

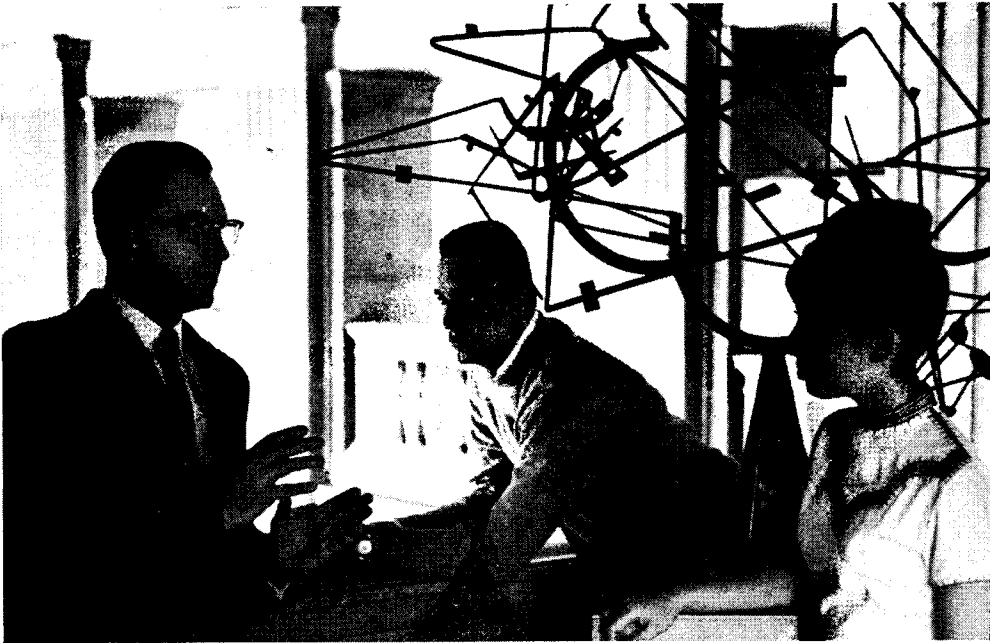
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*Bulletin of the*  
**UNIVERSITY of MINNESOTA**



*College of Science, Literature,  
and the Arts*                      *1961-1963*

## How to Use This Bulletin

This bulletin gives information about the College of Science, Literature, and the Arts. Keep it at hand for ready reference.

*Section I, General Information*, discusses the purposes and programs of the College as well as the chief regulations. Read this portion carefully to insure wise and accurate program planning.

*Section II, Course Offerings and Major Requirements*, describes the courses offered in the College with the instructors for each and also lists the departmental major requirements.

*Section III, Preprofessional Curriculum in SLA*, tells about the programs that are prerequisite for students wishing to transfer to various professional schools after 1, 2, or 3 years.

While this bulletin gives information necessary for program planning, you must also consult the *Class Schedule* published just prior to each quarter to ascertain room numbers, hours, and days of class sessions, and any last-minute changes in offerings. For any changes in regulations made after publication of this bulletin, you should consult the appropriate college office. Students are held responsible for announcements affecting them published in the Official Daily Bulletin in the *Minnesota Daily*.

Do not attempt to register from the *Class Schedule* alone. This SLA bulletin is essential for obtaining course descriptions, college rules and requirements, and the other information necessary for sound program planning. Since the fall quarter *Class Schedule* gives the hours and days of courses throughout the year, you should retain it for long-range program planning.

For an extensive account of the aims, materials, and procedures used in freshman-sophomore courses, you may consult the mimeographed book of *Descriptions of Courses in SLA Lower Division*. It is found in advisers' and college offices, Walter and Johnston libraries, and most dormitories.

You will also wish to read the *Bulletin of General Information* telling about the University as a whole. New students will be interested in *The Moccasin*, a handbook describing personnel services and campus activities.

Copies of all bulletins of the University can be obtained at the Information Window in the Administration Building.

**The explanation of course numbers  
and symbols is given on page 22.**

# UNIVERSITY OF MINNESOTA

## Board of Regents

The Board of Regents is composed of The Honorable Ray J. Quinlivan, St. Cloud, First Vice President and Chairman; The Honorable Charles W. Mayo, M.D., Rochester, Second Vice President; The Honorable James F. Bell, Minneapolis; The Honorable Daniel C. Gainey, Owatonna; The Honorable Richard L. Griggs, Duluth; The Honorable Bjarne E. Grottum, Jackson; The Honorable Robert E. Hess, White Bear Lake; The Honorable Marjorie J. Howard (Mrs. C. Edward), Excelsior; The Honorable A. I. Johnson, Benson; The Honorable Lester A. Malkerson, Minneapolis; The Honorable A. J. Olson, Renville; and The Honorable Herman F. Skyberg, Fisher.

## Administrative Officers

O. Meredith Wilson, Ph.D., President  
Malcolm M. Willey, Ph.D., L.H.D., LL.D., Vice President, Academic Administration  
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Stanley J. Wenberg, M.A., Vice President and Administrative Assistant  
Robert Edward Summers, M.S., M.E., Dean of Admissions and Records  
Edmund G. Williamson, Ph.D., Dean of Students

## COLLEGE OF SCIENCE, LITERATURE, AND THE ARTS

### Administration

Errett W. McDiarmid, Dean (215 Johnston Hall)  
J. William Buchta, Associate Dean; Assistant Dean for Upper Division (225 Johnston Hall)  
Roger B. Page, Assistant Dean for Lower Division; Chairman of the Committee on Student Scholastic Standing (208 Johnston Hall)  
Mitchell V. Charnley, Assistant Dean (215 Johnston Hall)  
Mabel K. Powers, Co-ordinator of Advising in Upper Division, member of Committee on Student Scholastic Standing (225 Johnston Hall)

### College Offices

Office of the Dean, 215 Johnston Hall

#### Upper Division Offices

Assistant Dean for the Upper Division, 225 Johnston Hall  
Scholastic Committee Representatives, 225 Johnston Hall  
Upper Division Counselors, 225 Johnston Hall  
Placement Office, 203 Johnston Hall  
Upper Division Office, 223 Johnston Hall

#### Lower Division Offices

Assistant Dean for the Lower Division, 208 Johnston Hall  
Scholastic Committee Representatives, 214 Johnston Hall  
Lower Division Freshman Advisers, 220 Johnston Hall  
Lower Division Office, 214 Johnston Hall

Class Reservations Office, 210 Johnston Hall

## Department Chairmen, Heads, and Directors

- American Studies—Bernard Bowron (101 TSF)  
Anthropology—E. Adamson Hoebel (309 Ford Hall)  
Art—To be announced (108 Jones Hall)  
Astronomy—Willem J. Luyten (359 Physics Building)  
Botany—Gerald B. Ownbey (8 Botany Building)  
Classics—Norman J. DeWitt (311 Folwell Hall)  
\*Comparative Literature—Eugene H. Falk (200A Folwell Hall)  
English—John W. Clark (219 Folwell Hall)  
\*Family Studies—Reuben Hill (400E Ford Hall)  
Geography—Eugene C. Mather (278 Ford Hall)  
\*Geological Survey—Paul K. Sims (207 Pillsbury Hall)  
Geology and Mineralogy—Preston E. Cloud, Jr. (108 Pillsbury Hall)  
German—Herman Ramras (210 Folwell Hall)  
History—Harold C. Deutsch (205 Ford Hall)  
Interdisciplinary Programs  
  \*Communication—Harold B. Allen (317 Folwell Hall)  
  Humanities—Ralph G. Ross (121 TNM)  
  \*Natural Science—J. William Buchta (225 Johnston Hall)  
  \*Personal Orientation—Kenneth MacCorquodale (112A Psychology Building)  
  \*Sociology—David Cooperman (219 TNM)  
International Relations and Area Studies—Harold Deutsch (205 Ford Hall)  
Journalism—Robert L. Jones (112 Murphy Hall)  
\*Laboratory for Research in Social Relations—To be announced (486 Ford Hall)  
\*Library School—David K. Berninghausen (3 Walter Library)  
Linguistics—Donald C. Swanson (310 Folwell Hall)  
Mathematics—Robert H. Cameron (119 Folwell Hall)  
Music—Paul M. Oberg (106 Scott Hall)  
Philosophy—D. Burnham Terrell (100B Westbrook Hall)  
\*Philosophy of Science—Herbert Feigl (409 Johnston Hall)  
Political Science—Charles H. McLaughlin (395 Ford Hall)  
Psychology—Kenneth MacCorquodale (112A Psychology Building)  
\*Public Administration Center—Lloyd M. Short (395 Ford Hall)  
Romance Languages—Eugene H. Falk (200A Folwell Hall)  
Scandinavian—Alrik Gustafson (13 Folwell Hall)  
Slavic and Oriental Languages—Richard B. Mather (322 Folwell Hall)  
\*Social Work—John C. Kidneigh (400 Ford Hall)  
Sociology—Elio D. Monachesi (439 Ford Hall)  
Speech and Theater Arts—Donald K. Smith (309 Folwell Hall)  
\*Statistics—Ingram Olkin (412 Johnston Hall)  
Zoology—Nelson T. Spratt, Jr. (207 Zoology Building)

*Majors leading to the B.A. degree may be taken in all the above SLA departments except those marked by asterisks, and also in the following departments in other divisions of the University:*

- Architecture—Ralph Rapson (110 Architecture Building)  
Chemistry—Stuart W. Fenton (139A Chemistry Building)  
Child Development—Harold W. Stevenson (101 Child Welfare Building)  
Economics—John Buttrick (313 Vincent Hall)  
Microbiology—To be announced (1060 Mayo Memorial Building)  
Physics—Alfred O. C. Nier (56 Physics Building)  
Physiology—Maurice B. Visscher (424 Millard Hall)  
Public Health—Gaylord W. Anderson (1325 Mayo Memorial Building)



# *College of Science, Literature, and the Arts*

## SECTION I

### General Information

#### Purpose of the College

The College of Science, Literature, and the Arts (oftentimes called the Arts College or SLA) has planned its programs to offer University students both liberal and special education, looking toward the development of satisfying and useful lives.

The term "liberal education" is difficult to define. The goal of the Arts College is to aid students toward becoming the upright and humane men and women who are the ideal of our civilization. Among the characteristics of such men and women are a vigorous and humble curiosity about the world and its peoples; a seeking mind, open to ideas attractive or repugnant, and trained in the means of gaining more knowledge about them; the power to discriminate between what is honest and good, and what is fraudulent and mean; compelling interest in the arts and concepts through which men have caught order and beauty from the world; and a sense of personal responsibility for the advancement of learning and the improvement of the human condition.

Toward these ends the Arts College provides the ablest and most stimulating faculty it can obtain and programs that permit each student to develop an educational plan that will serve him, as an individual, most effectively.

No two Arts College students move toward their goals by routes precisely alike. But all work toward liberal education through educational experiences that will acquaint them with the principal fields of general knowledge—literature, the arts, and other humanistic subjects; the social sciences such as politics, economics, and history; the physical and biological sciences. And as they explore a variety of fields to increase understanding of their cultural heritage and the surrounding world, they select particular areas in which they find it worth while to dig more deeply.

In these particular areas students achieve several educational goals: they acquire specialized knowledge leading toward professional and vocational objectives; they may equip themselves for advanced study in fields in which they find themselves well suited; they learn to understand and respect the integrity of the searching scholarly investigation on which the advancement of knowledge and of man's perspective is based.

But pervading all such special education is the broad context of liberal education—the opportunity to gain thorough and penetrating understanding of today's world as an outgrowth of yesterday's and forerunner of tomorrow's, and to develop an informed and constructively critical approach to the life and problems of the day.

The Arts College provides many guides toward the planning of educational programs to achieve these goals, both the procedural guides outlined in this bulletin and the counsel of skilled advisers. Students are urged to use such help freely. They are

urged also to take advantage of noncurricular educational opportunities such as lectures, concerts, and the theater, participation in many types of student activity, and the use of libraries and museums.

Certain fundamental aspects of liberal education that should be the common possession of all cultivated men and women are called general education. More specifically, as its objectives, the curriculum for general education ideally should contribute to the ability to:

1. Understand and evaluate ideas through reading and listening and, in turn, express your own ideas effectively.
2. Understand and participate intelligently in the solution of social, economic, and political problems.
3. Understand familiar phenomena of the universe in which we live; understand the fundamental ideas and discoveries of science and mathematics and their influence on human welfare and the development of thought and institutions; understand the basic attitudes and methods of scientists and use them in the solution of concrete problems.
4. Enjoy and appreciate literature, art, music, and other cultural activities with taste and judgment.
5. Understand human behavior and the structure of social relationships.
6. Maintain your own physical and mental health and that of the community.
7. Choose a useful and personally satisfying field of specialization through experience with typical courses in various fields.
8. Think critically and constructively, collect and weigh pertinent facts, analyze problems and situations, and approach their solutions with integrity and a sound sense of values.

### Organization of the College

**Upper and Lower Divisions**—To help you attain the purposes outlined above, the Arts College is divided into a Lower Division and an Upper Division. Each has a dean and college office as noted on page 3. In the Lower Division, which embraces the freshman and sophomore classes, you will be encouraged to spread out your work in many fields to broaden your education while at the same time taking any necessary preprofessional courses. Unless you transfer to a professional school, you will spend the last 2 years in the Upper Division specializing in some field of interest while at the same time continuing your liberal education. The opportunities and requirements of both divisions are explained more fully in the following pages.

**Departments**—For purposes of instruction the Arts College is divided into departments covering the 3 broad areas of the natural sciences, the social sciences, and the humanities. You will find the courses, requirements, and instructors of these departments listed in Section II of this bulletin.

**SLA Intermediary Board**—Students have an important part in the College organization through the SLA Intermediary Board. This board is a representative group elected by SLA students to represent them in discussions with the faculty concerning educational problems. Through this board the students may offer proposals for new courses, regulations, services, and other matters affecting their welfare. The board sponsors SLA Week each fall and promotes many faculty-student projects. The board sponsors an SLA Freshman Advisory Council which meets regularly with college deans and other faculty members to discuss freshman problems and a Transfer Student Council for similar work on behalf of new advanced standing students. The board nominates the student members of most student-faculty committees.

The board's five standing committees deal with student personnel, improvement of instruction, curriculum, board organization, and general relations. If you are interested in serving on a committee or wish further information about the board, apply at the board office, 101 Johnston Hall.

A number of departments have student clubs to foster programs and projects pertinent to their field. Consult the respective departmental offices or the SLA Intermediary Board office for details.

## Admission Requirements

You will find the requirements for admission listed in the University's *Bulletin of General Information*. They apply to students seeking admission on the basis of a high school diploma, by special examination without diploma, or through transfer from another college.

### Lower Division Programs for Entering the Upper Division

While your general education should continue into the Upper Division, and indeed throughout life, this phase of development is especially emphasized in the Lower Division. Together with any preprofessional work this will absorb at least 2 years of study.

**Distribution Requirements**—In order to assure you a reasonably broad, general education adapted to your particular backgrounds and needs, the following distribution (or group) requirements have been established. You will note that these requirements contribute to the essential objectives of general education listed on page 6 of this bulletin. It is your job, in consultation with a faculty adviser, to determine which specific courses within these requirements will most effectively round out your development.

You should complete these distribution requirements during the 2 years in Lower Division; the Upper Division years may then be devoted to fulfilling a major sequence and achieving a still stronger general and liberal education. Distribution requirements for entering professional colleges are listed in Part III of this bulletin.

All students entering SLA after June 1, 1959, must meet the requirements under the "Single Distribution Plan" described below. Those who entered as *freshmen* after June 1, 1957, must also use the Single Plan. Any student who entered SLA as a freshman before that date should consult an adviser about possible alternate plans. They must in any case fulfill all requirements of the plan selected.

### Single Distribution Plan for the B.A. Degree

#### A. Freshman English

Engl A-B-C (Freshman Literature and Composition, composition portion 6 credits) or Engl 1A-2A-3A (Freshman English, composition portion, 6 credits) or Engl 1B-2B-3B (Freshman English, composition portion, 9 credits) or Comm 1-2-3 (Communication, 12 credits) or exemption from the requirement. All students are required to have an English Classification Card before registration for one of these courses.

