fall term. Credit four hours. A charge of five dollars is made to help defray the expenses of screenings. This sum is to be paid in class during the first week. D. Fredericksen.

Within the context of history, the description, interpretation, and evaluation of feature films as works of art and as objects for mass consumption. Emphases include "realism," "popular art," and "modernism." Contemporary methods of analysis such as auteur theory, genre theory, and semiotics are introduced.

376 History and Theory of the Cinema II

Spring term. Credit four hours. A charge of five dollars is made to help defray the expenses of screenings. This sum is to be paid in class during the first week. D. Fredericksen.

Introduction to documentary and experimental films. Documentary figures covered include Vertov, Flaherty, Grierson, Ivens, Lorentz, Riefenstahl, Capra, and direct-cinema filmmakers. Within the history of experimental films, emphases are the avant-garde of the twenties, the movement toward documentary in the thirties, and American experimental films from the forties to the present.

377 Fundamentals of Cinematography Fall term. Credit four hours. Prerequisite: consent of instructor. Limited to fifteen students. D. Fredericksen.

The mechanics and expressive potentials of 16mm filmmaking. Each student makes two short films. No prior filmmaking experience is assumed.

475 Seminar in the Cinema Spring term. Credit four hours. May be repeated for credit. Prerequisite:

Theatre Arts 375 or 376, or some background in aesthetics. Limited to fifteen students. D. Fredericksen.

Topic for Spring 1976: The Notions of "Realism" in Film Theory and Practice. Realism is a ubiquitous term in film literature, where its meaningfulness is more often assumed than defined. In an attempt at definitions, the seminar will attend to notions of realism as verisimilitude, credibility, and essence. It will also deal with the related issues of fictionality, "realistic" narrative structure, and the historical uses of "realism" as a banner for moral and social goals.

Special Programs and Interdisciplinary Studies**Africana Studies and Research Center**

J. Turner, director; Y. ben-Jochannan, W. Cross, R. Harris, H. Maalim, C. Mbata, R. Murapa, T. Mutunhu, B. Parker

The Africana Center has a unique and specialized program of study that offers an undergraduate degree through the College of Arts and Sciences and a graduate degree (Master of African and African-American Studies) through the University's Graduate School.

The purpose of the program is to prepare students for professional careers relevant to the learning and leadership needs of the African-American community. It envisions that the knowledge and methodology of various fields and disciplines will be brought to bear upon the history, present state, and dynamics of the black people and cultures in the Americas, Africa, and the Caribbean. Our curriculum is designed to reflect a multidisciplinary approach to the experience of African peoples throughout the world. The Africana Center's courses are open to both majors and nonmajors.

Africana Major

Because of the comprehensive nature of the program, it is to the students' advantage to declare themselves as Africana studies majors as early as possible. Each major must complete three core courses: 219, 290, and 360. The core course requirements should be completed by the end of the third semester. An additional twenty-two hours of course credit must be taken in the Center, sixteen of which will be in the student's chosen area of concentration.

The program is divided into three concentrated areas defined as divisions. Division I: African, African-American Heritage (History). This division concentrates in African, African-American history, and has offerings in African-Caribbean history. Division II: African-American Literature and Expression. This division includes courses in African and African-American literature as well as drama and theatre. Division III: Politics and Sociopolitical Studies of Black People. This division includes black political thought; politics, education, and the black commun-

ity; racism and colonialism; African socialism, political systems, and development.

At least two courses must be taken in AS&RC 300-level courses and an additional two courses in 400-level courses. The progression of the Center's courses in relationship to the respective divisions are as follows. Division I: 203, 204, 283, 360, 361, 370, 381, 460, 490, 505, 510, 520. Division II: 137, 138, 219, 303, 321, 322, 425, 465. Division III: 171, 172, 190, 231, 290, 301, 302, 344, 346, 351, 352, 400, 420, 475, 485, 495.

The program is a comprehensive one and is designed to extend from the beginning of the freshman year to the end of the senior year at Cornell. However, it is anticipated that many students may wish to declare themselves as Africana studies majors during their sophomore or junior year. The following are prerequisites for admission to the major. Students should submit: (1) a statement of why they want to be an Africana studies major; (2) a tentative outline of what area of study they are considering for the undergraduate concentration; (3) a full transcript of courses taken and grades received. The Center's Undergraduate Faculty/Student Committee will review the applications and notify students within two weeks of the status of their request.

Once admitted as a major in Africana studies, the student is required to maintain a C+ cumulative average in the Center's courses prior to certifying a major from the program.

The Honors Program

The Honors Program offers superior students an opportunity to study independently in seminars and to gain additional experience by engaging in research during the latter part of the junior year or the beginning of the senior year. The basic purpose of the honors/independent study project will be for the student to focus his or her work in the chosen area of concentration. The student is responsible for producing an original project or research term paper that must be read and accepted by two faculty members in the Center. The requirements for admission to the Honors Program are a cumulative average grade of at least B in the Center's courses; B-cumulative average in all courses during the freshman and sophomore years; and outstanding performance in at least one course in the area of concentration by the end of the sophomore year.

Distribution Requirement

The following AS & RC courses satisfy distribution requirements in the categories as listed. Social sciences: any two of 171, 172, 231, 290, 301, 302, 344, 345, 346, 351, 352, 420, 460, 484, 485. History: any two of 203, 204, 231, 283, 344, 360, 361, 381, 460, 475, 483, 490. Humanities: any two of 219, 321, 322, 422, 465, 492. Expressive arts: any two of 137, 138, 303, 465. Freshman Seminars: any two of 137, 138, 171, 172, 203, 204, 290.

Language Requirement

Successful completion of AS & RC 131, 132, 133, and 134 gives Qualification in Swahili. Successful completion of AS&RC 202 gives Proficiency in Swahili.

131 Swahili Fall term. Credit four hours. Requires no previous knowledge of the language. H. Maalim. Beginner's Swahili. Grammar Part I.

132 Swahili Spring term. Credit four hours. Prerequisite: Swahili 131 or previous study of the language. H. Maalim. Elementary reading and continuation of grammar.

133 Swahili Fall term. Credit four hours. Prerequisites: Swahili 131, 132, H. Maalim. Advanced study in reading and composition.

134 Swahili Spring term. Credit four hours. Prerequisites: Swahili 132, 133, or consent of instructor. H. Maalim. Advanced study in reading and composition.

137 Afro-American Writing and Expression Fall term. Credit four hours. B. Parker. Designed to develop and expand clarity and resourcefulness of written expression in the study and discussion of black people and black ideas.

138 Creative Writing and Expression Spring term. Credit three hours. B. Parker. Mainly concerned with the writing of Afro-American prose with an emphasis on fiction and the personal essay. Afro-American music forms and assumptions will be exploited as fully as possible.

171 Infancy, Family, and the Black Community Fall term. Credit four hours. W. Cross. A critique of the social and behavioral research in the areas of child development, family, and culture; examination of the skills and competencies acquired in the black environment.

172 Teaching and Learning in Black Schools Spring term. Credit four hours. W. Cross. Devoted to key issues in the psychology of the black American experience and the relationship of critical psychological factors to teaching and learning in black schools.

190 An Introduction to Modern Political Systems Either term. Credit four hours. T. Mutunhu. An analytical interpretation of the sociopolitical and economic systems of sub-Saharan African countries as well as the nationalist struggles in southern Africa.

202 Swahili Literature Fall term. Credit four hours. Prerequisites: Swahili 131, 132, 134. H. Maalim. Students will gain mastery over spoken Swahili and at the same time be introduced to the predominant Swahili literary forms.

203 History and Politics of Racism and Segregation Fall term. Credit four hours. C. Mbata.

A cross-cultural study in historical context of the evolution of racist thought and practice in southern Africa and North America.

204 History and Politics of Racism and Segregation Spring term. Credit four hours. C. Mbata.

The history of South Africa will be used as a frame of reference, with parallels and contrasts drawn from the greater Africa and the North American experience.