#### B. Foreign Language. From 0 to 15 credits according to the following schedule:

<i>Amount Presented from High School</i>	<i>Additional Amount Required in College**</i>
None	15 credits in one language
1 year	(a) 10 college credits at a higher level in the same language, <i>or</i> (b) 15 college credits in a different language
2 years in 1 language	(a) 5 college credits at a higher level in the same language, <i>or</i> (b) 10 college credits in a different language
3 or more years in 1 language	No college requirement if the high school work is validated by the appropriate college department
2 years in each of 2 languages	No college requirement if 1 language is validated at the 2-year level by the appropriate college department

\*\* While experience shows these equivalents to be reasonable for most students, anyone who believes his preparation fits him for work at either a higher or lower level may petition the Scholastic Committee for permission to change assignment.

A student may include foreign language in his freshman program only if

- (a) He has studied foreign language in high school, or
- (b) He is in the upper half of the freshman class, or
- (c) He is given special permission by the Scholastic Committee.

### C. Social Science

At least 15 credits in 2 or more of the following departments. At least 5 credits must be offered in any one department to count.

- |  |  |
|--|--|
| 1. Anthropology                            | 5. Political Science                           |
| 2. Economics and Business Administration** | 6. Psychology                                  |
| 3. Geography                               | 7. Sociology                                   |
| 4. History                                 | 8. Social Science (Interdepartmental Programs) |

### D. Natural Science

At least 15 credits (of which a minimum of 8 must be in courses that include laboratory)†† from 2 or more of the following 4 groups. At least 5 credits must be offered in any one department to count.

- 1. Biological sciences: Botany, psychology, zoology, General Biology (Biol 1-2 or 1-2-3, 1A-2A or 1A-2A-3A or old NSci 7-8-9)
- 2. Physical sciences: Astronomy, chemistry, geology, physics, Physical World (NSci 4-5-6)
- 3. Mathematics (except Math Y, 20, 21)
- 4. Orientation in the Natural Sciences (NSci 1-2-3)  
(A student presenting credit in only NSci 1-2 must take his additional work in other than group D2)

### E. Humanities

At least 15 credits from 2 or more of the following categories. At least 5 credits must be offered in any one department to count.

- |   |  |
|---|--|
| 1. Art  | 6. Humanities  |
| 2. English literature (including literature portions of freshman English courses) | 7. Mathematics (except Math Y, T, C, 20, 21)               |
| 3. Classics   | 8. Music   |
| 4. Foreign literature   | 9. Philosophy  |
| 5. History  | 10. Speech and theater arts (except Spch 6, 6A, 9, and 39) |

### F. Health

PubH 2 (Personal and Public Health, 2 credits) or PubH 3 (Personal Health, 2 credits) or equivalent

### Notes

1. If courses from the Departments of History, Mathematics, or Psychology are used to satisfy the requirements in one area, courses from the same department may not be used to satisfy the requirement in a second area.

2. Courses of an interdepartmental character (humanities, natural science, social science) may be used to satisfy distribution requirements in only 2 of the 3 areas, C, D, and E.

3. A student may gain exemption from any requirement or part of a requirement by examination and thereby move more quickly into advanced and more specialized courses or begin more quickly concentration in areas of his choice. Students with

\*\* BA 24-25-26, 27, 32, 33, 34, 36, 37-38-39, 43, 79A-B and old Econ 40-41 may not be used to satisfy the social science requirement.

†† Introductory natural science courses which count toward the laboratory portion of the requirement are: Bot 1-2-3; InCh 4-5, 24-25; Biol 1-2 or 1-2-3; Geol 1 with A, 2 with B, 8 with A, 23-24-25; NSci 4-5-6, old 7-8-9; Phys 1-2-3 with 1A-2A-3A, 4-5-6, 7-8-9, 11-12-13; Psy 1-2 with 4-5; Zool 1-2-3, old 14-15. Nonlaboratory courses include Ast 11, 20; Biol 1A-2A or 1A-2A-3A; Bot 10, 12, 14; Geol 1, 2, 8; Math T, 10, 40; NSci 1-2-3; Phys 1-2-3; Psy 1-2.

outstanding high school records should be able to gain exemption from one or more requirements.

4. Students transferring into SLA with advanced standing who can demonstrate to the Scholastic Committee special hardship in satisfying requirement B as stated may use the 50-51-52 sequence to meet this requirement (credits so used may not be used toward a minor or the 15 credits outside the major and minor).

**Prerequisites for Major**—In planning your program, you must also take note of the Lower Division prerequisite courses which should be taken in preparation for an Upper Division departmental or interdepartmental major. The requirements for the various majors in the Upper Division are described in Section II of this bulletin. You should study these requirements carefully in order that you may take the necessary Lower Division courses at the proper time. If you have several possible majors in mind, plan your program to cover all the possibilities.

**Credits and Quality Required**—For entrance into the Upper Division, you must earn at least 84 credits (most students have 90) with a scholarship average of C. Some of these credits may be "quality credits" if applicable as explained on page 18. Admission on probation may be approved in special cases when scholarship average is slightly less than C.

**Application for Entrance into Upper Division**—It is important that you enter the Upper Division as soon as you are eligible in order that you may plan your further work with a major adviser and may fulfill properly the residence and other requirements of the Upper Division. To encourage this transfer at the proper time, the assistant dean of the Upper Division may, upon your application, permit the completion in Upper Division of any distribution requirements not yet fulfilled. You probably will not be permitted to continue in Lower Division after earning 95 credits.

You should apply for entrance to the Upper Division early in the quarter in which you will complete 84 credits—certainly before the last week of classes. All students entering Upper Division are required to attend a 1-hour orientation meeting before registration material is issued. It is essential that you bring a complete copy of your previous Arts College record.

**Advanced Standing Students**—If you are entering SLA with advanced standing from some other institution, you must complete the same credit and group requirements expected of other students and must have at least a C average in all work applicable toward the degree—that taken at the University and the total taken here and elsewhere, *calculated separately*.

The grades earned in other colleges of this University, except General College, will carry the appropriate grade points, provided the courses are accepted by the Arts College. If you have any failures in acceptable courses taken in other colleges of the University, these also will be transferred and you must make up any such grade point deficiency. General College credits are transferred without grades attached.

## **Two-Year Program for Associate in Liberal Arts Degree**

If you are not sure whether you can complete the 4-year Bachelor's degree you may wish to plan for the 2-year A.L.A. degree. It indicates the successful completion of a program devoted largely to general education. Students find this degree desirable as an evidence of liberal arts achievement if they are transferring to a professional school or if forced to drop out for a time.

The requirements for the degree are as follows:

1. You must earn at least 90 credits, exclusive of quality credits. While the grade point average is not a factor in this degree, you must maintain satisfactory progress while in the Arts College.

2. You must earn the degree in not more than 7 quarters of University residence. If you enter the Arts College with advanced standing, you must spend the last 3 quarters before graduation in residence and must earn at least 45 of the required credits in residence.
3. You must meet the requirement in English (A) and at least 3 of the other 4 distribution requirements; Foreign Language (B); Social Science (C); Natural Science (D); Humanities (E) as outlined in the Single Distribution Plan, page 7.

If you entered SLA before fall quarter, 1958, you may petition the Scholastic Committee to substitute the old Plan I or Plan II in meeting these requirements.

If you meet these requirements you are eligible for the degree even though you should continue in the Upper Division or a professional school. To make application, inquire at the Office of Admissions and Records.

### Upper Division Programs Leading to Bachelor of Arts Degree

**Approval of Your Program**—When you apply for admission to the Upper Division you will be asked to attend an orientation meeting, at which time the policies and practices of the Arts College will be explained. At this meeting you will be given an official folder on which you will be expected to list your proposed program of courses fulfilling the requirements for a B.A. degree. You may register for your first quarter in the Upper Division before completing the folder. This gives you time to work out your tentative degree program with your major adviser. The program should be completed and turned in to Upper Division office within the first 6 weeks of your first quarter in Upper Division and *must* be turned in before a second registration is allowed. When approved by your adviser and by the Upper Division office, the program becomes an agreement between you and the Arts College and can be changed only by filing in the Upper Division office an official amendment approved by your adviser.

In working out your Upper Division program you will have wide freedom to choose courses particularly adapted to your purposes, though a few simple requirements must be observed. These are listed below. Be sure that your program will fulfill them.

At the beginning of your next to final quarter you should check your record with the Upper Division office and make application for graduation.

**Credits in Residence**—Whether transferring from the Lower Division or from any other college you must earn a minimum of 45 credits in Upper Division and spend 2 quarters (30 credits) of the senior year in residence in the Upper Division. An average of C must be obtained on all courses taken while in Upper Division. If you have only 1 year of residence, it must be your senior year.

**Major Sequence**—While in the Upper Division, you will be expected to concentrate a portion of your efforts in some field of special interest. Your purpose may be vocational or avocational; the field may be departmental or interdepartmental.

This field of concentration, known as a major sequence, must be composed of Upper Division courses. Of the 3 types of sequences listed below, you should choose the 1 that best suits your purpose.

#### 1. A Departmental Major and Minor Sequence

- a. A departmental major (usually 27 to 36 credits) is offered in nearly every department of the Arts College. The description of each major and its specific requirements are indicated for each department in Section II of this bulletin. You must maintain a C average in this major.
- b. A minor sequence (15 credits) or 2 half-minors (9 credits each) must be taken in some department or departments other than that which you have chosen for your major. These minor credits must be in Upper Division courses listed in this bulletin.
- c. Fifteen credit hours in Upper Division courses must be taken outside the major and minor departments, and these also must be in Upper Division courses listed in this bulletin.

2. *An Interdepartmental Major*—If you believe your special interest cannot be satisfied in a single department you may have a major tailor-made for your particular needs. In applying for a major of this type you should submit a statement of your reasons for choosing this major and a plan of courses to the Upper Division office. Thereupon you will be assigned to an appropriate interdepartmental adviser. An interdepartmental program includes 75 or more Upper Division credits to be approved as an interdepartmental major.

The courses must be intelligently arranged around a central purpose and usually there will be concentration in four or more departments. An unsystematic and aimless scattering of courses will not be approved. You must maintain a C average in Upper Division courses.

A wide variety of study programs may be recognized on this basis. A few that have been elected so frequently that they have become standardized are those in International Relations and Area Studies, Preprofessional Curriculum for Social Work, Preparation for Theological Training, American Studies, and Humanities, described in Section II of this bulletin.

If your needs are so broad that they cannot be met by an SLA interdepartmental major, or without taking courses outside SLA, you may wish to enter the University College.

3. *A Major in a Combined Course*—A third type of concentration may be worked out in co-operation with a professional school. In this case, part of your work in the professional school may be used to help satisfy requirements for the Bachelor's degree from the Arts College. Details of these courses are listed with the respective college professional programs in Section III of this bulletin. At least 1 year (45 credits) must be spent in residence in the Upper Division and the usual C average must be maintained. The combinations are:

**Arts and Medicine**—7- or 8-year courses leading to B.A. and M.D. degrees

**Arts and Dentistry**—7- or 8-year courses leading to B.A. and D.D.S. degrees

**Arts and Law**—a 6½-year course leading to B.A. and LL.B. degrees

In three other programs, a student may complete all B.A. requirements concurrently with other degree requirements:

**Arts and Architecture**—a 6-year course leading to B.A. and B.Arch. degrees

**Arts and Dental Hygiene**—a course of about 5 years leading to B.A. and G.D.H. (graduate dental hygienist) degrees

**Arts and Education**—a course of about 4½ years leading to B.A. and B.S. in education degrees

**English Proficiency**—Every degree candidate must demonstrate ability to write English satisfactorily. Demonstration consists in passing the English Proficiency Test (offered each quarter for Upper Division students) or, for those who fail it, in completing, without credit, an English composition course (usually Engl 1B) with a grade of C or better. Upper Division students are urged to take the test no later than the first quarter of senior year.

**Summary of Graduation Requirements**—Briefly, the requirements for a Bachelor's degree, as discussed in the preceding paragraphs, are as follows:

1. **Minimum Required Credits**, 180. These may include both course credits and quality credits (see page 18).
2. **Residence in Upper Division**. Ordinarily a student will complete about 90 credit hours while he is in the Upper Division. In any case he must earn 45 credits in residence after admission to Upper Division and spend 2 quarters of the senior year in Upper Division residence.
3. **Distribution Requirements**. All students must complete the distribution requirements under the Single Distribution Plan (or Plans I and II if permissible), preferably before entering the Upper Division.

4. **Major (field of concentration) and Minors.** Students must complete a departmental major and minor (or two half-minors) or an interdepartmental major or a combination course with a professional school. For those with a departmental major, 15 credits in Upper Division courses are required outside the major and minor departments. These must be in Upper Division courses listed in this bulletin.
5. **Quality of Work.** Students must earn a C average in all work presented from the University and *in toto*, a C average while in Upper Division, and a C average in the major (Upper Division courses). In calculating the over-all grade point ratio, the Scholastic Committee may, in rare cases, approve the omission of certain quarters of work done in the Lower Division. Students must also meet the Upper Division English proficiency requirement.

**Honors Programs**—The Arts College is developing an extensive program of “honors opportunities” designed to afford outstanding students challenging educational experiences in keeping with superior abilities.

Honors programs for Upper Division students, leading to graduation with *cum laude*, *magna cum laude*, and *summa cum laude* honors, provide honors sections, seminars, independent study, tutorial work, special courses, and other appropriate activities. Such opportunities call on the rich cultural resources of the entire University and of the community of which it is a part. The honors programs are described in a special brochure which may be obtained on request.

Outstanding Lower Division students, before becoming eligible for formal candidacy for graduation with honors, also have wide opportunity for specially rewarding learning experiences. The top 1 or 2 per cent of each freshman class meet weekly with the dean of the Arts College and distinguished members of the faculty for informal discussions. The top 5 to 8 per cent are assigned to special advisers, usually senior members of the faculty in the departments of the students’ intended majors. These advisers may approve heavy credit loads or advanced courses, add audited courses, and make other exceptions justified by high ability and achievement.

Outstanding students are encouraged to seek credit by examination (see page 20), to register in independent study and special project courses, and to take honors sections of regular courses. Honors sections bring together the strongest students for more intensive study, broader scope, more vigorous student-teacher interaction. In such classes, additional reading and other extra work are encouraged. (Grade distributions in honors sections take into account the quality of the students—“regular distribution” of grades is not employed.)

## University College

An administrative unit known as the University College has been created under a committee which may register students who find they must cross college lines to obtain programs fulfilling their needs. Any student who finds that his specific objectives cannot be satisfied by the program in any one college of the University should call at 225 Johnston Hall to make an appointment to see the chairman of the committee, Professor J. W. Buchta, who also serves as assistant dean for the Upper Division.

Admission to University College is based on the student’s previous record and the program he proposes. The program may contain courses in any college or school of the University but must show definite evidence of contributing to the objectives of the student and be deemed worthy of a degree by faculty members consulted by the chairman of the committee.

The degree of bachelor of arts or bachelor of science is granted by this unit of the University.

## Registration Procedures

Registration enables you to enroll in the particular courses you will take for the coming quarter. It encourages you to re-examine your educational goal in light of your activities both in and outside the classroom.



If you are a new student, be sure to obtain your admission certificate from the Office of Admissions and Records in the Administration Building before seeking to register. At registration time you will also be given a health examination, a speech examination, and certain tests to assist later in educational planning.

The Arts College will issue printed instructions with the registration materials and if you follow these carefully the process will be relatively simple.

**Registration Dates**—Registration for students on campus begins several weeks before the opening of the quarter and is announced in the Official Daily Bulletin of the *Minnesota Daily*. The expiration date is listed in the University Calendar which is included in the *Class Schedule* and the University's *Bulletin of General Information*. Only in exceptional circumstances may you register after that date and then you must pay a special privilege fee.

New students entering in the fall come to the University in small groups for 2 days of orientation and registration throughout the month of August and the early part of September. Those unable to come then and those entering the winter or spring quarters are given a modified 2-day program shortly before classes begin. New students transferring with advanced standing are given a 1-day program. Students are notified of dates by mail.

**Change of Registration**—If you have planned your program carefully you will seldom need to change a course after completing registration. The ability to plan a program wisely and then stay by it is one mark of the good student. If occasionally a change should become necessary, the procedure is essentially the same as with the original registration. Mere cessation of class attendance does not constitute official cancellation! Follow these procedures:

1. When canceling, if in Lower Division, you should fill out a "Change of Registration" form obtained in the Lower Division office, seek approval from your adviser, tally in 210 Johnston Hall, and submit the form at window 14, Administration Building. It is wise to discuss the proposed withdrawal with your instructor. If you are a junior or senior, get this form and seek approval in the Upper Division office before tallying. After the sixth week, cancellations also require approval of the Scholastic Committee and a notation from the instructor concerning your standing. Cancellation to less than 12 credits always requires approval of the Scholastic Committee.
2. If the change of registration involves adding a course, seek your adviser's approval as above, and after the third day of classes you also must obtain approval from a representative of the Scholastic Committee. In most cases he will require the concurrence of the instructor.
3. Students seeking to cancel a course should not stop attending class until final official approval.