219 Issues in Black Literature Fall term. Credit four hours. B. Parker.

A study in the adjustment between practice and ideology in the works of six representative writers of the Black Arts Movement: Milner, Marvin X, Sanchez, Garrett, Caldwell, and Elder.

231 Black Political Thought Fall term. Credit three hours. R. Murapa.

Will concentrate on recurrent themes in black political, social, and economic theory and development.

283 Black Resistance: South Africa and North America Fall term. Credit four hours. C. Mbata.

A study of black political movements in South Africa and North America and their responses to the situations of race relations that formed the contexts of their operations.

290 The Sociology of the Black Experience

Fall term. Credit three hours. J. Turner.

An introductory course to the sociology of the black experience; required for all undergraduate students majoring in Africana studies.

301 Seminar: Psychological Aspects of the Black Experience Fall term. Credit four hours. Prerequisite: credit of instructor. W. Cross.

Existing research will be used to raise specific questions ranging from the acquisition of black culture and living patterns in the black community to education and new cultural political awareness.

302 Social and Psychological Effects of Colonization and Racism Spring term. Offered in alternate years. Credit four hours. Staff.

Will concentrate on the effects of massive psychological degradation to black people as generated by attitudes of white racial and cultural superiority.

303 Blacks in Communication Media and Film Workshop Spring term. Credit four hours.

The history of film and the black aspect of it, the evolution of the documentary, and the different approaches to the use of film as it affects public opinion.

321 History of Afro-American Literature

Fall term. Credit four hours.

Introduction to the history of Afro-American literature.

322 Modern Afro-American Literature

Spring term. Credit four hours.

Concentration will be on American black literature from Richard Wright through the present.

344 Neo-Colonialism and Government in Africa: Problems of Africanization and Development

Fall term. Credit three hours. R. Murapa.

Designed to study the problems of government in Africa with emphasis on Ghana, Nigeria, Kenya, Uganda, Tanzania, Zambia, and Malawi.

345 Afro-American Perspectives in Experimental Psychology (also Psychology 345) Spring term.

Credit three or four hours. Offered in alternate years.

Enrollment limited to forty students. Prerequisites: sophomore status, six hours in the behavioral sciences, and permission of instructor. W. Boykin.

A critical examination of the philosophical presuppositions, methodologies, data and theories in experimental psychology that pertain to black Americans.

346 African Socialism and Nation Building

Spring term. Credit four hours. R. Murapa.

Designed to explore and critically analyze various theories of African socialism as developed by leading African theorists and nationalist leaders.

351 Politics in the Afro-Caribbean World: An Introduction

Either term. Credit four hours. Offered

according to demand. A study of the social, political, economic, and psychological forces that have conspired to shape Caribbean societies.

352 Pan-Africanism and Contemporary Black Ideologies

Spring term. Credit four hours.

R. Murapa.

An historical study of Pan-Africanism that will review and analyze the literature and activities of early black Pan-African theorists and movements.

360 Ancient African Nations and Civilizations

Fall term. Credit three hours. T. Mutunhu.

An introduction to African history beginning with early civilizations in pre-European Africa.

361 The African in the Making of the New World

Spring term. Credit three hours. R. Harris.

A survey of the history of African people in the Americas, 1400 to the present. The participation of black people in the making of America will be examined.

370 Main Currents in African and Afro-American History Either term. Credit three hours. Staff.

A general survey will be made of the historical situation of African and Afro-American peoples in Africa and the United States.

381 The Slave Trade of Africans Spring term.

Credit three hours. Staff.

This course presents an historical study of the relationship between the early development of Western capitalism and the European slave trade and the impact on development in America.

400 Ideology and Development Fall term. Credit four hours.

The course will survey literature on the political economy of the West African subregion. Emphasis will

be placed on contemporary West African economic problems and prospects.

420 Politics and Black Community Organization

Offered in alternate years. Spring term. Credit four hours. J. Turner.

A current examination of the social, political, and economic factors contributing to the development and perpetuation of urban black ghettos.

422 African Literature Either term. Credit four hours. Offered according to demand.

The main focus will be on the basic themes in the twentieth-century literature produced by Africans south of the Sahara.

425 Advanced Seminar in Black Theatre

Fall term. Credit four hours. Prerequisite: consent of instructor.

The course involves the study and production of the total black theatre.

460 History of African Origins of Major Western Religions

Either term. Credit four hours. Prerequisites: sophomore status or consent of instructor.

Y. ben-Jochannan.

The course is designed to develop an understanding of the basic origins of the philosophical, theosophical, and magical-religious teachings responsible for Judaism, Christianity, and Islam.

465 Black Critique: Towards Defining and Developing a Black Aesthetic

Spring term. Credit four hours.

A study of aesthetic-moral-cultural values and judgements that black people can develop, recognize, and viably respect as black aesthetics.

475 Men and Movements in the Black Urban Ghetto

Either term. Credit four hours. R. Harris.

An examination of the personalities and movements that have influenced the black ghettos in the United States.

483 Themes in African History

Credit four hours. Offered in alternate years. C. Mbata.

Study of selected themes in African history making use of work done in related disciplines.

485 Racism, Social Structure, and Social Analysis Seminar

Spring term. Credit four hours. J. Turner.

The course will develop a systematic study of the interrelated process of racism to social structure in America, and its consequences for social analysis.

490 Advanced Reading and Research Seminar in Black History

Credit four hours. Offered in alternate years. Prerequisite: consent of instructor.

Designed to familiarize students with available sources of research material in black history.

495 The Political Economy of Black America

Fall term. Credit three hours.

The course is designed to analyze the interaction of

the American economic system and the black communities within from an historical perspective.

498-499 Independent Study

Either term. For students working on special topics with selected readings, research projects, etc., under the supervision of a member of the Africana Studies and Research Center's staff. Hours to be determined. All AS & RC faculty members.

500 Political Ideology, Planning and Development in Africa

Spring term. Credit four hours.

Offered in alternate years. Prerequisite: Africana Studies 344, 346, or consent of instructor.

505 Workshop in Teaching about Africa

Credit four hours. Offered in alternate years. Prerequisite:

Africana Studies 203, 204, or 360, 361, or consent of instructor. C. Mbata.

510 African Heritage: Historiography and Sources

Fall term. Credit four hours. Offered in alternate years. Prerequisite: upperclass or graduate student status, or consent of instructor. Staff.

515 Comparative Political History of the African Diaspora

Credit four hours. Offered in alternate years. Prerequisites: upperclass or graduate student status, or two of the following courses: Africana Studies 203, 204, 283, 360, 361, 475, 484, 490.

520 African Heritage: Historical Method, Sources, and Interpretation

Fall term. Credit four hours. Offered in alternate years. Prerequisites:

upperclass or graduate student status, or two of the following courses: Africana Studies 203, 204, 361, 475, 484, 490. C. Mbata.

551 Political History of Social Development in the Caribbean

Credit four hours. Offered according to demand. Prerequisite: upperclass or graduate student status and/or consent of instructor.

571 Infancy, Family, and the Community

Fall term. Credit four hours. Prerequisite: consent of instructor.

College Scholar Program

L. S. Abel, director

The College Scholar Program exists because of the conviction that some students will find their way through Cornell best and will feel best about their education if they are completely responsible for their own academic programs. Obviously the College Scholar Program is meant for students who are especially able and mature and who have a good sense of what they would like from Cornell. However, students need not know exactly what courses they will take. The Program can be used to explore with a little more freedom than is available to other students.

Forty freshmen are selected each year as College Scholars. In consultation with faculty advisers, they design their own degree programs, which must in-

volve 120 credit hours, four terms of physical education, and, unless permission is granted to accelerate, eight terms at Cornell. College Scholars may become departmental majors or independent majors, but need not do so. They do not have to meet the letter of the distribution requirement, but there is a strong feeling among the members of the College Scholar Advisory Board that the spirit of those requirements is a good one.

Students remain College Scholars throughout their undergraduate years at Cornell. There is a faculty advisory board for the Program, and it is hoped Scholars will get to know one another and at least some of the faculty advisers fairly well. The deadline for applying is February 27. For more information, please contact the Office of Special Programs, 159 Goldwin Smith Hall.

College Scholar 369-397 Independent Study 396
fall term only; 397 spring term only. Credit one or two hours.

College Scholar 398-399 Independent Study 398
fall term only; 399 spring term only. Credit three or four hours.

College Scholar 405 (also English 405) Readings in the Humanities Fall term. Credit four hours.

Enrollment limited to fifteen sophomores and upperclassmen. S. Siegel.

A detailed examination of books such as Aristotle's *Poetics*, Thucydides' *History*, Virgil's *Aeneid*, Descartes' *Discourse*, Milton's *Paradise Lost*, and Shakespeare's *Coriolanus*. Among other topics, we will consider the question the authors address; to whom they address them; the views of reality the authors represent; and the distinctive characteristics of literary, historical, and philosophical approaches. Four papers; discussion.

The Frederick George Marcham Scholar Program

The Frederick George Marcham Scholar Program is supporting in 1975-76 a special seminar program, Law and Social Science (Government 324-325, see p. 85). Students who are interested in the program should see D. J. Danelski, 100 McGraw Hall.

The German Area Studies Major

The major in German area studies consists of a set number of courses in German language to which is added a set number of courses in German area studies, presently taught in various departments of the University. The major in German area studies will be required to take language courses in the Department of Modern Languages and Linguistics through the 300 level, and will be required to take at least four courses above the 200 level offered in another area. It is strongly suggested that majors in German area studies also incorporate the basic German History Course (351-352) in their prospective program.

The Department of German Literature will offer a tutorial for German area studies students to enable them to read and discuss their area of specialization in German. The major adviser will aid German area studies majors in the selection of the program. Each major will also have a minor area adviser who will aid in the area of further specialization. For details, students should consult the major adviser, D. Bansberg, in the Department of German Literature.

Programs in Greek and Roman Civilization

Greek Civilization: E. Asmis, director

Roman Civilization: A Betensky, director

These are two separate but interchangeable programs of studies in Greek civilization and Roman civilization for freshmen and sophomores, whether they plan to major in the sciences or in the humanities. Their purpose is to give unity to students' introduction to the liberal arts as they gain some understanding of literature, art, philosophy, history, government, and science through the reading of ancient works of the highest quality. A considerable amount of knowledge is unified by its common origin in ancient Classical culture. Greek and Roman traditions of politics, humanism, and literature were the primary vehicles of Western culture for fifteen hundred years, and the issues with which they dealt are still alive today. The continuity of the Classical tradition, made clearer by the Greeks' and Romans' remoteness in time, contributes to gaining perspective on our own society.

The Programs are also alternatives to a professionalism which leaves students no occasion to raise some of the great questions of life in a systematic or scholarly way, a purpose for which many students come to college in the first place. Because the combination of familiar and foreign elements in Greek and Roman thought is complicated, much of the teaching and learning will be through discussion in small classes. Regular course meetings will be supplemented by occasional colloquia involving faculty and students. Participation in either Program leaves the student free to take at least two other courses each semester. For further information, please contact the Classics Office, 121 Goldwin Smith.

The following courses constitute the Program in Greek Civilization. Taken as a whole the Program satisfies all underclass requirements except the distribution requirement in science.

101-103, 201-203 Greek Language (Department of Classics) 101, 201 fall term; 103, 203 spring term. Greek language courses must be taken by students in the Program at the rate of one each term starting at an appropriate level. The introduction to ancient Greek is designed to allow for the reading of important works beginning early in the second semester. In the second year readings will be drawn from such writers as Homer, Euripides, and Plato. The main stress in readings will be on literary aspects of the works assigned.

Freshman Seminar in Greek Literature (Classics 119)**Classical Antiquity (History 261)****Introduction to Classical Archaeology (Classics 220)****Science in Classical Antiquity (History 481-482)****Greek Philosophy (Classics 224)****Classics in Political Thought (Government 363)**

The following courses constitute the Program in Roman Civilization. Taken as a whole the Program satisfies all underclass requirements except the distribution requirement in science.

105, 106, 108, 207, 208, 215, 216 Latin Language (Department of Classics) 105, 108, 207, 215 fall term; 106, 208, 216 spring term. Latin language courses must be taken by students in the Program at the rate of one each term starting at an appropriate level. The elementary courses (105, 106), for those who have no previous knowledge of Latin, are designed to achieve the reading of original works beginning in the second semester. Students with some knowledge of Latin are placed in more advanced courses, according to the results of a Classics Department placement examination (see p. 16). The works taught in any given course may vary from year to year, but will include a range of the best Latin poets and prose writers. The main stress in reading will be on literary aspects of the works assigned.

Freshman Seminar in Latin Literature (Classics 120)**Introduction to Roman Law (Classics 304)****Roman Philosophy (Classics 225)****Classical Antiquity (History 261-262)****Medieval History (History 263)****The Roman Revolution, 146-44 B. C. (History 461)**

[Early Imperial Rome, 44 B. C.-A. D. 70 (History 462) Not offered 1975-76.]

Human Affairs Program

D. Leahy, director; V. Dowd, assistant director; L. Farley, R. Fitch, T. Haight, T. Prattis, L. Reverby, K. Sauvigne, J. Schmidt

The Human Affairs Program offers exciting courses that allow students a unique opportunity to become involved in exploring community issues that affect Upstate New York residents. Although specific requirements vary with each section, all students enrolled in the Human Affairs Program are expected to participate both in the fieldwork experience and in

weekly seminars devoted to the discussion of specific projects and the assigned readings.

Credit Six Hours

425 Women and Work Concentrates on projects about the problems of the woman who works outside the home with special focus on unorganized women. There will be consciousness raising and discussion of related feminist writings.

429 Elmira Redevelopment Examines the politics of the accelerated urban redevelopment process by a close firsthand look at flood-devastated Elmira.

435 Criminal Justice Allows students to work directly with inmates at Elmira Correctional Facility and to observe firsthand the dynamics of prison life.

437 Wealth and Corporate Power Examines the present economic structure of the United States and various alternatives to it from a Marxist perspective.

495 Advanced Work in the Human Affairs Program

Public Utilities and Energy Analyzes the relationship between public utilities and the energy "crisis" and offers an opportunity to work with community groups that are challenging the role of utilities. Students interested in registering for this course should see the program director.

For further information contact the Human Affairs Program at 330 Sheldon Court.

Independent Major Program

L. S. Abel, director

In order to graduate from the College, students are asked to complete a major — a sequence of courses, graduated in difficulty, in one fairly specialized field. Most students meet this requirement within one of the departments in the College. However, some students have interests, such as in urban studies, medieval studies, nineteenth-century studies, or biophysics, which do not fit comfortably into any one department. Such students may, with faculty advice, design their own interdisciplinary majors. One advantage of constructing an independent major is that students are not limited to courses in the Arts College, but may include relevant courses from other colleges at Cornell. Sometimes independent, supervised study will be necessary to focus an independent major properly. When this is the case, students may register for the special independent major course numbers listed below.

Proposals for independent majors are reviewed by a board of faculty members. The board members consider whether each proposed major is equivalent in coherence, breadth, and depth to a departmental major. They also consider whether the student seems capable of following the course of study as planned. Once a proposal is accepted, the student and the

faculty adviser are together responsible for carrying out the program. An independent major may, when it is appropriate, do honors work, accelerate, or study *in absentia*, just as other students may.

Application forms and general information are available from the Office of Special Programs, 159 Goldwin Smith Hall.

Independent Major 301-302 Independent Study
301 fall term only; 302 spring term only. Credit two hours. Permission of Program director required.

Independent Major 351-352 Independent Study
351 fall term only; 352 spring term only. Credit three or four hours. Permission of Program director required.

Independent Major 398 Honors Research
Either term. Credit variable to eight hours per year. For honors candidates only.