If cancellation is permitted during the first 6 weeks of classes, the grade in the course is recorded as W. After 6 weeks, cancellation of a course in which you are failing is recorded as a fail; only if you are passing is it recorded as W (cancellation with no grade). During the last week before the beginning of final examinations, cancellation is not permitted except under the most unusual circumstances.

**Maximum and Minimum Credits per Quarter**—Most students take about 15 credits of work each quarter. To take less than 12 you must secure permission from the Scholastic Committee. Students holding jobs requiring over 20 hours of work a week are advised to take no more than 12 credits, and if working 30 hours or more they should take still less.

The maximum number of credits for which you may register is ordinarily 17. After 2 quarters of residence you may register for 18 credits provided you have a scholarship average of 2.5 for the 2 quarters before registration, and no failure for the quarter immediately preceding registration. Registration for credits in excess of these limits must be approved by the Scholastic Committee.

**Registration for Courses in Other Colleges of the University**—All courses offered in other colleges that are regularly open to SLA students are listed in Section II of

this bulletin. Other courses in those colleges may be taken only with the approval of the college concerned and will carry SLA credit only by permission of the Scholastic Committee. Approval for more than 12 of these credits is seldom granted.

**Courses in the General Extension Division**—If you are enrolled in the Arts College you may take courses in the General Extension Division with permission of the Scholastic Committee, and acceptable credits in those courses may be transferred to the Arts College upon your application to the Office of Admissions and Records. For further details, see index reference to General Extension Division.

**Credits in the Graduate School**—If you are lacking not more than 9 credits for graduation you may, upon petition, get graduate credit for a limited amount of work taken as an undergraduate. No graduate credit will be given unless you have made previous arrangements with the Graduate School. Courses taken for graduate credit will not carry credit toward the Bachelor's degree.

With the permission of the assistant dean for the Upper Division, an undergraduate lacking not more than 6 credits for graduation may be registered in the Graduate School while completing requirements for the Bachelor's degree.

**Honors Sections**—In some departments, special sections of introductory courses are provided for students of outstanding scholarship. If you think you are eligible, you should inquire about them at the time of registration.

**Courses Without Credit**—Under certain circumstances you may register for a course without credit with the permission of the Scholastic Committee. This will entitle you to participate in class activities to an extent agreed upon in advance with the instructor. The usual arrangement, when permission is granted, is for full participation with a final grade recorded on the permanent record, but the credits and grade points do not count in computing grade point ratios in the Arts College. The procedure is particularly useful for returning students who may wish to repeat a course for review.

**Audited Courses**—Auditing a course differs from taking it without credit in that the student may not normally participate in the activities of the class nor take the final examination, and no grade is recorded. Moreover, you may not later take for credit a course which you have audited. If you wish to audit you must obtain the approval of the Scholastic Committee, and the course will count as part of the academic load for fee purposes.

**Repeating a Course**—You may, without special permission, repeat a course which you have failed and both the old and new grades will then stand on the record. You need not repeat the failed course, however, unless it is a prerequisite to other courses you wish to take or is required for graduation.

You may not, without permission of the Scholastic Committee, repeat a course for which you have already received credit. When permission is given the Scholastic Committee will determine how the second grade shall be counted in the grade point average.

**Repeating a High School Course**—Ordinarily you should register in the college course in mathematics or language for which your high school units in these subjects make you eligible. If for any reason you feel that you are not equipped to take that level of college language course, you should consult with the appropriate department chairman about the possibility of being assigned to a college course which repeats what you had in high school. If this repetition is approved by the department chairman and the Scholastic Committee, the amount of credit, if any, will be determined. No approval is necessary if you have to repeat high school trigonometry or higher algebra.

**Credit for Courses Prerequisite to Courses Accredited**—If, by some mistake, you should take a course without fulfilling a prerequisite, you may not later take this prerequisite course for credit, except by permission of the Scholastic Committee.

**Canceling Out of College**—If you should wish to cancel out of college during a quarter or plan not to return in the succeeding quarter, you should report to the SLA window in the Administration Building (window 14) to check on your financial status, cancel courses for the current or succeeding quarter, and generally clarify your relationship with the University. This always involves referral to the Arts College office, since members of the Arts College staff are interested in being of any assistance possible. You probably will want to discuss your academic standing and possibilities of return or transfer, grades to be awarded, wisdom of the decision to cancel, financial needs, job placement, or other topics.

### Student Personnel Services

**Faculty Advisers**—As you go through college you may need help with such matters as getting registered, selecting courses, choosing your vocation, arranging finances, entering student activities, or solving other personal problems. Much of this assistance is provided by the Arts College, though for some problems you may wish to take advantage also of the all-University personnel services. You will be given the services of a faculty adviser as follows:

1. When you enter SLA as a freshman or sophomore, a special adviser will discuss your objectives and plans with you and assist in planning a program of courses. If you are a freshman without previous college work, the person you see will usually be your adviser for the remainder of the year. Feel free to go to him with any problem that arises. You may reach him through the Lower Division Advisers' Office, 220 Johnston Hall.  
If at any time you decide to enter one of the following programs, you should report to 220 Johnston Hall for referral to a special adviser: medical technology, music, nursing, occupational therapy, and physical therapy.  
If you have had previous college work, you may be assigned to a faculty adviser chosen on the basis of your particular interests. Watch for a card in the mail listing his name.
2. Before registering for the fall quarter of your second year, you will have the opportunity to express a preference for your new faculty adviser. His name will be given you at the time or sent to you by mail soon after.
3. When you are a third-quarter sophomore and almost ready to enter the Upper Division or a professional school, you should seek counsel from the Upper Division office or the professional school.
4. When you enter the Upper Division you will be assigned a major adviser to help plan your work for the junior and senior years. This assignment is usually made in the departmental office of your major.

Approximately 300 faculty members participate in the Arts College advisory program. Of these, about 120 Upper Division advisers of major students are listed under appropriate departmental headings in Section II of this bulletin. The remaining advisers, for Lower Division students, are assigned to advisees on a basis of congeniality of interests. To find the offices of these advisers, consult the *Staff Directory* or inquire at the appropriate college or departmental office.

Before going to see your adviser, you should study the bulletin carefully and come with a tentative program and specific questions in mind. You should bring any records from the Office of Admissions and Records indicating credit already earned at this University or elsewhere. If you should ever wish to change your adviser, this can usually be arranged if you apply at the Lower Division office or, if in the Upper Division, at the departmental office of your major.

**Scholastic Committee**—Almost every student has occasion from time to time to consult the Committee on Student Scholastic Standing (usually called the Scholastic Committee). It is important, therefore, that its functions be clearly understood.

*What is it?* It is a committee of the faculty charged with the interpretation and enforcement of faculty regulations. It is empowered also to make exceptions to faculty regulations when those regulations work to the educational disadvantage of a particular student, provided the basic spirit of the regulation is maintained.

*How can it help you?* Often a student is in doubt about his obligations or some rule seems to stand in the way of his objective. The Scholastic Committee is designed to help with such problems. It has special counselors available for consultation, and often an adjustment can be worked out.

*How does one use it?* When help is needed, go to the Arts College office. A representative of the committee will be glad to talk with you. To be exempted from a regulation, you must prepare a written petition which is turned in at the College office. Since this process takes time, allow a few days for the committee's decision. You should drop back later to pick up your copy.

*Who make up the committee?* The three assistant deans of the College and the co-ordinator of advising. The committee representatives from both Lower and Upper Division offices attend committee meetings.

*Who are the advisory members?* The dean appoints 6 faculty members and 3 students to meet periodically with the committee to help determine policies and procedures.

**Conduct Committee**—The Committee on Student Scholastic Conduct is charged with investigating allegations of academic dishonesty and taking appropriate action in proven instances referred to it by the faculty. Actions taken by the committee are based on its responsibility for aiding students in the maintenance of the College's standards of integrity. The committee has authority to place students on disciplinary probation, fail them in courses, suspend them from the College, or take such other actions as the behavior seems to justify.

A faculty member may take appropriate action in a given instance if the student is in SLA and if the action does not exceed affecting the grade in the course. A report must be filed with the committee, and the student will be informed of his right to request a hearing before the committee.

The committee is composed of student and faculty members, a chairman (Professor Robert Scott), and an executive secretary.

Disciplinary matters of a nonacademic nature or those involving two or more colleges are handled by the All-University Committee on Student Behavior.

**Orientation Programs**—The Arts College joins with other divisions of the University in helping new students, both freshmen and those with advanced standing, to get acquainted with one another and with the College program. Usually this involves 2 days of testing, counseling, and group activities.

Even if you are a Lower Division student entering Upper Division, you will profit from an hour's group discussion of the requirements and opportunities available. For questions that arise later, you can always consult your faculty adviser or the Arts College office.

**College Placement Services**—The Arts College offers aid in securing a job for you upon graduation. Many departments are aware of opportunities and you should ask their help. This departmental service is supplemented by a central placement service associated with the Upper Division office and directed by the placement consultant, Maxwell E. Alvord.

The central office attempts to help you appraise your assets and learn of job opportunities. You should register there at least 2 quarters before you expect to graduate. Placement cannot be guaranteed through these services but assistance is available to all who have been registered in the Arts College.

**All-University Personnel Services**—In addition to faculty advising within the Arts College, you are invited to use the several specialized personnel services provided by the University for all students. For example:

If you want professional help on a personal problem or vocational choice, go to the Student Counseling Bureau, 101 Eddy Hall.

To learn about student activities, visit the Student Activities Bureau at 106 TSMa or the Coffman Union Program office in 229 Coffman Memorial Union.

If you need financial help apply at the Bureau of Student Loans and Scholarships, 201 Eddy Hall.

For a part-time job on or off campus, apply at the Student Employment Office, 153 TSF.

For help in improving your reading or other study skills, use the Educational Skills Clinic, 101 Eddy Hall.

For aid with speech difficulties, consult the Speech and Hearing Clinic, 205 Shevlin Hall.

For questions concerning veterans' benefits, go to 102 Administration Building.

For help in finding a room or apartment, see the Student Housing Bureau, 209 Eddy Hall.

If you are a foreign student, by all means keep in contact with the Foreign Student Adviser, 302 Eddy Hall.

If you have any health problems, go to the University Health Service building.

If you have legal troubles, consult the Legal Aid Clinic, 139 Fraser Hall.

If you have any doubts concerning what service would be most appropriate, consult your faculty adviser or College office.

Students are held responsible for announcements affecting them published in the Official Daily Bulletin in the *Minnesota Daily*.

## Arts College Regulations

**Petition for Exemption from College Regulations**—The faculty has set up certain regulations to help students achieve a good education and to facilitate the operations of the Arts College. These rules are believed wise for most students most of the time, but occasionally they may work to the educational disadvantage of a particular person. In this event, he may ask for exemption in his case through a petition to the Scholastic Committee.

Regular petition blanks are available in the Scholastic Committee offices of the Lower and Upper Divisions. An endorsement from the faculty adviser or instructor should be secured if appropriate. If the student desires, he will be given an opportunity to discuss his situation with a committee representative. When the committee has taken action, the reply can be picked up in the College office.

**Registration Regulations**—Special rules pertaining to registration procedures are discussed in a preceding part of this section.

**Classification of Students**—A student with less than 39 credits (including quality credits) is a freshman. A student with 39 or more credits is a sophomore until admitted to the Upper Division. A student in Upper Division who has less than 135 credits is a junior; one with 135 or more credits is a senior.

**Credits**—Amount of work is expressed in *credits*. Each credit demands, on the average, 3 hours a week of a student's time; that is, 1 class hour with 2 hours of preparation, or 3 hours of laboratory work.

**Grades**—There are four permanent passing grades, A (highest), B, C, and D (lowest), showing the quality of work in a course. A grade of F (*failure*) indicates that the student did not successfully complete the course.

A temporary grade of I (*incomplete*) is assigned when the instructor has insufficient information to permit a permanent grade. It indicates that some required work is unfinished or that the student, though officially registered, did not appear or left without officially canceling. (If the student drops out or cancels after the sixth week while failing, an F is assigned). An undergraduate student receiving an

I, for a valid reason, must make it up by the end of the sixth week in the next quarter of his residence or it will be changed to an F (unless, upon petition, the Scholastic Committee should permit an extension of time.) Instructors or departments may schedule examination make-ups at any time during the 6-week period; students are responsible for learning of make-up dates.

A registration symbol W (withdrawal) indicates that a student has been permitted to cancel officially without grade. It is assigned during the first 6 weeks irrespective of the student's class standing. After that time an F is recorded unless he is doing passing work.

There is a symbol X which may be reported in continuation courses for which a grade cannot be determined until the sequence is completed. Upon completion, the X is changed to a permanent grade.

A registration symbol V (visitor) indicates registration as an auditor or visitor.

**Grade Points**—Quality of work is indicated by *grade points*. Grade points are assigned to course grades as follows: to each credit with a grade of A, 4 grade points; to each credit with grade of B, 3 grade points; to each credit with grade of C, 2 grade points; to each credit with grade of D, 1 grade point. An F carries no grade points. Thus for a 3-credit course completed with a grade of B a student would be assigned 9 grade points.

**Grade Point Average**—Grade point average is defined as the number of grade points earned divided by the total number of credits earned (grades A to D) and failed. A grade point ratio of 2.00 (C average) is the minimum standard required for satisfactory progress toward the B.A. degree.

**Quality Credits**—Students who entered the Lower Division before first term of Summer Session, 1961, may earn "quality credits" to apply toward graduation. These are granted on the basis of grade points beyond those necessary for a C average (2 per credit) through the end of the quarter in which such students accumulate 84 credits (course and quality); 1 quality credit is granted for every 5 extra grade points. Quality credits may not be used to fulfill group requirements or major, minor, or resident requirements, or to substitute for specified courses. They are granted only for excess grade points earned at this University, exclusive of General College.

Quality credits are not available to students entering the Arts College after spring quarter, 1961.

**Satisfactory Progress**—A student in the Arts College is expected to make satisfactory progress in the curriculum he has selected. For those who are candidates for a Bachelor's degree, this is interpreted to mean a C average. The cases of students who are not reaching this standard are considered by the Scholastic Committee.

During the quarter, instructors are asked to report to the committee the names of students who are likely to fail. These students are invited to confer with a special counselor to discuss their situation and to see what may be done to help them. It is always best for a student to see his class instructor or his faculty adviser as soon as he feels himself in difficulty rather than to wait until he has already received a poor grade.

**Scholastic Probation**—Whenever a student's record indicates that he is in serious academic difficulty, he is placed on probation. This is to alert him to the urgent need to improve his grades and to afford him special assistance in analyzing his problems. If a student on probation does not show significant improvement, demonstrating the likelihood of going ahead successfully in the College, he will be dropped. A student who believes that heavy outside work, extracurricular participation, or other competing activities may be interfering with his academic achievement should make immediate adjustments; such factors will not be acceptable as excuses for failure to improve.

Students will be placed on probation because of frequent cancellations and incompletes as well as below average (D and F) grades. In the Lower Division, a student is placed on probation if he is 15 to 20 grade points below a C average, depending on his quarter of residence. After 85 attempted credits, he is eligible for probation if he is 10 grade points deficient. If a student is *admitted* to either Lower or Upper Division with less than a C average, his admission is probationary. A student already in Upper Division is placed on probation if he falls 9 grade points below an over-all C average in his major, or in Upper Division residence, or if *any* deficiency continues beyond 2 quarters.

A student is removed from probation when he has a C average; in Upper Division this rule applies to all three areas noted above.

**Exclusion from Arts College**—Students may be excluded from the Arts College under one of the following headings:

1. *Dropped for low scholarship*—A student who fails to meet the terms of his probation may expect to be dropped.
2. *Hold for committee clearance*—Sometimes a student's scholastic difficulty indicates that he should not continue for the time being even though the record hardly requires official drop action. In such case his later return must be approved by the Scholastic Committee.
3. *Discontinued*—If a student is pursuing an appropriate course but is handicapped by conditions he cannot control (ill health, necessary outside work, etc.), he may be required to discontinue his registration until these conditions have improved. When discontinuance takes place at any time other than the end of the quarter, the courses for which he is registered may be recorded as canceled without grade.