Center for International Studies

The Center for International Studies supports and coordinates Cornell's programs of international and comparative studies. By serving as a focal point for ideas, information, and advice about the University's wide range of international offerings, the Center contributes to their further development. The Center places particular emphasis on strengthening inquiry into issues that cut across disciplinary, professional, and regional concerns, and to providing a continuing source of innovation and experimentation in international studies. The Center and its constituent programs promote interdisciplinary teaching and research in international and comparative studies. Area Programs include: East Asian (Chinese and Japanese), Latin American, Southeast Asian, South Asian, and Soviet Studies. Problem-oriented programs focus on advanced societies, agriculture, law, nutrition, participation and labor-managed systems, peace studies, population, rural development, and science/technology policy. For further information on the Center's activities, contact 170 Uris Hall.

Program of Jewish Studies

The Program of Jewish Studies is included in the framework of the Department of Semitic Languages and Literatures. The Program has grown out of the conviction that Judaic civilization, no less than Greek and Roman, merits comprehensive and thorough treatment. The other view that helped form the guidelines of the Program is that proper understanding of any literature is inconceivable without adequate knowledge of the history of the people that created it. Accordingly, the Department's offerings in the area of Hebrew language and literature have been considerably expanded and have branched out to include Jewish history.

Although further expansion of the Program is still called for to encompass the broad spectrum of disciplines in the field, the Program, as it is constituted at

present, already enables students to obtain basic instruction and specialization in the fields of Hebrew and Aramaic languages, the Old Testament, the Apocryphal and Tannaitic literatures, medieval Hebrew literature, modern Jewish thought, modern Hebrew literature, and ancient, medieval, and modern Jewish history. In all these fields students may take courses on a graduate and an undergraduate level.

Students may get more precise counsel from their advisers or from the department head. For details concerning the courses included in the Program, see p. 147.

Latin American Studies

S. Barraclough, J. W. Converse, L. V. Crowder, T. E. Davis, M. Drosdoff, D. K. Freebairn, R. K. Goldsen, W. W. Goldsmith, R. González, T. Gregor, J. S. Henderson, J. H. Holloway, J. A. Kahl, E. E. Kenworthy, L. Kerr, L. King, T. F. Lynch, R. E. McDowell, J. V. Murra, T. Poleman, B. C. Rosen, J. F. Scott, D. F. Solá, J. M. Stycos, M. Suñer, R. B. Thomas, H. D. Thurston, W. F. Whyte, L. K. Williams, F. W. Young

The Latin American Studies Program encourages and coordinates faculty and student interests in Latin America. A variety of special lectures, films, and seminars supplements the regular course offerings.

Undergraduate students may arrange a Latin American concentration in conjunction with an independent major, and graduate students may pursue a minor in Latin American studies while majoring in the graduate field of their choice. The College of Arts and Sciences offers Latin American studies courses in anthropology, economics, government, history, history of art, and sociology. In addition, there is a varied language, literature, and linguistics curriculum in Spanish, Portuguese, and Quechua. The student may also pursue Latin American studies in the College of Agriculture and Life Sciences; the College of Architecture, Art, and Planning; the College of Human Ecology; and the School of Industrial and Labor Relations.

In addition to linguistics, Spanish, Portuguese, and Quechua classes, area courses offered by the College of Arts and Sciences include:

The Discovery of America (Anthropology 150)

Urban Anthropology (Anthropology 313)

Ethnology of South America (Anthropology 332)

Ethnology of the Andean Region (Anthropology 333)

The Earliest Civilizations (Anthropology 350)

[Archaeology of the Americas I (Anthropology 354) Not offered 1975-76.]

Archaeology of the Americas II (Anthropology 355)

Mesoamerican Thought and Culture
(Anthropology 356)

Ethnohistory (Anthropology 418)

[**Middle America** (Anthropology 631) Not offered
1975-76.]

Tribal Peoples of Lowland South America
(Anthropology 632)

Andean Research (Anthropology 633)

[**Origins of Mesoamerican Civilization**
(Anthropology 667) Not offered 1975-76.]

Economic History of Latin America (Economics
325/525)

Economic Problems of Latin America
(Economics 565)

Issues in Latin America (Economics 648)

Politics of Latin America (Government 340)

Sociology of Latin American Politics
(Government 655 and Sociology 655)

Latin American History to 1825 (History 210)

Latin American History Since 1825 (History 211)

Contemporary Brazil (History 348 and
Sociology 368)

Undergraduate Seminar in Latin American History
(History 449)

Seminar in Latin American History (History 649)

[**Pre-Columbian Art** (History of Art 315)
Not offered 1975-76.]

Latin American Art (History of Art 392)

Seminar in Pre-Columbian Art and Archaeology
(History of Art 415)

Writings in Contemporary South American Literature
(Romance Studies 317)

[**Spanish-American Literature to "Modernismo"**
(Romance Studies 329) Not offered 1975-76.]

[**South American Literature from "Modernismo" to
the Present**

(Romance Studies 330) Not offered 1975-76.]

Twentieth Century Spanish-American Drama
(Romance Studies 332)

[**Spanish American Short Story** (Romance
Studies 334) Not offered 1975-76.]

**Writing Taboos: The Erotic and Political in
Cortázar** (Romance Studies 433)

History of the Spanish Language (Spanish 401)

Old Spanish Texts (Spanish 402)

Grammatical Structure of Spanish (Spanish 408)

Hispanic Dialectology (Spanish 601)

Linguistic Structures of Ibero-Romance
(Spanish 602)

Contemporary Theories of Spanish Phonology
(Spanish 603)

Contemporary Theories of Spanish Grammar
(Spanish 604)

**The Comparative Study of the Romance Lan-
guages** (Romance Linguistics 321, 322, 323-324,
620, 621, 622)

Seminar in Ibero-Romance Linguistics
(Spanish 700)

Law and Society

The existence at Cornell of a wide variety of courses concerning the law as a social and historical phenomenon make it possible for students to study law and society as a minor field. Students who wish to graduate with a concentration in law and society should consult one of the advisers listed below, to work out a coherent program of study including at least four courses from among those approved for this purpose.

The law and society advisers for the 1975-76 year are: H. Alker (psychology), C. Carmichael (Semitics), D. J. Danejski (government; spring term only), D. B. Lyons (philosophy), M. B. Norton (history), D. T. Regan (psychology), D. Resnick (government), C. A. Sheingold (sociology)

The following courses currently qualify for the concentration in law and society:

Introduction to Roman Law (Classics 304)

Economics and the Law (Economics 304)

Public Regulation of Business (Economics 352)

Law and Society (Government 118)

The Nature, Functions, and Limits of Law
(Government 313)

Criminal Justice and Public Policy
(Government 322)

Law and Social Science (Government 324-325)

Civil Liberties in the United States
(Government 327)

Constitutional Politics (Government 328)**International Law (Government 389)****American Constitutional Development (History 318)****The Early Development of the Anglo-American Common Law (History 359)****Church and State During the Middle Ages (History 367)****Law, Society, and Morality (Philosophy 342)****Biblical Law (Semitics 333)****The Law and Environmental Control (Civil and Environmental Engineering 605, College of Engineering)****Labor Relations Law and Legislation (Industrial and Labor Relations 201, School of Industrial and Labor Relations)****Development of American Ideals (Industrial and Labor Relations 308, School of Industrial and Labor Relations)****Protective Labor Legislation (Industrial and Labor Relations 341, School of Industrial and Labor Relations)****Legal and Market Controls of Technological Change (The Law School)****Medieval Studies**

Students who plan to do graduate work in medieval studies at Cornell or elsewhere have an opportunity to take many relevant courses as undergraduates. Instruction is available in the following areas: medieval Hebrew, medieval Arabic, medieval Latin, Old English, Middle English, Old Provençal, medieval French, medieval Spanish, medieval Italian, Old Saxon, Old High German, Middle High German, Gothic, Old Norse (Old Icelandic), Old Russian, Old Bulgarian, Old Church Slavonic, medieval art and architecture, medieval history, Latin paleography, medieval philosophy, musicology, comparative Slavic linguistics, and comparative Romance linguistics. Undergraduates who wish to do an independent major in medieval studies should consult the faculty representative for medieval studies, Professor A. B. Groos, 182 Goldwin Smith Hall. The staff of the graduate program will do its best to guide such students.