**Readmission to Arts College**—Students excluded from the Arts College are allowed to return only with the permission of the Scholastic Committee.

Students classified as discontinued must present evidence that the conditions which hindered their work have been remedied.

A student who has been dropped may petition for readmission after an interval of 1 year. The petition must present specific evidence that he is now likely to succeed with college work.

Extension courses or work in another college, taken while a student is excluded from the Arts College, will not be recognized for eventual credit in the Arts College unless approved by the Scholastic Committee. Such approval should be obtained prior to registration for such courses.

Students who return under the provision of the preceding paragraphs will be registered on strict probation. They may be dropped at any time that their work is unsatisfactory.

**Class Attendance**—Every student in the Arts College has a responsibility for class attendance. All departments hold students responsible for work of the course but differ somewhat in their treatment of absences. The student must, therefore, learn the policy of his particular instructor and (if he has a legitimate excuse such as illness) arrange with him for making up the work. Either the instructor or student may consult with the Scholastic Committee concerning the validity of the excuse.

**Final Examinations**—The all-University final examination schedule is published each quarter in the *Class Schedule*. Students are required to take examinations at the scheduled time. However, if any student has a conflict in examinations or if he has 3 examinations in a 12-hour period, he should report that fact to the Lower Division office for possible adjustment on or before the date indicated in the examination announcement of the current *Class Schedule*. Any other examination schedule problems should be presented to the Scholastic Committee.

If a student misses a final examination without being excused, an I (incomplete) is assigned if he was doing passing work and a failing grade if he was not. Remember that if the I is not made up it will be changed to an F (fail).

**Examination for Credit**—Credit for material mastered outside of class (exclusive of high school work) may be obtained by special examination. A student who believes that he is as well informed in a particular subject as the students successfully completing the course should apply to the Scholastic Committee for a special examination. If the application is approved, the committee will appoint a special faculty committee to administer the examination. The fee for such examination is \$5. Usually no grade is assigned.

**Examinations to Demonstrate Proficiency in Prerequisite Courses**—If a student wishes to carry a course for which he does not have the prerequisite he may apply to the Scholastic Committee for permission to take an examination to demonstrate his proficiency in the prerequisite. A satisfactory showing in the examination will admit the student to the course but will not entitle him to credit in the prerequisite course. There is no fee for this examination.

**Adult Special Students**—Special facilities are available for those students who wish a special and limited program and who are not candidates for a degree. If you seek admission as an adult special student you should ask for an application blank at the Office of Admissions and Records. The application must receive the approval of the dean of that office and of the Scholastic Committee.

Ordinarily, to be accepted you must be 24 years of age or older or a person who has received a Bachelor's degree, and you must be seeking a special and limited course of study.

As an adult special student, you will proceed under the following regulations:

1. You may take any course for which you have the necessary prerequisites.
2. You cannot become a candidate for a degree without the approval of the Arts College. After completing 1 full year of work (45 credits) with a C average, you may apply to the dean of admissions and records for regular classification.
3. Credit obtained by work in other institutions or by special examination will not be recorded while you remain in adult special status.
4. You may audit courses according to the procedure described on page 14 of this bulletin.
5. Your registration each quarter must be approved by a representative of the Scholastic Committee. Undergraduates go to 214 Johnston Hall and graduates to 225 Johnston Hall.
6. Adult specials wishing to make later application for admission to the Graduate School may petition to transfer only their first term's work as adult specials to their graduate records.

**General Extension Division**—The General Extension Division offers courses through the departments of Evening and Special Classes and Correspondence Study. A student who takes such classes in St. Paul, Minneapolis, or Duluth and wishes to count them toward a Bachelor's degree given by the Arts College must meet all curricular requirements of the Arts College as stated in this bulletin. Only approved courses may be counted.

Correspondence courses may be applied toward a degree, but not more than 3 credits may count toward a major in the Upper Division. Credits earned in correspondence are not regarded as credits in residence.

1. Before beginning work in the Upper Division with a view to graduation, the student must apply for Upper Division standing.
2. He will be assigned to an Upper Division adviser for approval of his program.
3. He must complete any required work, either of major or minor sequences or of any other nature, in the Arts College if it is not offered in the General Extension Division.
4. For the adjustment of irregularities in his curriculum the student may get advice from the assistant dean for the Upper Division or from his major adviser.
5. A student who does not conform to the above regulations may apply for standing in the Upper Division on the same terms as a student transferred from some other institution.
6. Class work taken in the three cities named will help meet the residence requirements. Work done elsewhere does not count as residence even though accepted for graduation.



7. A student dropped from the Arts College may not register for work in the Extension Division without explicit approval of the Scholastic Committee. Any credits thereafter earned through the Extension Division are applicable to an SLA degree only if accepted by this committee.

### **Fees and Expenses**

For information concerning fees and expenses, consult the *Bulletin of General Information*.

### **Scholarships and Awards**

In addition to the all-University aids available through the Bureau of Student Loans and Scholarships, 201 Eddy Hall, there are a number of scholarships and awards given by the following departments: Art, Classics, English, German, History, Journalism, Library School, Music, Political Science, Scandinavian Area Studies, Sociology, and Speech and Theater Arts, as well as the Arts College offices. Students seeking further information concerning these awards should apply directly to the department office concerned.

## SECTION II

# Course Offerings and Major Requirements

### Explanations

**Course Numbering**—A course is designated by an abbreviation of the department name and a number or a letter. It has the same number in whatever quarter it is offered. The quarter is indicated by a letter following the number (f, fall; w, winter; s, spring; su, summer).

#### Examples:

- 1f-2w, a 2-quarter course given in the fall and winter.
- 1w-2s, the same course given in the winter and spring.
- 3f,w,s, a 1-quarter course given each quarter.

A course sequence separated by hyphens (1f-2w-3s) must be taken *in the order listed* unless there is a † mark indicating that a student may enter any quarter. If no prerequisites are listed, there are none, except insofar as the student must be a sophomore, junior, or senior in accord with the course numbering system.

**Lower Division and Upper Division Courses**—The Arts College distinguishes between Lower Division courses (numbered 1 through 49), intended primarily for freshmen and sophomores, and Upper Division courses (numbered 50 or above), intended primarily for juniors and seniors.

Upper Division courses numbered between 50-99 are open to juniors and seniors while those numbered between 100-199 are open to juniors, seniors, and graduates unless otherwise indicated.

Most Upper Division courses numbered between 50-99 are open to sophomores who have averages of C or better in prerequisite courses and in all work. They are listed beneath the heading "Upper Division Courses" in departmental statements in this bulletin. When a course is offered at both levels, a student should take the section appropriate for him. Upper Division courses numbered 100-199 are open to third-quarter sophomores by special permission of the Scholastic Committee. The committee will usually grant such permission to students who have an average grade of at least C in all their work and in the prerequisite courses, provided they have completed requirements for entering Upper Division or a professional school. Requests for special permission should be presented to the Lower Division office, 214 Johnston Hall.

**Symbols**—The following symbols are used throughout the course descriptions and will not carry any page footnotes:

- † To receive credit, all courses listed before the single dagger must be completed.
- ‡ Students may enter sequence course in any quarter which precedes the double dagger.
- § No credit is granted if credit was received for equivalent course listed after section mark.
- ¶ Concurrent registration is allowed with the course listed after paragraph mark.
- # Consent of instructor is required.
- Δ Consent of department or school offering course is required.

## AIR SCIENCE (Air) (Air Force ROTC)

Chairman—Major F. D. Stockdale

The program in air science, leading to a commission in the Air Force Reserve Officers Training Corps, is available for students in SLA as well as for those in other colleges of the University. For information concerning the requirements and the opportunities in this program, consult the *Bulletin of the Army-Navy-Air Force ROTC*.

SLA will accept credits from basic and advanced courses in air science to fulfill a minor toward the B.A. degree. Noncredit air science courses 31f, 32w, and 36s meet 1 hour each week. Substitute courses as elected by the student from natural and physical science, humanities, language, and social science fulfill the air science academic requirement for these quarters.

### *Basic Courses*

- 31f. Leadership Laboratory. (No cr)
- 32w. Leadership Laboratory. (No cr)
- 33s. Foundations of Air Power I. (2 cr)
- 34f. Foundations of Air Power II. (2 cr; prereq 33)
- 35w. Foundations of Air Power II. (2 cr; prereq 34)
- 36s. Leadership Laboratory. (No cr; prereq 35)

### *Advanced Courses*

- 131f. Leadership Theory and Application I. (3 cr; prereq 36)
- 132w. Air Force Communicating and Instructing. (3 cr; prereq 131)
- 133s. Leadership Theory and Application II. (3 cr; prereq 132)
- 134f. Aerial Navigation and Meteorology. (3 cr; prereq 133)
- 135w. Military Aspects of World Political Geography. (3 cr; prereq 134)
- 136s. International Relations and the Air Force Officer. (3 cr; prereq 135)

## AMERICAN STUDIES (AmSt)

Chairman—Bernard Bowron

**Major Advisers in SLA**—Associate Professor Bowron (candidates for the Ph.D.); Associate Professor Weber (candidates for the M.A.); Associate Professor Turpie (candidates for the B.A.).

A major in American Studies for the B.A. is offered to students under the general provisions of an interdepartmental major as stated on page 11. The Upper Division courses which constitute this major will include 15 credits in courses dealing with foreign civilization and 51 credits in courses concerned with civilization in the United States as follows:

- A. 42 credits in approved courses in the following 4 fields, including at least 9 credits in each field: American history; American literature; American art and philosophy; social sciences in the United States.

- B. 9 credits in AmSt 90-91-92.

Prerequisite: Hum 21-22-23, American Life, or Hum 71-72-73, Humanities in the United States.

**Special Provisions for Nonmajors**—Any senior who wishes to deepen his knowledge of American civilization past and present, while integrating his more specialized studies by means of intensive reading and some independent research, may enroll in AmSt 90-91-92 after consultation with the instructor. This course is not restricted to American Studies majors.

### Lower Division Courses

**Hum 21f-22w-23s.†\*\* American Life.** Each quarter is organized around a topic, such as individualism in American life and thought, religious and philosophic attitudes in relation to American ideas, or the rise of American nationalism and its place in the modern world. (3 cr per qtr) Berkhofer, Kwiat, Turpie, Weber

### Upper Division Courses

**Hum 71f-72w-73s.†\*\* Humanities in the United States.** Introduction to American cultural history. Each quarter is organized around topics which disclose a major conflict of ideals—for example, liberty and property in the early Republic, individualism and majority rule in the pre-Civil War era, or materialism and idealism in the present industrial age. Such figures as Jefferson, Hamilton, Thoreau, Mark Twain, Frank Lloyd Wright, and William Faulkner are studied. (3 cr per qtr) Cooperman, Levenson

**90f-91w-92s. Proseminar in American Studies.** Proseminar and individual conferences. Each quarter is organized around a problem presented by some representative theme, figure, or period (for example, American humor and American character, Frank Lloyd Wright, the 1920's). A variety of subjects, in different combinations, will be offered from year to year. (3 cr per qtr; prereq sr and #) Weber

### For Graduate Students Only

**200-201-202. Introduction to American Studies**

**210. Seminar in American Studies: Bibliography**

**211-212-213. Seminar in American Studies: Problems and Methods**

**240-241-242. Materials for the Study of American Civilization**

**250-251-252. Readings in American Civilization**

For courses in the participating departments (History, English, Philosophy, Sociology, etc.) which are accepted for the B.A., the M.A., or the Ph.D. degree in American Studies, see the publication entitled *Program in American Studies* and the annually revised lists of approved courses.

## ANATOMY (Anat)

(College of Medical Sciences)

Head—Arnold Lazarow

For a complete list of courses in human anatomy, see the *Bulletin of the Medical School*.

Students in SLA may elect courses in human anatomy other than Anat 3 or 4 only by arrangement with the head of the Department of Anatomy and the SLA Scholastic Committee.

**3f. Elementary Anatomy.** (4 cr; prereq 3-yr nurses in Extension Division, dental hygienists; others take Anat 4s unless granted Δ)

**4s. Elementary Anatomy.** (5 cr; primarily for 5-yr nurses and med techs; prereq Zool 3 or Biol 3A)

\*\* A student may take any combination of 21, 22, 23, 71, 72, 73 up to a maximum of 9 credits. Upper Division students are urged to take the 71-72-73 sequence if possible.

**ANTHROPOLOGY (Anth)**

FACULTY—E. Adamson Hoebel, *chairman*; James L. Gibbs, Jr., Elden Johnson, Rupert I. Murrill, Robert F. Spencer

**Major Advisers in SLA**—Professors Hoebel, Spencer; Associate Professor Murrill; Assistant Professors Gibbs, Johnson.

**Major Sequence in SLA**—Prerequisites: Anth 1A and 2A or 100. Anth 80, 90, 164, 169, 173 (or 171 and 172), and 185; a minimum of 6 additional credits in Ethnology (I), 3 credits of which must be in Old World Ethnology (i.e., courses numbered 120-129); a minimum of 3 additional credits in Cultural Anthropology (III); 6 additional elective credits to make a total minimum of 33 credits of Upper Division courses in Anthropology. (Anth 100 cannot be counted toward credits for a major.)

Students planning to take graduate work in anthropology should consult immediately with a major adviser for detailed planning of the major program.

The fact that anthropology concerns itself with man and his cultures in all times and places lends to it a uniquely appropriate quality for general and liberal education. The two introductory courses (1A, 2A) are recommended for general education background.

*Lower Division Courses*

**1Af,w,s. Introduction to Anthropology: Prehistoric Man and Culture.** Origins of man and development of modern races. Growth and differentiation of the cultures of man from the Dawn Stone Age of early glacial times through the Old and New Stone Ages to the dawn of civilization in the Bronze and Iron Ages. (5 cr) Hoebel, Johnson, Murrill, Spencer

**2Af,w,s. Introduction to Anthropology: Cultural Anthropology.** The varieties and range of human behavior as revealed through the study of primitive societies in all parts of the world. A scientific analysis of the ways in which primitive men organize their lives, directed toward a deeper and broader understanding of human capacities and purposes. (5 cr) Gibbs, Hoebel, Johnson, Spencer

*Upper Division Courses*

**100f. Principles of Anthropology.** Intensive introduction to the elements of anthropology. Prehistoric development of man and culture. Analysis of primitive societies with respect to range and variability of human behavior. Principles of culture dynamics. (3 cr, §1A or 2A; may be taken in lieu of 1A-2A) Johnson

**Group I—ETHNOLOGY**

Anth 80 and 90 in Group II are open to sophomores who have a grade of at least C in 2A. Other Upper Division courses are open also to sophomores under conditions explained on the first page of Section II.

Attention of students is called to Ortl 75-76-77, Asian Civilizations; see Slavic and Oriental Languages.

**80f. The American Indian.** The peopling of North and South America. Physical and cultural characteristics of the tribes of the major culture areas. (3 cr; prereq 2A or 100) Johnson

**115. Indians of the Great Plains.** Prehistoric origins of the tribes of the Plains area. Cultures of the Missouri River tribes and the nomads of the Plains. (3 cr; prereq 2A or 100 or Δ) Hoebel

**116. Indians of the Southwest.** Prehistoric origins of Southwestern (New Mexico, Arizona, southern Utah and California, and northern Mexico) Indians. Cultures of the Pueblo, Navajo, Apache, and Yuman tribes. (3 cr; prereq 2A, 100 or Δ; offered 1962-63 and alt yrs) Hoebel

**117f. Indians of South America.** Ethnographic survey of South American Indians. Prehistory of the various areas. Spanish and Portuguese contact and the adjustment of the various tribes to modern conditions. (3 cr; prereq 2A or 100) Johnson

**119. Contemporary Middle-American Communities.** Mexican and Guatemalan village communities, particularly those composed entirely or in part of Indian-speaking peoples. Application of

- anthropological concepts and methods to the study of folk cultures. (3 cr; prereq 2A or 100 [waived for majors in Latin-American Area Studies]) Johnson
- 120f. Peoples and Cultures of Africa.** A survey of the races, languages, and cultures of Africa south of the Sahara. Peoples representative of each culture area will be studied with special attention to social organization, economic and political systems, and adjustment to modern conditions. (3 cr; prereq 1A and 2A or 100) Gibbs
- 121. Peoples and Cultures of the South Seas.** Survey of the races and cultures of the Pacific Islands (Oceania, Polynesia, Micronesia, and Melanesia). (3 cr; prereq 1A and 2A or 100) Murrill
- 124. The Culture Sphere of China.** Development of Chinese institutions and other cultural manifestations. Their influences in the development of the cultures of Vietnam, Korea, and Japan. (3 cr; prereq 2A or 100 or  $\Delta$ ; offered 1962-63 and alt yrs) Spencer
- 125f. Peoples and Cultures of India.** Survey of the primitive tribes, Hindu caste society, and the modern communities of India. (3 cr; prereq 2A or 100 or  $\Delta$ ) Spencer
- 126s. Peoples and Cultures of Southeast Asia and Indonesia.** Cultures of the peoples of Burma, Siam, French Indochina, and the Malaysian archipelago. Influences from India on the area. Islamic influences in Indonesia. Modern ethnic and national problems. (3 cr; prereq 2A or 100 or  $\Delta$ ) Spencer
- 127w. The Islamic Culture Sphere.** Mohammed and the founding of Islam. Islamic culture as an intermediary between (a) classical and the ancient oriental civilizations, and (b) medieval Europe. Legal, political, social, and theological developments in Islam. (3 cr; prereq 1A and 2A or 100, or  $\Delta$ ) Spencer
- 128s. Islam in Africa.** Influence of Islam upon African people south of the Sahara. How Islam has spread through East and West Africa; why and how it has changed indigenous African cultures. Relationship between Islamization and Westernization. (3 cr; prereq 2A or 100 or  $\Delta$ )

#### Group II—ARCHAEOLOGY

- 90. Archaeology of North America.** A survey of the prehistoric archaeology of North America north of Mexico. Emphasis will be placed on analysis of the techniques, methods, and goals of prehistoric archaeology. (3 cr; prereq 1A or 100) Johnson
- 130s. Archaeological Methods and Techniques.** Lectures and laboratory exercises in the techniques of excavations, recordation, and methodological interpretations of archaeological data. (3 cr; prereq sr, 90 and  $\Delta$ ; 4 hrs per wk) Johnson
- 132. Archaeology of the Mississippi Drainage.** Archaeological record of prehistoric cultures of the Mississippi River area from Minnesota to the Gulf of Mexico. (3 cr; prereq 90) Johnson
- 133. Archaeology of the Southwest.** Archaeological record of prehistoric cultures of the southwest area of the United States. Paleo-Indian, Basket Maker, and Pueblo prehistory. (3 cr; prereq 90) Johnson
- 134w. Pre-Columbian Civilizations of Middle America.** Prehistoric origins and cultures of the Middle-American area. The Mayas, Aztecs, and their neighbors. (3 cr; prereq 90 or  $\Delta$ ) Johnson
- 136s. Prehistoric Archaeology of the Old World.** Archaeological record of cultural evolution in Europe, Africa, and Asia. (3 cr; prereq 90) Johnson
- 140su. Field Research in Archaeology.** Archaeological field excavation, survey, and research in prehistoric sites in the state of Minnesota. Intensive training in excavation techniques, recordation, analysis, and interpretation of archaeological materials. (6-12 cr [may be taken for cr only once]; prereq 90 and  $\Delta$ ) Johnson

#### Group III—CULTURAL ANTHROPOLOGY

- 150w. The Contact of Cultures.** Processes of acculturation. Impact of civilization on native cultures. (3 cr; prereq 1A and 2A or 100)
- 151. Applied Anthropology.** Application of the methods and techniques of anthropology to current problems of government, industry, education, and social welfare planning. The role of anthropology in UNESCO and technical aid, public health, and other administrative activities for native peoples in the modern world. (3 cr; prereq sr, 150 or  $\Delta$ ; offered when feasible)
- 154s. Ethnological Field Techniques.** Introduction to techniques of field observation, interviewing, and recording; training in field methods, the presentation of data, and the interpretation of results provided by laboratory exercises with informants and participation in a field project in ethnic communities in the Twin Cities. (6 cr; prereq sr, grad,  $\Delta$ ) Gibbs

- 160w. Law-Ways of Primitive Man.** Social control, law, and government in primitive societies. Theory and method of comparative legal dynamics. Relation of law to whole cultures. Functions and evolution of law revealed in study of type primitive societies ranging from the simplest to the most complex. (3 cr; prereq 2A or 100 [waived for majors in other social sciences or law]) Hoebel, Gibbs
- 161f. Primitive Religion.** Beliefs and practices in primitive religious systems, the roles of sacred, the supernatural, and beliefs in continuance of life after death, and the role of the dead in the life-ways of primitive peoples. (3 cr; prereq 2A or 100) Spencer
- 162. Primitive Technology.** Analysis of the material culture of primitive peoples; historical development and distribution; techniques and methods of manufacture; use and function within a society. Problems of art and design. The role of the craftsman in primitive societies. (3 cr; prereq 1A and 2A or 100; offered when feasible) Johnson
- 163f. Economic Activities in Primitive Cultures.** Varied systems of making a living in pre-literate groups. Economy of hunting and fishing tribes, primitive agriculturists, and simple herders. Relations between habitat, technology, social organization, and goals and attitudes as focused in the area of economic life. (3 cr; prereq 2A or 100 [waived for majors in economics and business administration]) Johnson
- 164w. Social Anthropology.** The structure of nonliterate and folk societies with special attention to systems of kinship and marriage and their relationship to economic, religious, and political institutions; an examination of the functional and structural approaches in cultural anthropology. (3 cr; prereq 1A and 2A or 100) Gibbs
- 165f,w,s. Culture and Personality.** Role of culture in the formation of personality. Problems of individual adjustments to the demands of culture. Psychological approach to culture. (3 cr; prereq sr, 2A or 100 or  $\Delta$  [waived for majors in public health, nursing, psychology, sociology, and social work]) Hoebel (f), Spencer (w), Gibbs (s)
- 166f. Primitive Art.** Technique, style, and symbolism in the arts of primitive peoples. Art and the artist in relation to primitive culture and society. (3 cr; prereq 2A or 100 or  $\Delta$ ; waived for art majors)
- 169s. Comprehensive Survey.** Integrated review of major anthropological concepts, methodologies, and theorists. (3 cr; prereq sr,  $\Delta$ ) Gibbs

**Group IV—PHYSICAL ANTHROPOLOGY**

- 170f. Primate and Human Evolution.** Origins and relationships of extinct forms of nonhuman primates and man. (3 cr; prereq 1A or 100 and  $\Delta$ ) Murrill
- 171w-172s. Physical Anthropology.** Comparative osteology of man and the anthropoid apes. Variations related to sex, age, and race. Observations and measurements on the skeleton. Anthropometry—measurement of the living. Body size, proportions, and statistical analysis. (4 cr per qtr; 2 lect and 4 lab hrs per wk) Murrill
- 173s. Human Biology.** Evolutionary processes in the differential development of races. Physical characteristics, distribution, and relationships of living races of mankind. Human genetics, particularly of blood types in racial analysis. Influence of various environments on man. (3 cr; prereq 1A or  $\Delta$ ) Murrill
- 175s. Human Physical Growth and Development.** Period of growth—prenatal, birth, infancy, childhood, and adolescence. Sex differences in growth, skeletal maturation. Development and growth of the head. Growth and eruption of teeth. Comparative adolescent physiology. (3 cr; prereq 1A or  $\$$  [waived for majors in child development]) Murrill

**Group V—LINGUISTICS**

- 180w-181s.† Descriptive Linguistics.** 180: Phonetics and phonemics. Analysis of speech sounds and practice in phonetic recording and phonemic analysis. 181: Morphology and syntax. Problems in phonologic, morphophonologic, morphological, and syntactic structures of selected languages outside the Indo-European speech family. (3 cr per qtr; prereq  $\Delta$ ) Spencer
- 185f. Language and Culture.** The relation of language to behavior; languages as systems of thought, logic, and orientation and their impact on cultures. Semantics and symbols in linguistic structures across the world; analysis of selected linguistic and cultural systems. Glottochronology. (3 cr; prereq 2A, or 100, or  $\Delta$ ) Spencer

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**190f-191w-192s. Directed Research.** (Cr ar; prereq sr,  $\Delta$ ) Staff

**196s. Proseminar in East and South Asia.** (Same as Geog 196, Pol 196, Orlt 196, and Hist 196) Integrating course for students majoring in the East and South Asia Area Studies program. (3 cr; prereq sr) Interdepartmental staff

*For Graduate Students Only*

- 200-201. Anthropology and Scientific Method  
 202. Proseminar in Research Methods  
 204-205-206. Seminar in Anthropology  
 240. Ethnological Field Session  
 251-252-253. Seminar in Culture and Personality

**ARABIC**

See Slavic and Oriental Languages

**ARCHITECTURE (Arch)**

(Institute of Technology)

*Head*—Ralph Rapson

**Major Adviser in Architecture in SLA**—Associate Professor Koepfer.

**Major Sequence in SLA**—Arch 51-52-53, 81-82-83, 91-92-93.

Prerequisites: High school or college equivalent of Math Y, Higher Algebra, and solid geometry; Phys 1-2-3 and 1A-2A-3A; Art 23A-24A-25A and approval by the School of Architecture after formal application has been made. Application forms will be furnished by the School of Architecture or the Office of Admissions and Records. They must be submitted not later than July 15 preceding the beginning of the academic year for which admission is sought.

This sequence is intended for:

1. Students who for cultural or vocational reasons may want a certain degree of specialization in architecture.
2. Students preparing for further training in such special fields as city planning, landscape architecture, and interior or industrial design.

Modifications of this sequence will be permitted upon petition approved by the major adviser and the assistant dean for the Upper Division.

A special modification of this sequence is available for students taking the 6-year combined course in arts and architecture leading to both the liberal arts and professional architectural degrees, B.A. and B.Arch. Such students should include, in addition to the courses listed above, Math T, 15, 49, 53; MM 92-93; Art 60A-61A-62A. Also CE 38-39-41 or Arch 71-72-73 is desirable although neither carries credit toward the B.A. degree. For further information concerning the 6-year combined course, see page 166 of this bulletin.

*Note*—Consult the *Bulletin of the Institute of Technology* for additional courses.

*Lower Division Courses*

- 1s. **Introduction to Architecture.** Philosophy and principles of architecture as an art, a science, and a profession. (1 cr; 1 lect hr per wk)
- 11f-12w-13s. **Architectural Drawing.** Drafting techniques, orthographic, isometric, oblique, and perspective projections; architectural conventions, intersections, developments, shades and shadows, architectural lettering. (2 cr per qtr; 6 lect and lab hrs per wk)

*Upper Division Courses*

- 51f-52w-53s. **History of Architecture.** Significant architecture of the past, with particular reference to the geographic, social, and technical influences which produced it. (4 cr per qtr)



- 81-82-83.† **Architectural Design I.** Basic exercises in composition of line, form, proportion, color, and texture. Elements of architectural design. Architectural drawing. Model making. (18 cr, normally 6 cr per qtr; prereq  $\Delta$ ; entrance fall qtr only)
- 91-92-93f,w,s.† **Architectural Design II.** Continuation of design principles with emphasis on development of structures as an integral part of design. Research techniques. (18 cr, normally 6 cr per qtr; prereq 83)
- 101-102-103f,w,s. **Tutorial Work in History of Architecture.** Reading and written reports on special historical problems. (2 cr per qtr; prereq 53)
- 104f. **Planning.** (Same as Econ 110, Pol 123, Soc 106) Social, economic, political, geographic, and technical phases of modern city planning. (3 cr; prereq sr)
- 105w. **Planning.** Urban problems and the techniques of planning. (3 cr; prereq 104)
- 106s. **Planning.** Technical phases of modern city planning with special reference to the architect's function therein. (3 cr; prereq 105)

## ART (Art)

FACULTY—\_\_\_\_\_, *chairman*; Allen Downs, Lorenz E. Eitner, Jerome Liebling, Warren D. MacKenzie, Malcolm H. Myers, Freddy Munoz, Walter W. Quirt, Josephine L. Rollins, John Rood, Sidney Simon, Hylton A. Thomas, Donald Torbert, Dimitri T. Tselos, Melvin Waldvogel.

**Major Advisers for All Art Courses in SLA**—Professors Downs, Eitner, Myers, Quirt, Rood, Torbert, Tselos, Young; Associate Professors Liebling, Rollins, Thomas; Assistant Professors MacKenzie, Simon, Waldvogel.

The principal objective of the Department of Art is to contribute to the general education of all students at the University of Minnesota. With this end in view, all courses in both history and practice lay particular stress on the problems and needs of the nonprofessional student interested in acquiring some knowledge of the theory and practice of art within the framework of a liberal education.

For those students interested in acquiring a liberal education and then proceeding to advanced work in history or studio, the Department of Art offers professionally oriented courses at the Upper Division level and graduate courses leading to the degrees of the M.A. and Ph.D. in history and criticism, and to the M.F.A. in the practice of art.

*Note*—Superior students in art may be required to leave permanently with the department 1 or 2 examples of their work. These examples will be used for exhibition purposes and as a continuing record. Such students will be compensated for materials used.

**Major Sequences in SLA**—In the Department of Art it is possible to major in the history and criticism or the practice of art, or in various combinations of these. The student intending to major in art should consult one of the departmental advisers as soon after entrance to college as is practicable.

A. *History and Criticism of Art.* Prerequisites: Art 1, 2, 3, Introduction to Art; Art 23, 24, Drawing and Design I. Requirements: 27 credits in history of art courses numbered above 50; reading knowledge of 1 foreign language. The following areas are recommended as minors for students majoring in the history and criticism of art: humanities, literature, philosophy, or languages.

B. *Studio Course Major.* Prerequisites: Art 1, 2, 3, Introduction to Art; Art 23, 24, 25, Drawing and Design I (Art 32, Printmaking, or Art 10, Photography, may be substituted for Art 25), Art 40, 41, 42, Sculpture I (Art 45, Ceramic Processes, may be substituted for Art 42). Requirements: Art 51 and 10 Upper Division credits selected from any 1 of the following areas: design, painting, prints, sculpture, film, and photography; 9 additional credits in studio courses numbered above 50; 9 Upper Division credits in art history.

*Note*—Art 10, Photography, is strongly recommended for all majors in the department.

**Suggested Minor Sequences in SLA**—In the Department of Art it is possible to minor in the history and criticism or the practice of art or in various combinations of these. The following categories indicate two methods of attaining a minor:

A. A minor sequence which presents a comprehensive introduction to the basic problems of art is offered by the Department of Art. The courses, Art 63, 64, 68 (with other 2- or 3-credit Upper Division courses) constitute the sequence and present the theory and practice of drawing, painting, design, and sculpture. Art 65 may be elected to complete this sequence or may be taken as an independent course without prerequisites. Other courses which may be elected to complete the sequence and for which Art 63 and 64 may serve as the prerequisites are Art 60B, 70B, 80, or 90. Art 63, 64, and 65 are not credited to art or art education majors.

B. It is also possible to minor in art by registering for regular Upper Division courses in such areas as history of art or drawing and painting. The student intending to minor in art is invited to consult one of the departmental advisers.

To facilitate reference to the several art sequences, the following index will be helpful:

#### *Lower Division Courses*

Art History—1, 2, 3  
 Ceramics—45  
 Drawing and Design—20, 23, 24, 25  
 Photography—10, 11, 12  
 Printmaking—32  
 Sculpture and Design Workshop—40, 41, 42,  
 43, 44

#### *Upper Division Courses*

Art History—50, 56, 57, 58, 66, 67, 68, 76, 77,  
 86, 87, 88, 100, 101, 102, 103, 104, 105,  
 106, 107, 108, 110, 111, 112, 116, 117,  
 118, 126, 127, 128, 129, 130, 131, 132,  
 133, 136, 137, 138, 140, 141, 142, 146,  
 147, 148, 156, 157, 158, 166, 167, 168,  
 176, 177, 178, 186, 196, 197, 198  
 Ceramics—94, 95  
 Design—65, 73, 74, 75, 143, 144, 145, 193,  
 194, 195  
 Drawing, Painting, and Composition—51, 52,  
 53, 54, 55, 60, 61, 60B, 61B, 62B, 69, 70,  
 71, 72, 70B, 71B, 72B, 120, 121, 122, 150,  
 151, 152, 150B, 151B, 152B  
 Jewelry Design—113, 114, 115  
 Photography and Film—83, 84, 85, 123, 124,  
 125  
 Printmaking—90, 91, 92, 190, 191, 192  
 Sculpture—64, 80, 81, 82, 80A, 81A, 82A, 180,  
 181, 182

#### *For Graduate Students Only*

Art History—206 through 238  
 Studio—200 through 252

Courses especially recommended for general education purposes are Art 1, 2, 3, 50, 56, 57, 58, 66, 67, 68.