Military Science

As a land-grant institution chartered under the Morrill Act of 1862, Cornell has offered instruction in military science for more than one hundred years. Cornell provides this instruction through the Reserve Officers

Training Corps programs of the three military departments, the Army, the Navy, and the Air Force.

The ROTC programs offer students the opportunity to earn a commission while completing their education. To obtain a commission in one of the armed services, students must complete a two-year, three-year or four-year course of study in an ROTC program and must meet certain physical standards. Upon graduation students receive a commission and serve a tour of active military service. (Length of service varies with each service.)

Further information and course descriptions are provided in the *Announcement of Officer Education*. Interested individuals are also directed to the appropriate ROTC office in Barton Hall.

Religious Studies

J. B. Long, chairman; C. M.-Arroyo, J. P. Bishop, R. A. Borker, R. G. Calkins, C. M. Carmichael, K. M. Clinton, M. J. Colacurcio, J. J. John, A. T. Kirsch, N. Kretzmann, N. Malcolm, S. J. O'Connor, D. Owens, A. E. Paris, D. Randel, J. F. Scott, S. C. Strout, G. F. Streib, B. Tierney, A. W. Wood, M. W. Young. Wood, M. W. Young

Religious studies is an interdisciplinary program reflecting a wide variety of academic interests and disciplines. The intention of the program is to provide a formal structure for the study of the religions of mankind at the undergraduate level. A student may fulfill the requirements for a Concentration in Religious Studies by completing a minimum of four courses that have been approved by an adviser in the area of the concentration. The program is administered by a committee, the chairman of which is J. Bruce Long, 158 Rockefeller Hall. Courses in religious studies are offered in the following departments: Anthropology, Archaeology, Asian Studies, Classics, English, History, History of Art, Medieval Studies, Philosophy, Semitic Languages and Literatures, and Sociology.

203 Introduction to the History of Religions

Fall term. Credit four hours. J. B. Long. A study of various theories (i.e. anthropological, historical, psychological, phenomenological, etc.) about the nature and function of religion. Includes readings on myths, rituals, and symbols from the world's religions.

Major in Russian and Soviet Studies

The College offers a major in Russian and Soviet studies, the requirements for which are:

1. Qualification in Russian, as defined on p. 00.
2. At least one course relating to Russia, at the 200 level or above, in each of the following departments: Russian literature, government, economics, and history. (A course in another department may be substituted for one of the above with the consent of the major adviser.)
3. At least three additional courses, at the 300 level or above, in one of the following departments: Rus-

sian literature, government, economics, or history. These courses shall be selected in consultation with the student's adviser and shall be approved as appropriate for a major in Russian and Soviet studies.

Each student majoring in Russian and Soviet studies will be assigned a major adviser in the department of his or her special interest who is also a specialist on Russia. Interested students should contact W. M. Pintner, Department of History, or M. Rush, Department of Government.

Program on Science, Technology, and Society

R. Bowers, director.

The purpose of the interdisciplinary Program on Science, Technology, and Society is to stimulate and initiate teaching and research on the interaction of science and technology with contemporary society, and to provide coherence and support for current University activities in this area. Students and faculty from all parts of the University are welcome to participate in the Program's activities.

Topics of concern to the Program include: technology assessment; biomedical ethics; national science policy; and science, technology, and the humanities. These and other subjects are studied through courses, graduate and faculty seminars, workshops, and individual research programs. The Program also participates in the graduate minor field of public policy, offering a science policy "stream" within this minor field. The courses listed below are cosponsored by the Program on Science, Technology, and Society in collaboration with other units of the University. Program information and course descriptions may be obtained from the Program office, 614 Clark Hall.

Biomedical Ethics (Biological Sciences 206)

Environmental Ethics (Biological Sciences 207)

Science, Technology, and Public Policy in the United States (Business and Public Administration NPA-504, School of Business and Public Administration, and Government 626)

[Science, Technology, and Development (Business and Public Administration NCE-510, School of Business and Public Administration, and Government 630) Not offered 1975-76.]

[Science, Technology, and International Relations (Business and Public Administration NCE-513, School of Business and Public Administration, and Government 683) Not offered 1975-76.]

Social Implications of Technology (Civil and Environmental Engineering IIB205, College of Engineering)

The Law and Environmental Control (Civil and Environmental Engineering IIB615, College of Engineering)

Seminar in Technology Assessment (Civil and Environmental Engineering IIB616, College of Engineering)

The Computerized Society (Computer Science 105)

Urban Studies Laboratory (Government 312)

Defense Policy and Arms Control (Government 384)

Freshman Seminar in the History of Technology (History 280)

[Problems in the Philosophy and History of Biology (History 386 and Philosophy 386) Not offered 1975-76.]

[Legal and Market Controls of Technological Change (Law 578, The Law School) Not offered 1975-76.]

Seminar on Science, Technology, and Law (Law 589, The Law School)

Technology and Society — An Historical Perspective (Mechanical Engineering IMG102, College of Engineering)

Philosophy of Science (Philosophy 681)

Sociology of Science and Technology (Sociology 403)

Demographic and Ecological Models of Science (Sociology 529)

The Impact and Control of Technological Change (Urban Planning and Development 434, College of Architecture, Art, and Planning, Economics 302, and Government 302)

The Politics of Technical Decisions (Urban Planning and Development 533, College of Architecture, Art, and Planning, and Government 629)

Social Relations

The Social Relations Program is staffed by faculty in anthropology, psychology, and sociology and provides a major for students wishing to have a broad background in the study of human social behavior. The Program concentrates on the common interests and research methods of cultural anthropology, social psychology, and sociology. In a special seminar in the senior year, students are encouraged to integrate aspects of the theory and data of the three disciplines around their own individual interests and personal objectives.

More information on the Program is given in the anthropology and sociology sections of this *Announcement*. Students may also consult with the chairman of the Social Relations Committee, Robin M. Williams, Jr., Department of Sociology, Uris Hall.

Society for the Humanities

Henry Guerlac, director. Fellows for 1975-76: Louis Bergeron (Ecole Pratique des Hautes Etudes); Warner Berthoff (Harvard University); David Cast (Yale University); Ronald Peacock (University of London); Henry D. Smith II (Princeton University); Richard Weisberg (The University of Chicago); Ciriaco M.-Arroyo (Cornell University); Robert D. Hume (Cornell University).

The Society awards annual fellowships for research in the humanities in three categories: Senior Fellowships, Faculty Fellowships, and Junior Postdoctoral Fellowships. The Fellows offer, in line with their research, informal seminars intended to be off the beaten track. Details about these seminars are circulated to interested departments.

Membership in the Society's seminars is open, upon special application, to graduate students and suitably qualified undergraduates. The College determines if a seminar may be taken for credit (see below). There are no examinations, and it is at the discretion of the Fellow whether to require only oral reports, or, in addition, a research paper. All seminars are held in the Society's quarters, 27 East Avenue. Persons other than those officially enrolled may attend as visitors, if invited.

Unlike other courses, the Society's seminars begin the second week of each semester. A student wishing to attend any of these seminars should telephone the secretary of the Society (256-4086) early in the first week of the term to arrange a short interview with the Fellow offering the course. Students wishing credit for the course must formally register for it in their own College.

414 Seminar on Sixteenth-Century Imagery

Fall term. Credit four hours. D. Cast.

A course on the development of imagery in the sixteenth century in all media of visual expression — paintings, prints, and emblems. Among the topics to be considered will be the relationship between the writing and the interests of the humanists and the development of classical imagery in the visual arts. The further development of that imagery in the sixteenth century through the use of mythographical manuals, treatises on painting, and the growth of a court society sympathetic to complex visual imagery will be included.

415 Seminar on Classicism in the Visual Arts

Spring term. Credit four hours. D. Cast.