### **Art History and Criticism**

#### *Lower Division Courses*

##### **1-2-3. Introduction to Art**

*I, w, s.* Principles of Art. Lecture and laboratory course introducing the student to basic problems of art. Examples from the painting, sculpture, and architecture of various periods will be used to illustrate general cultural factors that influence the production of art as well as basic problems of design and of technique. The laboratory-discussion sessions will introduce the student to practical problems arising from the nature of the

materials of the visual arts. (5 cr, \$50; prereq fr and soph only [Upper Division students see Art 50 for equiv]) Eitner

- 2f,w.s. **Principles of Ancient and Medieval Art.** Introduction to art criticism based on a number of selected monuments of ancient and medieval art. A broad critical analysis of Egyptian, Mesopotamian, Greek, Hellenistic, Roman, and Medieval art as separate but related expressions of the culture in the periods indicated. (3 cr; prereq 1) Thomas
- 3w.s. **Principles of Renaissance and Modern Art.** Second course of a series on introduction to the principles of art criticism. A selected number of monuments for the general study of Renaissance, baroque, and modern art and culture. (3 cr; prereq 1) Torbert

### *Upper Division Courses*

- 50f,w.s. **Introduction to the Visual Arts.** Similar to Art 1 in organization and basic content. An expanded program of reading and more extensive contact with works of art. (3 cr, \$1) Eitner
- 56f. **Renaissance and Baroque Art: 1300-1500.** Painting, sculpture, and architecture in Europe from Duccio to Raphael. Giotto and the 14th century in Italy. Architecture of the early Renaissance. The Van Eycks, Masaccio, Donatello, and the 15th century in Italy and Flanders. Leonardo, Raphael, Dürer, and the High Renaissance. (3 cr; prereq 1 or 50 or  $\Delta$ ) Waldfoegel
- 57w. **Renaissance and Baroque Art: 1500-1650.** Painting, sculpture, and architecture in Europe from Michelangelo to Rubens. Titian, Tintoretto, and the 16th century in Venice. Palladio and the academic attitude in architecture. Caravaggio, El Greco, and the early baroque style of Bernini and Velasquez. (3 cr; prereq 1 or 50 or  $\Delta$ ) Waldfoegel
- 58s. **Renaissance and Baroque Art: 1650-1800.** Painting, sculpture, and architecture in Europe from Rembrandt to David. Seventeenth-century art of Holland, Poussin and the classical tradition in France and England. Watteau, Boucher, and 18th-century decoration. The English portraitists. The rise of neoclassicism in Italy and France. (3 cr; prereq 1 or 50 or  $\Delta$ ) Waldfoegel
- 66f. **Modern Art: Classicism and Romanticism.** Development of painting, sculpture, and architecture from the period of the French Revolution to about 1850 in France, Germany, Spain, and England, with an introduction to parallel movements in the United States. (3 cr; prereq 1 or 50 or  $\Delta$ ) Waldfoegel
- 67w. **Modern Art: Realism and Impressionism.** Painting, sculpture, and architecture during the second half of the 19th century with particular emphasis on the schools of Paris, their influence and parallels in England, Germany, and the United States. (3 cr; prereq 1 or 50 or  $\Delta$ ) Waldfoegel
- 68s. **Modern Art: Contemporary Art in Europe and America.** Development of painting, sculpture, and architecture in Europe and the United States during the 20th century. (3 cr; prereq 1 or 50 or  $\Delta$ ) Waldfoegel
- 76f. **Art of Latin America.** Painting, sculpture, and architecture in Latin America, treating the pre-Columbian traditions, the development of the various colonial styles and the most significant of the national schools in the periods prior to the 20th century. (3 cr; prereq 1 or 50 or  $\Delta$ ...¶57 or ¶126 recommended)
- 77w. **Art of Latin America.** Latin-American arts in the 20th century with particular emphasis on painting and architecture in Mexico and South America. (3 cr; prereq 1 or 50 or  $\Delta$ ...¶76 or ¶57 or ¶126 recommended)
- 86f-87w-88s. **The Art of the Film.** Critical study and analysis of the motion picture as an art form. Emphasis on the finished product, demonstrated in a select program of films of exceptional merit or specific interest. Lectures, demonstration, and discussions. Analysis of films of various categories, such as narrative, poetic, documentary, experimental, etc. (3 cr per qtr; prereq 9 cr in art or 9 cr in speech incl Spch 31) Amberg
- 96f-97w-98s. **A Seminar for Superior Students.** A survey of art based on primary sources, key historical writings and original works of art in the Minneapolis public collections. (3 cr per qtr; limited to 10 art majors; prereq 1 or 50 and 3 cr of Renaissance, baroque or modern art at the Upper Division level) Waldfoegel
- 100f. **Art in Ancient Egypt, Mesopotamia, and Greece.** Architecture, sculpture, and painting of the pre-Hellenic civilizations in Egypt, Mesopotamia, and the Aegean. Development of Greek art from its beginning to the Periclean age. (3 cr; prereq \*\*) Eitner, Tselos
- 101w. **Hellenistic Through Early Christian Art.** Art of the Hellenistic kingdoms, Hellenic and Etruscan art in Italy. Art of the Roman Empire. Transformation of classical styles under the

\*\* Prerequisite is 9 credits in history of art, or 9 credits in literature or history with consent of department.

- influence of oriental traditions and of Christian religion. Development of Christian art. Art of the Byzantine Empire. Survivals of classical forms in early medieval art. (3 cr; prereq \*\*) Eitner, Tselos
- 102s. **Romanesque and Gothic Art.** Development of architecture, sculpture, and painting in western Europe and Italy from the 10th until the 15th century. The art of the cathedrals. Romanesque and Gothic monumental and manuscript painting. Development of Gothic art as manifestation of currents in medieval culture. (3 cr; prereq \*\*) Eitner, Tselos
- 103f-104w-105s. **Ancient Art.** Studies in pre-Hellenic, Greek, Hellenistic, and Roman art. In each quarter an independent discussion centered around major styles, regions, and problems of iconography. (3 cr per qtr; prereq sr and art majors, \*\*; offered when feasible)
- 106f-107w-108s. **Medieval Art.** Studies in early Christian, Byzantine, Carolingian, Romanesque, and Gothic art. In each quarter an independent discussion centered around major styles, regions, and problems of iconography. (3 cr per qtr; prereq sr and art majors, \*\*; offered when feasible)
110. **Art of India.** Development of architecture, painting, sculpture, and the minor arts. (3 cr; prereq \*\*; offered when feasible) Rundorff
111. **Art of China.** Development of painting, sculpture, and the minor arts in China from earliest times to the present. (3 cr; prereq \*\*...Hist 62-63 recommended) Mather
112. **Art of Japan.** Development of painting, sculpture, and minor arts in Japan from earliest times to the present. (3 cr; prereq \*\*; offered when feasible)
- 116f-117w-118s. **Renaissance and Baroque Painting.** Art of the 15th, 16th, 17th, and 18th centuries. In each quarter an independent discussion of major personalities, styles, regions, and problems of iconography. Lectures and discussions. (3 cr per qtr; prereq sr and art majors, \*\*) Thomas
- 126f-127w-128s. **Eighteenth-Century Art.** Flemish, French, German, Dutch, and English art of the 15th, 16th, 17th, and 18th centuries. In each quarter an independent discussion of major personalities, styles, regions, and problems of iconography. Lectures and discussions. (3 cr per qtr; prereq sr and art majors, \*\*; offered 1961-62 and alt yrs) Thomas
129. **History of the Graphic Arts.** Origins of the woodcut and of engraving. Renaissance and baroque master etchers and engravers. Mantegna, Raimondi, Schongauer, Dürer, Holbein, Lucas van Leyden, Callot, Rembrandt. Reproductive and portrait engraving of the 17th and 18th centuries. Lithography, Géricault, Delacroix, Daumier. Twentieth-century print-making. (3 cr; prereq 1 and \*\*; offered 1961-62 and alt yrs) Thomas
130. **Master Drawings.** Historical survey of great drawings from Gothic period to present, covering work of such artists as Pisanello, Leonardo da Vinci, Dürer, Holbein, Raphael, Rembrandt, Rubens, Watteau, Tiepolo, Goya, Géricault, Daumier, Van Gogh, Matisse, Picasso. Stylistic analysis of master drawings and school copies. (3 cr; prereq sr and art majors, \*\*; offered 1962-63 and alt yrs) Thomas
131. **Illuminated Book in Antiquity and the Middle Ages.** Origins; development of illustrative cycles; Old Testament illustrations; role of the book in Christian art and development of New Testament illustrations; Merovingian, Carolingian, and Ottonian scriptoria; Byzantine traditions; Romanesque and Gothic illuminations; growth of profane book illustration in 13th and 14th centuries. (3 cr; prereq sr and art majors, \*\*; offered when feasible) Tselos
132. **Illustrated Book from Renaissance to Rococo.** New style of painting in the Books of Hours about 1400; new concepts of reality and space in book illumination; Italian illuminated books of Renaissance; impact of printing on the illustrated book; illustrative woodcuts, block books and *Biblia Pauperum*; great masters of woodcut illustration; Dürer, Holbein; Italian and French woodcut illustrators; engraving as chief medium of book illustration; illustrators of the baroque; 18th-century French illustrated book. (3 cr; prereq \*\*; offered when feasible) Thomas
133. **Book Illustration in the Modern World.** Revival of the illustrated book in the Romantic period; Daumier; the Johannots; Nanteuil; Grandville; Doré; Menzel; development of illustrated newspaper, broadsheet, and political pamphlet; beginnings of graphic publicity and of the art poster; great painters of the impressionist and postimpressionist eras as book illustrators: Manet; Toulouse-Lautrec; Gauguin; Redon; renaissance of the artistic book about 1900; contemporary painters and sculptors as illustrators. (3 cr; prereq \*\*; offered when feasible) Eitner
- 136f. **Art in the United States.** Origins of painting, sculpture, and architecture through the Revolution. Relations with England and the European continent. Copley, Stuart, West, and

\*\* Prerequisite is 9 credits in history of art, or 9 credits in literature or history with consent of department.

their followers. Early weeks of the quarter are devoted to analysis of the means of visual expression common to architecture, sculpture, and painting. (3 cr; prereq \*\*\*) Torbert

- 137w. **Art in the United States.** Jefferson and his influence. Rise of a national style in landscape and realistic genre. Homer, Eakins, Ryder, and their influence. Impressionism and relations with Europe after the Civil War. Beginnings of modern architecture. (3 cr; prereq \*\*\*) Torbert
- 138s. **Art in the United States.** Contemporary movements. The Armory Show and development of modern realism, expressionism, and abstraction. Frank Lloyd Wright and modern American architecture. (3 cr; prereq \*\*\*) Torbert
- 140f. **Scandinavian Architecture.** Main emphasis will be on the development of the native tradition in architecture from the medieval stave churches, through folk architecture, to the modern style. There will also be a survey of important architectural monuments in Scandinavia which are less native in character, but which have contributed to the local development. (3 cr; prereq \*\*) Nelson
- 141w. **Scandinavian Painting.** The course will have three areas of concentration: medieval wall and panel painting; folk painting and tapestry weaving in the 17th, 18th, and 19th centuries; and modern painting. In the last section special attention will be given to Edvard Munch and Norwegian mural painting. (3 cr; prereq \*\*) Nelson
- 142s. **Scandinavian Sculpture and the Minor Arts.** The major part of the course will be devoted to the decorative wood carving from the Viking period to the 19th century, and to the wood sculpture of the Middle Ages. The modern period will be represented chiefly by Carl Milles, Gustav Vigeland, and Kai Nielsen. The section on jewelry and metal will have its concentration in the pre-Christian era, while the present day will be given the most emphasis in the discussion of ceramics and glass. (3 cr; prereq \*\*) Nelson
- 146f. **European and American Architecture: 1775-1850.** Revivalist and progressive movements; neoclassic and neo-Gothic styles; genesis of modern style under rationalism and industrial revolution. Special emphasis on contributions of most important architects of France, England, and United States. (3 cr; prereq 1, \*\*; offered 1961-62 and alt yrs) Tselos
- 147w. **European and American Architecture: 1850-1900.** Victorian Gothic eclecticism, and rise of modern pragmatism in architecture within historical and antihistorical currents; influence of Victorian Gothic and French academism on American architecture and the divergent reactions. (3 cr; prereq ++; offered 1961-62 and alt yrs) Tselos
- 148s. **Modern Architecture: 1900-1950.** Rise of protomodern architecture in European and American centers; development of the new international style in its various phases; its relation to modern sculpture and painting and its meaning in the new aesthetic directions. (3 cr; prereq ++; offered 1961-62 and alt yrs) Tselos
- 156f-157w-158s. **European and American Painting: 1775-1900.** Neoclassicism and neobaroque romanticism; modern realism in France, England, and the United States; landscape painting and its importance for the realist movement. Realist painting in Courbet's time and its climax in impressionism; postimpressionist reactions and their significance for modern art; diffusion of impressionist and postimpressionist phases in America and the conservative lag in pre-Raphaelite England. (3 cr per qtr; prereq sr, ++; offered 1962-63 and alt yrs) Eitner
- 166f. **The Renaissance Tradition in Sculpture.** Rapid survey of the sculptural background from the 15th to the mid-18th centuries; neoclassic movement in Europe and America; academic and realistic currents culminating in the impressionistic realism of Rodin. (3 cr; prereq sr, ++; offered 1961-62 and alt yrs) Tselos
- 167w. **The Origins of Modern Sculpture.** Rodin, Maillol, and the streams of classicism and romantic realism. Painters as sculptors. German expressionism; the direction toward the archaic, primitive, and medieval. Impact of abstract painting. (3 cr; prereq sr, ++; offered 1961-62 and alt yrs) Tselos
- 168s. **Contemporary Sculpture.** Constructivism and experimentation with new materials. Kinetic sculpture. Growing influence of the United States. New directions in English and Italian sculpture. Problems of realism and abstraction at the mid-century. (3 cr; prereq sr, ++; offered 1961-62 and alt yrs) Tselos
- 176f-177w-178s. **Twentieth-Century European and American Painting.** Growth of modern painting and of the postimpressionist inheritance; French Fauves and German expressionists; impact of primitive art and its assimilation in cubism; purist defections and rise of Dada and surrealism; the new objectivity, the new romanticism, and the new eclecticism; special atten-

\*\*\* Prerequisite is 9 credits in history of art, or 9 credits in literature or history with consent of department.

++ Prerequisite is Art 1 or 50 and 9 credits in history of art, or 9 credits in history or literature with consent of instructor.