A study of the tradition of classicism in painting, sculpture, and architecture and the various expressions of that attitude from the time of the Renaissance to the end of the eighteenth century. This seminar will emphasize the value of a study of comparative examples from different periods — even perhaps from different cultures — from which a sense of the infinite possibilities of the use of tradition can be examined.

416 Seminar on European Drama and Dramatic Criticism Fall term. Credit four hours. R. Peacock. Two topics will be considered in conjunction with

each other: (a) Sociomoral themes and individual expression in European dramatists of the 1890's (9-10 meetings); (b) T. S. Eliot's dramatic criticism in historical perspective (3-4 meetings). In regard to the first subject the aim will be to define the extremely varied treatment by different authors of shared contemporary themes and to analyze, in addition, the highly subjective expressiveness involved. Texts by Ibsen, Wedekind, Shaw, Wilde, Hofmannsthal, and others, will be used as focal points. The second subject will take the form of a reexamination of T. S. Eliot's dramatic criticism both as general criticism and as a program.

417 Seminar on French Economic Elites: Eighteenth and Nineteenth Centuries

Spring term. Credit four hours. L. Bergeron.

A study of their social composition and links and of the different outlooks. From the old regime through the "new deal" emerging from the Revolutionary and Napoleonic experiences up to the first stages of industrialization and economic concentration. Emphasis on geographical and sectorial differentiation and incidence upon urbanization with comparative perspectives drawn from other European nations.

418-419 Seminar: The Status of Literature

418 fall term only. 419 spring term only. Credit four hours a term. W. Berthoff.

An inquiry into the place literature occupies in civil life, and has occupied in different ages and cultures, with particular regard to questions of value (serviceability, advantage, meaning, truth) and of social and cultural function (affirmation, provocation, self-interpretation, ritual parody, etc.). The interests and special competences of individual participants will be taken into account in selecting texts for detailed examination.

420 Seminar on the Traditional Japanese City

Fall term. Credit four hours. H. D. Smith.

The historical evolution of the Japanese city until the nineteenth century, with emphasis on the relationship between urban form and urban culture. Topics include residential architecture, visual representations of the city (maps and genre paintings), gardening and the urban use of nature, and changing conceptions of city and country. Wherever possible, comparisons with China and with Western Europe will be stressed.

421 Seminar on Edo-Tokyo

Spring term. Credit four hours. H. D. Smith.

A study of the transformation of traditional Edo into modern Tokyo, focusing on the relationship between indigenous Japanese urban traditions and those imported from the modern West. Popular culture, urban life styles, architecture, and city planning will be emphasized.

422 Seminar on Literature as Negativity: Ressentiment in the Modern Novel

Fall term. Credit four hours. Reading knowledge of French,

German, or Russian required. R. Weisberg.

The seminar discusses the theory of *ressentiment* in

the works of Nietzsche and Max Scheler, and then reads texts in which the phenomenon has a central characterizational, thematic, and structural importance (*Hamlet* as prototype, various works of Flaubert, Dostoevsky, Melville, and Camus). The aim is not only to see *ressentiment* as curiously prevalent in the protagonists of otherwise dissimilar masterpieces but also to explore why the problems of a resentful, insecure, and usually literary or legal character may be peculiarly apropos for the novelist himself in Western society.

423 Seminar on Literature and the Law

Spring term. Credit four hours. R. Weisberg. An analysis of the use of the legal thematic in Sophocles, Shakespeare, Dickens, Dostoevsky, Melville, Kafka, Camus, and Solzhenitsyn. Legal materials will be employed to illuminate the individual body of law or tradition alluded to in each literary text. The interrelationship of the legal and literary type will be explored, a combination which frequently leads to the fullest expression of meaning in these authors.

424 Seminar on Heidegger in Dialogue: A Reading of *Being and Time*

Fall term. Credit four hours. C. M.-Arroyo. Heidegger's redefinition of the basic concepts of criticism: phenomenology, hermeneutics, knowledge, dread and guilt, time and history, in dialogue with Husserl, Marx, Freud, and Delthey.

425 Seminar on *Don Quijote*, An Experiment With Methods

Spring term. Credit four hours. C. M.-Arroyo. We shall explore various approaches to this book embodying different methods of criticism: characterization, structure, the presentation of society, and the place of *Don Quijote* in the rise of the European novel. Knowledge of Spanish is not required.

426-427 Seminar on Literature and Belief: A Study of Ideology in Literature

426 fall term only; 427 spring term only. Credit four hours a term. R. Hume. Implicit and explicit value systems will be sought in a wide range of writers — from Homer and Cervantes to Goethe, Tolstoy, Joyce, and Mann. Most "ideological" study to date reflects strong predispositions (e.g., Communist, Christian): we do not have a good critical vocabulary for discussing writers' beliefs and values except in crudely historical and didactic terms. Literature conveys belief and value by what it is as well as by what it says: we react to what is said, but also to the experience of entering the writer's world. We need to find ways of analysing such problems.

South Asia Program

The South Asia Program exists to encourage and correlate teaching and research in South Asian studies dealing with Bangladesh, India, Nepal, Pakistan, and Sri Lanka (Ceylon). The Program faculty includes members from a number of disciplines. Undergraduates with a special interest in South

Asia may major in Asian Studies with a concentration in South Asia. Languages regularly offered are Hindi, Pali, Sanskrit, Sinhalese, Tamil, Telugu, and Urdu. Cornell is a charter member of the American Institute of Indian Studies, and undergraduates, as well as graduate students, are eligible for AIIS three-month summer or nine-month intensive language programs in India. For courses available in South Asia and details on the major, see Asian Studies. Students wishing further information should see the Director, South Asia Program, 130 Uris Hall.

Southeast Asia Studies

A candidate for the Bachelor of Arts or Bachelor of Science degree at Cornell may take a concentration in Southeast Asia studies by completing fifteen hours of course work, including a history course and three courses or seminars at the intermediate or advanced level, two of which may be Southeast Asian language courses.

Students taking a concentration in Southeast Asia studies are members of the Southeast Asia Program and are assigned an adviser from the Program faculty. Such students are encouraged to commence work on a Southeast Asian language and to take advantage of summer intensive language training.

Women's Studies Program

J. Farley, director; R. A. Borker, J. H. Brewer, A. H. Cook, J. R. Egner, H. Feldman, N. Furman, M. F. Katzenstein, J. L. Laws, S. McConnell-Ginet, S. J. Morgan, M. B. Norton, E. L. Vatter. Lecturers, Fall 1975: L. S. Abel, L. Benson, J. L. Ettin, R. R. Possen. Women's Studies, a University program in the College of Arts and Sciences, has three goals: to encourage the development of teaching about women for women and men; to examine assumptions about women in various disciplines and to develop, systematize, and integrate back into the disciplines new knowledge about women; and to cooperate in public service activities with the extension divisions of the University. Each term, the Program offers undergraduate and graduate courses, both independently and in cooperation with other departments. Students in the College of Arts and Sciences wishing to major in Women's Studies can design their own major either as College Scholars or through the Independent Studies Program.

The Program is guided by a faculty board composed of professors from four of the fourteen divisions at Cornell, elected representatives of the Women's Studies Program Lecturers, and elected representatives of the undergraduates and graduate students. The Program serves as a clearinghouse for information about women's organizations on campus. Students may find help in choosing careers at one of the preprofessional organizations for women in law, women in engineering, women in science, and others. Women's studies sponsors a weekly "Sandwich Seminar"—an informal presentation about current research or a social issue affecting women—each Friday noon during the academic year.

The following Women's Studies courses satisfy the distribution requirement in the social sciences: Women's Studies 101 and any one of the following: 244, 321, 337, 353, 366, 384, 422, 635, 684. The humanities requirement can be satisfied by Women's Studies 360-361 or 648-748. Women's Studies courses fulfilling the Freshman Seminar requirement are only those numbered Women's Studies 100.

Freshman Seminars

100 The Black Woman in America Either term. Credit three hours. J. H. Brewer.

This course will focus on the black woman in twentieth-century America. Although historical, sociological, and psychological studies will be utilized, major emphasis will be placed on literature written by black women. Roles, images in the media, self-concepts, problems in social relationships and future options for black women will be among the topics to be studied.

100 Female Stereotypes and Heroines Fall term. Credit three hours. J. L. Etnin.

An analysis of the relationship between popular stereotypes and art in the works of Austen, Bronte, Chopin, Defoe, Dickens, Eliot, Hawthorne, and others.

100 Women and Religion Fall term. Credit three hours. R. R. Possen.

A study of the use of the Bible in women's rights debates in the nineteenth century and today. Attention also will be given to a sampling of recent essays on related topics such as the extent to which the Bible dictates that women be subordinate to men.

100 Women and Comedy in the Ancient World Spring term. Credit three hours. L. S. Abel.

A study of selected plays of Aristophanes, Plautus, and Terence as sources of information about sex roles and relationships of ordinary people in ancient times. Some comparisons with Shakespeare and with modern comedy will be drawn.

101 Women in America Fall term. Credit three hours (or, with an extra research paper, four hours). J. Farley.

An analysis of the place of women in the social order in twentieth-century America; an introduction to women's studies. Topics include a historical perspective, the image of women reflected in literature and art, an analysis of the life cycle using evidence from the biological sciences, an analysis of the institutions in a male-oriented society that affect women and men and their lives together, and the prospects for change in the future.

244 Sex Roles and Linguistic Behavior (also Linguistics 244) Spring term. Credit four hours. Prerequisite: Linguistics 101, Psychology 215, or consent of instructor. S. McConnell-Ginet.

Types of linguistic phenomena where sex (of conversational participants or of referent) is a relevant variable will be surveyed; situations in different speech communities will be contrasted. Workshop sessions will include analysis of recorded interviews and con-

versational materials to increase understanding of English male/female speech differences. Possible origins and implications of sex-differentiated linguistic behavior will also be considered.

321 The Anthropology of Women (also Anthropology 321) Fall term. Credit four hours. R. A. Borcker.

This course will explore insights anthropology can provide for the study of women. These fall into two general categories: (1) those from the data dealt with by anthropology, particularly from non-Western societies, and (2) those from the theoretical perspectives anthropologists bring to those data. The course focuses on a number of problems regarding the place of women in society and culture and will present a number of ways in which these problems can be approached.

337 Women, Race, and Politics (also Government 337) Spring term. Credit four hours.

M. Katzenstein, L. Williams.

An initial consideration of the meaning of liberation for black and white women. The relationship between race, sex, and politics will then be examined by looking at the ways in which black and white women affect, and are affected by, the processes of political socialization, organization, and legislation.

345 Women in Western Art (also History of Art 345) Fall term. Credit four hours. Prerequisite: History of Art 103 or equivalent. L. Benson.

The course will focus on a selection of important types of images of women commonly used in Western art (e.g., mother and child, madonna and child, "Venus", "Eve", "Liberty", etc.). The images will be analyzed and discussed in relationship to myth, social milieu, visual types available to the artist at the time of the work, and the operation of the image in and on the society for which it existed.

353 Women and Politics (also Government 353)

Fall term. Credit four hours. Prerequisite: one course in women's studies, in a social science, or permission of instructor. M. F. Katzenstein.

This course will probe the following questions: What factors propel women into politics? Why are the rates of political participation among women high in certain countries, low in others? What effect does public policy and women's involvement in policymaking have on the status of women in different countries?

The Family as a Context for Adult Development (Human Development and Family Studies 353, College of Human Ecology) Spring term. Credit three hours. Prerequisites: Human Development 150

(162), Sociology 100, or Rural Sociology 110.

H. Feldman.

Describes development within the family from late adolescence through late adulthood. Emphasizes intrafamilial experiences and relates them to external social forces (particularly occupational experiences) affecting adults and families. Stresses the ways in which family settings influence adult development.

Theories of Adult Interpersonal Relationships (Human Development and Family Studies 358, College of Human Ecology) Spring term. Credit three hours. S-U grades optional. H. Feldman.

Selected theories from the basic disciplines of social psychology, sociology, and psychology will be reviewed and their pertinence to understanding the marital dyad examined. Students will generate hypotheses about these theories and test one of them either through library research or an empirical study. A notebook-journal will be kept to interrelate the concepts and to suggest practical applications.

360 Black Woman as Novelist Fall term. Credit three hours. J. H. Brewer.

This course will focus upon the works of black women novelists. Novels that span the period from the 1920's to the present will be studied in order to determine black women's perceptions of the world, their needs, and the strategies they employ in coping with their frustrations and anxieties. Works studied will include those by Nella Larsen, Zora Hurston, Ann Petry, Paule Marshall, Alice Walker, and Sarah Wright. Other genres—poetry, drama, and autobiography—will be examined to gain a broader perspective of the black woman as creative writer.

361 Women Writers of Africa, Afro-America, and the Caribbean Spring term. Credit three hours. J. H. Brewer.

This course is an attempt to use the methods of comparative literature to bring about a fuller understanding of the culture of black women in the United States, the Caribbean, and Africa. Emphasis will be placed on African novelists (Flora, Nwapa, Bessie Head, Grace Ogot, and Ama Ata Aidoo) and Caribbean novelists (Simon Schwartz-Bart, Marion P. Jones, Merle Hodge, and Silvia Wynter).

366 Woman at Work (also Industrial and Labor Relations 366) Spring term. Credit four hours.

Prerequisite: Women's Studies 101 or Industrial and Labor Relations 120 or equivalent. J. Farley. This course examines various aspects of female occupational roles in twentieth-century America. Historical, social, and legal factors that influence women's choice of careers, work socialization and training, and subsequent labor market experience are considered. Women's entry-level jobs, opportunities for advancement, and income are also analyzed. Occupations in which women predominate are compared to occupations in which women are underrepresented.

384 Social Psychology of Women (also Psychology 384 and Sociology 384) Fall term.

Credit four hours. Prerequisites: two of: Psychology 102, Sociology 101, and Women's Studies 101. J. L. Laws.

Theories on women's personalities, roles, and capacities are compared with current research evidence. Special attention is given to the structure of thinking regarding women in the social sciences. Topics include women in the labor force, sex differences, marriage and the family, socialization of girl children, female sexuality, women's aspiration and

achievement, sex roles, the Women's Liberation Movement, and men's liberation.

411 Time-use Decisions in Families (also Consumer Economics and Public Policy 411, College of Human Ecology) Fall term. Credit three hours.

S-U grades optional. Prerequisites: one course in sociology and one in microeconomics recommended. K. Walker.

A seminar in time as a human resource in a consumption-oriented society with emphasis on decision making and alternative time uses in households. The meaning of time and implications for its use for society and families as work roles of people change. Review of research in use of time. Individual projects applied to special professional interests of students.

422 Special Problems in the Anthropology of Women (also Anthropology 422) Spring term.

Credit four hours. Prerequisite: Women's Studies/Anthropology 321 or permission of instructor. R. A. Borker.

Each year this seminar will focus on a particular area of concern within the anthropology of women, building upon the work done in 321. The basic orientation of the course will be research and exploration.

426 Undergraduate Seminar in Early American History (also History 426) Topic for 1976: Women and the Family in Early America. Spring term. Credit four hours. Prerequisite: permission of instructor.

M. B. Norton. An examination of the early history of the American family with particular reference to the status of women in seventeenth- and eighteenth-century America.

Topics in Family Studies: The American Male (Human Development and Family Studies 455, College of Human Ecology) Fall term. Credit three hours. H. Feldman.

Although some attention will be given to males as husbands and workers, the major focus will be on males as fathers. Parenting will be explored both as a process and as a product of other forces. Sexist attitudes toward and manifested by males will be investigated as they relate to fathering. Students will participate in proposing, critically evaluating, and testing hypotheses about fathering.

499 Directed Study Either term. Variable credit.

Prerequisite: one course in women's studies and permission of a member of the Women's Studies Faculty Board. Members of the Faculty Board, Women's Studies Program.

569 Personnel Development (also Education 569) Topic for 1975: Personnel Issues in Higher Education. Fall term. Credit three hours. Prerequisite:

graduate student standing. J. R. Egner.