- tion will be given to peculiarly American assimilation of the European phases of painting. (3 cr per qtr; prereq sr, ††; offered 1961-62 and alt yrs) Eitner, Tselos
- 186s. **The Art of the Film.** Aesthetics of the film medium. Evaluation and analysis of the motion picture as an art form. Discussions of editing, montage, sound, and the use of the camera, etc. Course will be illustrated with feature-length films and short subjects. (3 cr; prereq 87 or Δ) Amberg
- 196f-197w-198s. **Readings in Art History and Criticism.** (3 cr per qtr; prereq sr, Δ) Eitner, Simon, Thomas, Torbert, Tselos, Waldfoegel

### For Graduate Students Only

- 206-207-208.† Seminar: European and American Architecture
- 216-217-218.† Seminar: European and American Painting
- 236-237-238.† Seminar: Problems in Art History and Criticism

## Studio

### Lower Division Courses

- 10f,w,s. **Photography.** Introduction to the photographic medium, its background and meaning today. Lectures in contemporary and historical use of photography. Problems in the use of the camera, printing, and enlarging. (3 cr) Downs, Liebling
- 11w,s. **Photography.** For students who have had previous instruction in photography or have worked in photography and know the principles of developing and printing. Develops a personal photographic perception in the student through lectures on photographic history and contemporary trends in photography. Intensive field work. (3 cr; enrollment limited; prereq 10 or practical experience and Δ) Downs, Liebling
- 12s. **Photography.** History and criticism. Its use in illustration, printing, advertising, and its relationship to film and television. Field project in creative photography. (3 cr; prereq 11 or Δ) Downs, Liebling
- 20f,w,s. **Elements of Drawing.** Elementary course introducing basic problems in drawing. No previous experience required. Work in various drawing mediums. Subject matter: still life, figure, landscape, and nature study. (2 cr) Quirt
- 23f-24w-25s. **Drawing and Design I.** Foundation sequence for future work in the Art Department. Investigation through discussion and studio work of the characteristics and principles common to all visual arts.
- 23f. **Drawing and Design I.** Experience in handling the tools and materials of drawing. Source material in nature, and problems in descriptive and imaginative drawing. Investigation of design principles through drawing and elementary perspective. (3 cr; prereq 1 or †1) Downs, Rollins
- 24w. **Drawing and Design I.** Introduction to the basic tools of the artist, the elements and principles of design. Line, shape, texture, value, and color are considered separately and as they relate to one another. (3 cr; prereq 23) Downs, Rollins
- 25s. **Drawing and Design I.** Development of the work in Art 24 with primary emphasis on the means of organization, through projects in such areas as: illustration, graphic design, photography, and certain printing processes. (3 cr; prereq 24) Downs, Rollins
- 23Af. **Drawing and Painting I.** (For architects only) (2 cr) Quirt, Rollins
- 24Aw. **Drawing and Painting I.** (For architects only) (2 cr; prereq 23A) Quirt, Rollins
- 25As. **Drawing and Painting I.** (For architects only) (2 cr; prereq 24A) Quirt, Rollins
- 32f,w,s. **Elements of Printmaking.** Foundation course designed to familiarize the student with the mediums of printmaking in general. Problems in engraving, etching, and other techniques employed in working on metal plate, as well as lithography, woodcuts, and combined processes. (3 cr) Myers
- 33f,w,s. **Printmaking.** A beginning course introducing the various techniques of etching, engraving employed in working on metal plate. Woodcuts and lithography are included, and lectures and demonstrations are given. (3 cr; prereq 32) Myers

†† Prerequisite is Art 1 or 50 and 9 credits in history of art, or 9 credits in history or literature with consent of instructor.

- 40f,w. Sculpture I.** Beginning course. Intensive study of structure in nature with emphasis on accurate observation. Life drawing prepares the student for each sculpture problem. The sculpture medium is clay. Some instruction in plaster casting. (3 cr; prereq 1 or ¶1) Rood
- 41w,s. Sculpture I.** Integrates basic principles examined in Art 40. Natural form is studied for sculptural possibilities. A more imaginative approach to the study of nature is encouraged. In addition to clay, direct plaster construction is the principal medium. Drawing from life precedes each problem. (3 cr; prereq 40) Rood
- 42f,s. Sculpture I: Design Workshop.** Free exploration of wood, metal, and ceramics. Emphasis is placed on abstract application of structural principles. Fundamental hand and machine tools are introduced. (3 cr; prereq 1) Rood
- 43w. Design Workshop.** Problems of three-dimensional space organization, ranging from jewelry to display presentations. Emphasis is upon design principles and metal processes and techniques. (3 cr; prereq 42)
- 44s. Design Workshop.** Special problems in three-dimensional design. Advanced projects, such as display, furniture, together with historical, functional, and market aspects of product design. (3 cr; prereq 43)
- 45f,w,s. Ceramic Processes.** Introduction to building pottery by hand and forming on the potter's wheel. Experiments with decorative techniques on wet clay and on bisque fired pottery. Primarily concerned with pottery as a creative expression but includes technical considerations of clays, glazes, and kilns. (3 cr) MacKenzie

### Upper Division Courses

- 51f,w,s. Principles of Pictorial Design.** The stages of observing objectively the plastic qualities and abstract relationships which make painting significant as an art. Investigation of the ways in which painters of various periods have organized their materials to meet their individual purposes. In conjunction with this, individual creative efforts are developed in simple mediums. (2 cr; prereq 25)
- 52f-53f,w,s. Drawing II.** Drawing from model, still life, and nature. Principles of anatomy. (3 cr per qtr; prereq 25 or equiv, with Δ) Rollins
- 54s-55f. Life Drawing.** (Continuation of 52-53) Places particular emphasis on drawing from the model. Related studies of past and contemporary drawing and painting employing the human figure. (3 cr per qtr; prereq 52 or equiv, with Δ) Rollins
- 60w-61s. Composition.** Progressive exercises in interpretive drawing, stressing representation, space, movement, abstract relationships, and expression. Introduction to color. (3 cr per qtr; prereq 54 or equiv, with Δ)
- 60A-61A-62Af,w,s. Drawing and Painting II.** (For architects) (2 cr per qtr; prereq 25A)
- 60B-61B-62Bf,w,s. Water Color.** Introduction to transparent water color, gouache, casein, and tempera. General course introducing the student to a variety of drawing and painting mediums. Figure, still life, landscape, and abstract design. (2 cr per qtr; prereq 20 or 23 or equiv, with Δ) Rollins
- 63f. Drawing, Painting, and Design.** Introduces the student to the tools and materials and the basic problems of drawing, painting, and design. Studio work, discussion, and lecture. (3 cr; not open to art or art education majors...see suggested minor sequences)
- 64w. Sculpture and Three-Dimensional Design.** Introduces the student to the tools and materials and the basic problems of sculpture and three-dimensional design. Studio work, discussion, and lecture. (5 cr; not open to art or art education majors...see suggested minor sequences)
- 65w,s. Commercial Design.** Problems in design and drawing emphasizing the application of design principles to commercial art situations. (3 cr; not open to art or art education majors...see suggested minor sequences)
- 69w,s. Lettering.** Introduction to lettering: formation of letters, spacing, composition of the lettered page, and procedures related to reproduction lettering. (3 cr; prereq 25)
- 70-71-72f,w,s. Oil Painting.** Introduction to medium of oil; individual projects and instruction. (3 cr per qtr; prereq 54) Quirt, Rollins
- 70B-71B-72Bf,w,s. Oil Painting.** (For general students) (2 cr per qtr, \$70-71-72 [no cr for art majors]; prereq 20 or 23 or equiv, with Δ) Quirt
- 73f-74w-75s. Presentation Techniques.** The visual means of communicating ideas in the fields of exhibition techniques, illustration, and advertising. Investigation of the characteristics and the creative use of various mediums.
- 73f. Presentation Techniques.** Experiments and instruction in the use of wash techniques, water-color, gouache, inks, and the use of mechanical instruments. Presentation prob-

- lems using the medium's limitations as a starting point. (3 cr; prereq 25 [no prereq for architects])
- 74w. Presentation Techniques.** Experiments and instruction in the use of photomechanical and related print processes, mechanical patterns, air-brush, scratch board, and photostat. Elementary problems in relationship between organizational means and content. (3 cr; prereq 25 [no prereq for architects])
- 75s. Presentation Techniques.** Practice in the use of associative relationships and symbols in complete communication problems in the fields of display illustration and advertising. (3 cr; prereq 73 or 74, both recommended)
- 80-81-82f,w.s. Sculpture II.** Direct carving in stone and wood with attention given to possibilities of materials and sculptural design. Experimental work in metal, plastics, and combinations of sculptural materials. Some direct modeling in plaster. (3 cr per qtr; prereq 42 or equiv) Rood
- 80Af-81Aw-82As. Metal Sculpture**
- 80Af. Direct Metal Sculpture and Constructions.** Work with direct metal sculpture, constructions, and mobiles, with attention given to sculptural form. (3 cr; prereq 42 or  $\Delta$ ) Morton
- 81Aw. Metal Sculpture in Relief and Repoussé.** Construction and repoussé methods of sculpture. Problems of sculptural expression and space organization in relation to interiors and architecture. (3 cr; prereq 80A)
- 82As. Bronze Casting and Wax Modeling.** Aesthetic and technical problems of modeling in clay and wax with reference to bronze metal forms and the technical problems of lost-wax casting are introduced. (3 cr; prereq 81A)
- 83f-84w-85s. Photography II.** Gives advanced students an opportunity to carry out creative problems in color development and printing. Experiments in photographic controls to illustrate limitations and capacities. Use of photography to interpret the visual environment, and the photographer's responsibilities in this use. (3 cr per qtr; prereq 12 or Jour 12 or  $\Delta$ ; offered when feasible) Downs, Liebling
- 90-91-92f,w.s. Printmaking.** Problems in engraving, etching, and the other techniques employed in working on metal plate, as well as lithography, woodcuts, and combined processes. (3 cr per qtr; prereq 32 or  $\Delta$ ) Myers
- 94-95f,w.s. Ceramic Design.** (Continuation of 45) Greater emphasis on wheel throwing. Advanced design problems and an introduction to glaze and clay experimentation. Emphasis on the development of personal expression in ceramic medium. (3 cr per qtr; prereq 45 or  $\Delta$ ) MacKenzie
- 113f,w.s. Design in Jewelry.** Introduction to the problems of design as applied to jewelry. Basic techniques of soldering, forming, forging are taught. Lectures correlate the contemporary craft movement with modern art. (3 cr; prereq 25 and  $\Delta$ )
- 114f,w.s. Advanced Design in Jewelry.** More complex problems of three-dimensional design are introduced and additional metal techniques are utilized; engraving, chasing, and repoussé. Exercises in drawing and rendering form the basis for experimental work in metal. (3 cr; prereq 113)
- 115f,w.s. Special Problems in Jewelry Design.** Special projects in jewelry and metal are assigned to students as means of developing skill in design. A wide range of problems give art education students a background for setting up or carrying on an adequate high school teaching program. (3 cr; prereq 114)
- 120-121-122f,w.s. Advanced Drawing.** (Primarily for painting majors) Drawing in all mediums from life and from imagination. Studies of the history of drawing. (3 cr per qtr; prereq 54 or equiv, ¶70-71-72) Staff
- 123f-124w-125s. Film Workshop.** Practical study of the motion picture as an art form. Studio problems in script preparation, camera technique, and editing, with an emphasis on the visual aspects of film making. Analysis of selected professional films and visits to local studios. In winter and spring quarters, a concentration on production, editing, and technical problems through the making of a short film. Production will be limited to descriptive and experimental work. (3 cr per qtr; prereq art or humanities or music or theater major and  $\Delta$ ) Downs
- 143f-144w-145s. Design in Industry.** Analysis of products designed for industrial production; historical survey of design in industry; practical workshop problems. Effects of industrial processes and production techniques on concepts of design in contemporary society; relationship between design, function, and manufacturing processes. Leads to a final experimental problem. (3 cr per qtr; prereq  $\Delta$ )
- 150-151-152f,w.s. Problems in Painting.** (Cr ar; prereq 72 and  $\Delta$ ) Quirt



- 150B-151B-152Bf,w,s. Problems in Painting.** (For general students) (2 cr [elective cr for studio majors]; prereq 72B) Quirt
- 180-181-182f,w,s. Problems in Sculpture.** Advanced work in wood, stone, plaster, metal, and other materials of sculpture. Students work individually on projects. (Cr ar; prereq 82, 82A or  $\Delta$ ) Rood
- 190-191-192f,w,s. Problems in Printmaking.** (For advanced students) Includes work in black and white and color in metal, lithographs, and wood blocks. (Cr ar; prereq 92 or  $\Delta$ ) Myers
- 193f-194w-195s. Advanced Problems in Design.** Offers the advanced student an opportunity to carry out a creative problem in design with guidance in practice and research methods. Discussions concerned with common denominators of art as they occur in commercial art, illustration, display, and museum techniques, industrial design, and also aesthetic, economic, and social implications of design. (Cr ar up to 9; prereq 9 Upper Division cr in design and consent of major adviser)

### *For Graduate Students Only*

- 200-201-202. Advanced Problems in Studio Work**
- 250-251-252.† Thesis Seminar**

## ASTRONOMY (Ast)

FACULTY—Willem J. Luyten, *chairman*.

**Major Adviser in SLA—Professor Luyten.**

**Major Sequence in SLA—Ast 51-52-53, 101, and Math 53, 54, 55 and 59.**

Prerequisites: Math T-10, or Math T and at least 5 credits in chemistry, geology, or physics.

Modifications of this sequence will be permitted upon petition approved by the major adviser and the assistant dean for the Upper Division.

For those who do not intend to pursue further studies in astronomy, either as a major or as a minor, the following two courses are recommended: Ast 11 for those who merely wish to become acquainted with the field, and who do not intend to go on in any other science; Ast 51 for those who, while not continuing in astronomy, are intending to take up some other field of science.

### *Lower Division Courses*

- 11f,s. Descriptive Astronomy.** Brief survey of what is known about the sun, the moon, the planets and their motions, followed by a description of the constellations and a summary of our knowledge of the stellar universe to which the sun belongs. This course is completely non-mathematical. (5 cr, §51) Luyten

### *Upper Division Courses*

Upper Division courses in this department are open to Lower Division students only by special permission of the Scholastic Committee. See a statement on the first page of Section II.

- 51w. General Astronomy.** An outline of our knowledge of the planetary system and its motions, including those of the earth and the moon. (3 cr, §11; prereq Math T) Danby
- 52w. Astrophysics.** (4 cr; prereq Math 53 and Phys 50 [or Phys 9] with §) Danby
- 53s. Stellar Astronomy.** (3 cr; prereq Math 53 and Ast 11 or Phys 9) Danby
- 104f-105w-106s. Celestial Mechanics.** 104: The two-body problem. Computation of an ephemeris. Determination of an orbit from observations. 105: Numerical methods for the computation of perturbations. Lagrange solutions to the three-body problem. External potential of the earth. Precession and nutation. Libration of the moon. 106: Hamilton-Jacobi theory. General perturbations. Motion of a satellite in the field of an oblate planet. Theory of the motion of the moon. (3 cr per qtr; prereq Math 59)

**BIOLOGY**

See Botany or Zoology

**BIOSTATISTICS**

See Public Health

**BOTANY (Bot)**

FACULTY—Gerald B. Ownbey, *chairman*; Ernst C. Abbe, Allan H. Brown, Orville Dahl, Albert W. Frenkel, John W. Hall, Agnes Hansen, Donald B. Lawrence, William E. Martin, Thomas Morley, Richard E. Norris, Kenneth R. Skjeggstad.

**Major Advisers in SLA**—Professor Hall; Miss Hansen

**Major Sequence in SLA**—

1. Prerequisites: Biol 1-2 or 61-62 (or old NSci 7-8-9) or old Bot 1-2-3 (or old 4-5su) and old Zool 1-2-3 (or old 14-15).
2. One course from each of 5 of the following 6 groups:
  - Group A (ecology)—Bot 50 or 130 or 135su
  - Group B (physiology)—Bot 51 or 140
  - Group C (taxonomy)—Bot 52 or 116su
  - Group D (anatomy or cytology)—Bot 53 or 118 or 121
  - Group E (plant kingdom)—Bot 54 or 104
  - Group F (genetics)—Agro 30 or Zool 83
3. Two quarters of inorganic chemistry, e.g., InCh 4, 5; 2 quarters of organic chemistry (OrCh 41-42 or 61-62); Math 40 (or preferably 53); German through Ger 3.
4. One course in biological science at the Lake Itasca Forestry and Biological Station, or similar field biological station.

Modifications of this sequence will be permitted upon petition approved by the major adviser and the assistant dean for the Upper Division.

Recommended electives: Bot 10, 12, 14; PIPa 56; Mich 112; Phys 1, 2, 3, and 1A, 2A, 3A or 4, 5, 6 or 7, 8, 9; French through Fren 3; PubH 110, 111; Zool 82; Mich 53; Geol 1, 2 and A, B.

**Major Adviser in the College of Education**—Professor Morley

For the specialized curriculum in natural science see the *Bulletin of the College of Education*.

**General Education**—The following courses in biology and botany, recommended for their broad educational values, are available to nonmajor students: Biol 1-2; and 1A-2A; Bot 10, 12, 14.

*Lower Division Courses*

**Biol 1f,w,s-2f,w,s.† General Biology.** Introduction to living things both plant and animal, and to the major biological concepts. Structure, function, classification, and evolution of organisms. (10 cr, §Bot 1-2-3, 4-5, Zool 1-2-3 or old 14-15, old NSci 7-8-9)

**Biol 1Af,w,s-2Af,w,s.† General Biology.** Introduction to living things and the major biological concepts. A terminal course primarily for nonmajors and students not pursuing a pre-professional program related to the biological sciences. (7 cr, §Bot 1-2-3, 4-5, Zool 1-2-3 or old 14-15, old NSci 7-8-9)

- 10s.\*\* **Minnesota Plant Life.** Nontechnical survey of all the groups of plants native to Minnesota with special reference to identification and distribution. Suitable for nonmajors. (3 cr) Morley
- 12w.\*\* **Plants Useful to Man.** Survey of the world's useful plants and plant products, their sources, characteristics, and uses. Demonstration of material. Plants and man: the origin and history of cultivated plants. Suitable for nonmajors. (4 cr) Lawrence
- 14f.\*\* **Plant Life Through the Ages.** Survey of the fossil plant record. Identification of fossil plants; factors influencing distribution and change in fossil floras; composition of fossil floras. Suitable for nonmajors. (3 cr; offered when feasible) Hall

### *Upper Division Courses*

Bot 50, 51, 52, 53, 54 are open to sophomores who have an average grade of at least C in Bot 1-2-3 or 4-5 or in Biol 1-2 or old NSci 7-8-9. Other Upper Division courses in this department are open to Lower Division students only by special permission of the Scholastic Committee. See a statement on the first page of Section II.