635 Working Women in Nine Countries (also Industrial and Labor Relations 635) Fall term. Credit three hours (or with an extra research paper four hours).

Prerequisite: one course in labor relations, economics, comparative government, or women's studies. A. H. Cook.

648 Studies in Victorian Fiction (also English 648) Topic for 1975: Hero and Heroine. Fall term. Credit four hours. Prerequisite: consent of instructor. J. F. Blackall.

[651 Seminar on Women's Role in International Rural Development (also Community Service Education 651) Fall term. K. Rhodes. Not offered 1975-76.]

655 Allocation of Time to Nonhousehold Activities (also Consumer Economics and Public Policy 655) Fall term. Credit three hours. S-U grades optional. Prerequisite: intermediate economic theory or permission of instructor; Women's Studies/Consumer Economics & Public Policy 411 recommended but not required. J. Gerner.

666 Sex Roles and Career Patterns (also Industrial and Labor Relations 666) Spring term. Credit three hours or with an extra research paper four hours. Prerequisite: graduate student standing or six hours of women's studies or manpower studies or permission of instructor. J. Farley.

681 Seminar in Student Personnel Administration (also Education 681) Topic for 1976: Academic Women. Spring term. Credit three hours. K. Moore.

684 Seminar in Feminine Identity (also Sociology 684, Psychology 684) Spring term. Credit four hours. Prerequisite: graduate student standing, a course in personality theory, and a course on women in literature or consent of instructor. J. L. Laws.

Related Courses

Human Behavior: An Anthropological Perspective (Anthropology 476)

Ideas and Images in Japanese Culture (Asian Studies 101)

Role Theory (Sociology 380) For information about additional women's studies courses to be offered during the 1975-76 academic year, students should inquire at the Women's Studies Program office, 431 White Hall.



Cornell University

Register

University Administration

Dale R. Corson, President of the University
 David C. Knapp, University Provost
 Mark Barlow, Jr., Vice Provost
 W. Donald Cooke, Vice President for Research
 June Fessenden-Raden, Vice Provost
 William D. Gurowitz, Vice President for Campus Affairs
 Robert T. Horn, Vice President and Chief Investment Officer
 Samuel A. Lawrence, Vice President for Administration
 E. Hugh Luckey, Vice President for Medical Affairs
 Robert M. Matyas, Vice President for Planning and Facilities
 Paul L. McKeegan, Vice Provost
 Arthur H. Peterson, University Treasurer and Chief Fiscal Officer
 Richard M. Ramin, Vice President for Public Affairs
 Byron W. Saunders, Dean of the University Faculty
 Neal R. Stamp, University Counsel and Secretary of the Corporation

Faculty and Staff of the College of Arts and Sciences

Professors-at-Large

Professors-at-Large are distinguished nonresident members of the University Faculty. During short visits to the campus, of up to a month's duration, made at irregular intervals, they hold seminars, give public lectures, and consult informally with students and faculty.

Kenneth Boulding
 Howard M. Brown
 Felix Candela
 Jacqueline de Romilly
 Jacques Drèze
 Cora DuBois
 Manfred Eigen
 Northrop Frye
 Sir Ernst H. Gombrich
 Ralph E. Gomory
 Louis Guttman
 J. George Harrar

Sir Fred Hoyle
 H. Gobind Khorana
 Alfred E. Ringwood
 Jacques Roger
 J. Robert Schrieffer
 M. N. Srinivas
 Georg Henrik von Wright

Faculty*

Harry Levin, Dean of the College of Arts and Sciences
 David Connor, Associate Dean of the College of Arts and Sciences
 Robert A. Scott, Associate Dean of the College of Arts and Sciences
 Urbain J. DeWinter, Assistant Dean and Director of Admissions, College of Arts and Sciences
 Elaine Lefferts, Assistant Dean of the College of Arts and Sciences
 Beatrice Rosenberg, Assistant Dean of the College of Arts and Sciences
 Janice Turner, Assistant Dean of the College of Arts and Sciences
 Margaret C. Unsworth, Assistant Dean of the College of Arts and Sciences

Meyer Howard Abrams, Ph.D., Class of 1916
 Professor of English
 Barry Banfield Adams, Ph.D., Professor of English
 George Plimpton Adams, Jr., Ph.D., Professor of Economics, Emeritus
 Howard Bernhardt Adelman, Ph.D., Professor of Histology and Embryology, Emeritus
 Frederick Browning Agard, Ph.D., Professor of Linguistics, Emeritus
 Ralph Palmer Agnew, Ph.D., D. Sc., Professor of Mathematics, Emeritus
 Frederick M. Ahl, Ph.D., Associate Professor of Classics¹
 Andreas C. Albrecht, Ph.D., Professor of Chemistry
 H. Darkses Albright, Ph.D., Professor of Theatre Arts, Emeritus
 Henry A. Alker, III, Ph.D., Associate Professor of Psychology and Sociology
 Vinay Ambegaokar, Ph.D., Professor of Physics
 Archie Randolph Ammons, B.S., Goldwin Smith Professor of Poetry

*Numbers following names indicate: (1) leave of absence, fall term, 1975-76; (2) Leave of absence, spring term, 1975-76; (3) leave of absence, 1975-76.

- Benedict Richard Anderson, Ph.D., Associate Professor of Government
- John Maxwell Anderson, Ph.D., Professor of Zoology, Section of Genetics, Development and Physiology, Division of Biological Sciences
- Gregory Richard Andrews, Ph.D., Assistant Professor of Computer Science
- Robert Ascher, Ph.D., Professor of Anthropology and Archaeology
- Neil William Ashcroft, Ph.D., Professor of Physics
- Douglas E. Ashford, Ph.D., Professor of Government
- Elizabeth Asmis, Ph.D., Assistant Professor of Classics
- Eva Augsburg, Dr. Phil., Lecturer, Department of Modern Languages and Linguistics
- William Weaver Austin, Ph.D., Goldwin Smith Professor of Musicology³
- Roger C. Avery, Ph.D., Assistant Professor of Sociology
- Leonard H. Babby, Ph.D., Assistant Professor of Linguistics
- Harlan Parker Banks, Ph.D., Professor of Botany
- Dietger Heinz Bansberg, Ph.D., Assistant Professor of German Literature²
- LeRoy Leshar Barnes, Ph.D., Professor of Physics and Biophysics, Emeritus
- Simon H. Bauer, Ph.D., Professor of Chemistry
- Daniel A. Baugh, Ph.D., Associate Professor of Modern British History³
- Jacques Béreaud, Doctorat D'Université, Associate Professor of Romance Studies
- Alan John Berger, Ph.D., Assistant Professor of German Literature
- Karl Berkelman, Ph.D., Professor of Physics
- Martin Gardiner Bernal, Ph.D., Associate Professor of Government
- Alvin H. Bernstein, Ph.D., Assistant Professor of History
- Israel Berstein, Ph.D., Professor of Mathematics
- Aya Betensky, Ph.D., Assistant Professor of Classics
- Hans Albrecht Bethe, Ph.D., John Wendell Anderson Professor of Physics, Emeritus
- Knight Biggerstaff, Ph.D., Professor of Chinese History, Emeritus
- Malcolm Bilson, D.M.A., Associate Professor of Music
- John M. Bird, Ph.D., Professor of Geological Sciences
- Alison Lurie Bishop, A.B., Acting Associate Professor of English
- Jonathan Peale Bishop, Ph.D., Professor of English²
- Max Black, Ph.D., D. Lit., Susan Linn Sage Professor of Philosophy and Humane Letters
- Eric Albert Blackall, M.A., Dr. Phil., Litt. D., Jacob Gould Schurman Professor of German Literature¹
- Jean Franz Blackall, Ph.D., Associate Professor of English
- Antonie William Charles Blackler, Ph.D., Professor of Zoology, Section of Genetics, Development and Physiology, Division of Biological Sciences
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- Alfred Theodore Blomquist, Ph.D., Professor of Chemistry, Emeritus
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