- 50f. **General Plant Ecology.** Introduction to interrelations of plants and environment, to provide a foundation for further ecological work in pure or applied fields and to provide a basis for understanding the relationships of man to biotic resources. (3 cr, §130; prereq 3 or 5 or Biol 2 or old NSci 9) Lawrence
- 50Af. **General Plant Ecology Laboratory.** Laboratory and field exercises to accompany Bot 50. (2 cr, §130A; prereq 10 cr in botany or biology or #) Martin
- 51s. **General Plant Physiology.** Introduction to plant physiology. Emphasis on fundamental principles requisite to understanding physiological phenomena encountered in higher land plants. Cellular physiology, enzymes, respiration, fermentation, photosynthesis, mineral nutrition, water and solute metabolism, hormones, tropisms. (5 cr; prereq introductory course in botany or biology, InCh 5 or 25 or #) Frenkel
- 52f,s. **Elementary Taxonomy.** Introduction to taxonomy of ferns and flowering plants, with representative material drawn largely from Minnesota spring flora. Families of plants and their relationships; floral structure; taxonomic terms; nomenclature; literature; methods of collection and identification; 2 or 3 field trips. (3 cr; prereq 3 or 5 or Biol 2 or old NSci 9) Morley
- 53w. **Plant Anatomy.** Structure and development of plants with especial reference to vascular plants. (5 cr, §121; prereq 2 or 5 or Biol 3 or old NSci 9) Abbe or Hall, and Hansen
- 54s. **Survey of the Plant Kingdom.** Brief consideration of evolutionary relationships throughout the plant kingdom, especially as illustrated by life histories. (5 cr, §104; prereq 3 or 5 or Biol 2 or old NSci 9) Abbe
- PIPa 56f. **Introduction to the Study of Fungi.** Structure, development, and identification of fungi, especially those of economic importance. (3 cr; prereq 9 cr in botany or #)
- 103f. **Plant Embryology.** Early stages of somatic development with emphasis on vascular plants. (3 cr; prereq 54 or 104 or #; offered when feasible) Abbe
- 104s. **Survey of the Plant Kingdom.** A brief consideration of evolutionary relationships throughout the plant kingdom, especially as illustrated by life histories. (5 cr, §54; prereq 3 or 5 or Biol 2 or old NSci 9) Abbe
- 106w. **A Survey of Angiosperm Families.** Detailed study of the characteristics of the orders and families of flowering plants on a world-wide basis. (5 cr; prereq 52 or #; offered 1962-63 and alt yrs) Morley
- 108f. **Pteridophytes.** Classification of living ferns and fern allies with special attention to temperate North America; terminology; keys; geographic distribution; distinguishing characters of families, genera, and species. (3 cr; prereq 52 or #; offered 1961-62 and alt yrs) Ownbey
- 110f. **Gymnosperms.** Survey of the taxonomy and phylogeny of the gymnosperms with special emphasis on living representatives. (3 cr; prereq 52 or #; offered 1962-63 and alt yrs) Ownbey
- Micb 112w. **General Mycology.** (3 cr; prereq Micb 53 or #) Bradley
- 112su. **Aquatic Flowering Plants.** (4 cr; prereq 10 cr in botany, zoology, or #; offered only at Itasca Forestry and Biological Station)

\*\* This course does not satisfy any part of the laboratory science requirement of SLA.

- 114w. **Principles of Angiosperm Phylogeny.** Evolutionary relationships and the various means of judging them within the angiosperms. Laboratory investigation of representative and critical groups. (3 cr; prereq 52 or #; offered 1961-62 and alt yrs) Morley
- 115f. **Flora of Minnesota.** The vascular plants of the state; taxonomic and floristic relationships; geographical distribution and variation; speciation; collecting and identification; field trips. (4 cr; prereq 52 or #) Ownbey
- 116su. **Summer Flora of Minnesota.** (Offered only at Itasca Forestry and Biological Station) (2-4 cr; prereq 10 cr in botany or zoology or #)
- 118f. **General Cytology.** Introductory analysis of structure and related functions of intact cells and protoplasmic systems. The nature of cytoplasm, nuclei, and cell walls. Relationship of cytological data to life cycles, cytogenetics, cytotaxonomy, and cytochemistry. (5 cr; prereq 10 cr in biology, botany, or zoology, elementary genetics or #) Dahl
- 119w. **Experimental Cytology.** Experimental analysis of suitable, specialized phases of cytological materials. Application of phase contrast and electron microscopy, together with other specialized methods, to analyses of cells *in vivo* and *in vitro*. The use of tissue culture methods in cytology. (5 cr; prereq 118 or Zool 161; offered 1962-63 and alt yrs) Dahl
- 120s. **Research Methods in Cytology.** Principles and practice in preparing materials for cytological investigation; methods of investigating such preparations and presenting the results. (3-5 cr; prereq 3 or 5 or Biol 2 or old NSci 9, 118 or 119, and #; offered 1962-63 and alt yrs) Dahl, Hansen
- 121w. **Plant Anatomy.** Microscopic structure of vascular plants with particular attention to development in the root, stem, and leaf. (5 cr, §53; prereq 10 cr in botany or zoology) Abbe or Hall, and Hansen
- 125f. **Morphogenesis.** Consideration of the development of form and structure in ontogeny and phylogeny, with especial attention to the phenomena and genetical factors involved. (5 cr; prereq 10 cr in botany or biology; offered 1961-62 and alt yrs) Abbe
- 127f. **Morphology of Vascular Plants.** Vegetative and reproductive structure of living and fossil vascular plants. Their evolutionary relationships based on phylogenetic principles. (5 cr; prereq 54 or 104 or #; offered 1962-63 and alt yrs) Abbe, Hall
- 128s. **Introduction to Paleobotany.** Identification and structure of fossil plants. Emphasis on stratigraphic correlation of plant remains and on the relationship of fossil plants to modern groups. (3 cr; prereq #) Hall
- 130f. **General Plant Ecology.** Introduction to interrelations of plants and environment, to provide a foundation for further ecological work in pure or applied fields, and to provide a basis for understanding the relationships of man to biotic resources. (3 cr, §50; prereq sr, 10 cr in botany or biology) Lawrence, Martin
- 130Afs. **General Plant Ecology Laboratory.** Laboratory and field exercises to accompany Bot 130. (2 cr, §50A; prereq 10 cr in botany or biology or #) Martin
- 133w. **Phytogeography.** Ecological principles of plant distribution and landscape analysis, vegetation regions of North America, interpretation of regional vegetation patterns. (3 or 5 cr; prereq 50 or 130 or #) Martin
- 135su. **Ecology of the Itasca Region.** (4 cr; offered only at Itasca Forestry and Biological Station; prereq 50 or 130 or For 4)
- 136su. **Organism, Microclimate, and Weather.** (Offered when feasible, only at Itasca Forestry and Biological Station) (4 cr; prereq 10 cr in biology, botany, or zoology...physics recommended)
- 137s. **Advanced Ecology.** Research methods in descriptive, experimental, and analytical ecology—vegetation sampling, mapping, presentation and interpretation of data, experimental design and co-ordination, measurement of environmental factors, etc. (5 cr; prereq 50 and 50A or 130 and 130A, and #) Lawrence, Martin
- 140s. **Advanced Survey of Plant Physiology.** Advanced study of major topics in plant physiology. Cell physiology including membrane phenomena, enzyme catalysis, respiration, fermentation, and photosynthesis; mineral nutrition; water metabolism; translocation of solutes; growth; hormones; tropisms. (3 or 5 cr [students registering for 5 cr will take lab work in the use of modern methods and apparatus for physiological research]; students who have had 51 should not enroll in 140; prereq elementary course in botany, zoology, or biology, or #, and a course in organic chemistry or biochemistry) Brown
- 150f. **Phycology I.** Reproduction, anatomy, and phylogeny of the algae including the Green algae, Euglenophyta, Chrysophyta, and Dinoflagellates. (5 cr; prereq 10 cr in botany or biology or #; offered 1962-63 and alt yrs) Norris
- 151f. **Phycology II.** Reproduction, anatomy, and phylogeny of the algae including the Brown algae, Red algae, and Blue-green algae. (5 cr; prereq 10 cr in botany or biology or #; offered 1961-62 and alt yrs) Norris

154. **Spectroscopy and Photochemistry Applied to Biology.** (3-5 cr; offered when feasible)
- 155s,su. **Fresh-Water Algae.** Morphology and taxonomy of fresh-water algae; collection and identification of local algae. (4 cr; prereq 10 cr in biology or #; in summer offered only at Itasca Forestry and Biological Station)
- 157su. **Bryophytes and Pteridophytes.** (4 cr; prereq 10 cr in biology or #; offered only at Itasca Forestry and Biological Station)
- 165w. **Introduction to Pollen Analysis.** Ontogeny, comparative morphology, and identification of pollen grains; preparation of reference collections, applications of pollen analysis to allergy, ecology, and phylogeny; practice in atmospheric analysis. (3 cr; prereq #; offered 1961-62 and alt yrs) Dahl
- 166s. **Introduction to Palynological Analysis.** The application of techniques of pollen-spore investigations to research analyses of atmosphere, recent and ancient deposits, systematic materials, allergology, etc. (5 cr; prereq 165 or Zool 161 or #; offered 1961-62 and alt yrs) Dahl
- 177w. **Photosynthesis.** Detailed survey of the present state of knowledge of photosynthesis. (3 cr; prereq #) Brown, Frenkel
- 182f. **Advanced Topics in Plant Physiology.** A detailed consideration of special areas of research interest. (3 cr; prereq 51 or 140 or #) Brown, Frenkel
- 185w. **Physiology of Photosynthetic Microorganisms.** Primarily a laboratory course dealing with the application of spectrophotometry, manometry, and other techniques toward the elucidation of the physiological behavior, chemical makeup, and intermediary metabolism of algae and photosynthetic bacteria. Suitable as a laboratory course accompanying Bot 177. (3-5 cr; prereq #; offered 1962-63 and alt yrs) Frenkel
- 197f, 198w, 199s. **Problems.** Advanced work in a specialized field. (1-5 cr per qtr; prereq 20 cr in natural science and #)

### *For Graduate Students Only*

- 201, 202, 203. **Research Problems in the Morphology of Vascular Plants**
- 205, 206, 207. **Research Problems in Taxonomy and Floristic Plant Geography**
- 209, 210, 211. **Research Problems in Paleobotany**
- 221, 222, 223. **Research Problems in Ecology**
- 225, 226, 227. **Research Problems in Plant Physiology**
- 229, 230, 231. **Research Problems in Cytology**
- 233, 234, 235. **Research Problems in Phycology**
- 240, 241, 242. **Seminar in Morphology**
- 243, 244, 245. **Seminar in Taxonomy**
- 246, 247, 248. **Seminar in Paleobotany**
- 249, 250, 251. **Seminar in Ecology**
- 252, 253, 254. **Seminar in Plant Physiology**
- Agro 252. **Cytogenetics**
- 255, 256, 257. **Seminar in Cytology**
- 258, 259, 260. **Seminar in Cryptogamic Plants**

## **Plant Pathology and Botany, Agronomy and Plant Genetics**

(College of Agriculture, Forestry, and Home Economics)

The following courses regularly carry credit in SLA without petition:

- Agro 30, Genetics
- PIPa 56, Study of Fungi

SLA students may elect other courses in plant pathology and botany and in agronomy and plant genetics by arrangement with the departments concerned. See the *Bulletin of the College of Agriculture, Forestry, and Home Economics*.

**BUSINESS ADMINISTRATION (BA)**

(School of Business Administration)

Chairman—A. K. Wickesberg

The following courses in business administration are open to students in SLA as electives without special petition. There is no provision for a major in business administration in the Arts College although a few of the following courses may count toward a major in the Department of Economics. See Economics, page 54.

*Lower Division Courses*

- 1f,s. Business and the American Economy.** Descriptive survey of the American economy with emphasis on the business segment. Functions performed by any economic system and typical businesses; kinds of decisions to be made and examples of information needed for making selected decisions. (3 cr; prereq fr or soph with no previous BA, or social studies majors in education with no previous BA)
- 5f,w,s. Elements of Statistics.** Sources and collection of data; tabular and graphic presentation; frequency distributions; probability; sampling; introduction to statistical estimation and decision-making. (4 cr, §151, §Soc 45; prereq Math 10 or equiv)
- 24f,w,s-25f,w,s-26f,w,s. Principles of Accounting.** Recording, reporting, and interpreting business events. Use of accounting as a tool of business management. (3 cr per qtr, §55A-B; prereq 3rd qtr fr; students who have high school course or experience in bookkeeping may be admitted to 25 by passing placement test normally given first day of each quarter)
- 27s. Accounting Survey.** Special emphasis on accounting for corporations and for income. (5 cr, §24-25, 55A; prereq law and prelaw students [no fr])
- 32f,w,s. Beginning Typewriting.** Correct typewriting techniques; arrangement of typewritten material in basic letter forms, manuscripts, and simple tabulations. (1 cr)
- 33f,w,s. Intermediate Typewriting.** Knowledge and skills in letter arrangement; envelopes; carbons; tabulations; manuscripts; speed building. (1 cr; prereq 32 or 1 yr high school typewriting with speed of 30 words a minute)
- 34f,w,s. Typewriting Procedures.** Machine transcription; operation of electric typewriters and duplicating machines; footnotes, bibliographies, proofreading, manuscripts; legal documents and office forms; tabulations. (2 cr; prereq soph, 33 or 2 yrs high school typewriting with speed of 45 words a minute)
- 36f. Office Procedures.** Editing and revising correspondence; communications; basic indexing and filing problems; intra-office relationships. (3 cr; prereq soph)
- 37f-38w-39s. † Shorthand.** Elementary course in Gregg Shorthand Simplified. A large vocabulary of high-frequency words is developed. Emphasis is placed on transcription of mailable letters. (3 cr per qtr; prereq soph, 33 for 37, 34 or §34 for 39; students who have 1 yr high school shorthand are admitted to 38; students who have 2 yrs high school shorthand are admitted to 39)
- 43f. Shorthand Theory.** Gregg shorthand principles. Techniques of dictating and blackboard writing. For majors in business education. (2 cr; prereq soph, 34, 39 and §)

*Upper Division Courses*

- 50f,w,s. Production Management.** The techniques, the managerial problems, and the decision-making processes in planning and controlling the production activity. Production as a function of the enterprise rather than as a strictly manufacturing activity. Research and development, the role of standards, physical facilities, systems and procedures analysis, work measurement, materials control, quality control, and production planning and control. (3 cr, §150; prereq Econ 2 or equiv)
- 51f,w,s. Business Statistics.** Basic concepts of regression and correlation; statistical estimation and decision-making, applications to survey sampling, acceptance sampling and statistical quality control; time series analysis and index numbers. (3 cr, §161; prereq soph with §, 5 or equiv)
- 52f,w,s. Modern Industrial Relations: Labor Marketing.** Introduction to current employment relationships; an economic approach and analysis. The application and conservation of human resources in employment, related social and economic problems. Labor marketing, collective bargaining, unions and employer associations, industrial unrest and conflict, employment and unemployment, wage problems. (3 cr, §152; prereq Econ 2 or equiv)

- 53f,w,s. Risk Management and Insurance.** Recognition, measurement, and evaluation of insurable personal, property, and liability risks of economic units. Tools of risk management; assumption, loss prevention, transfer, and others with emphasis on insurance. Design and implementation of the optimum risk management program. Government regulation of insurance. (3 cr, §153; prereq Econ 2 or equiv)
- 54f,w,s. Transportation I: Principles.** Roles, interests, and relationships of users of the service, carriers, and regulatory agencies in the transportation field; national transportation policy approach. Organization of the transportation industry and administration of the transportation function by users of the service in their business activities. Economic aspects of railway, highway, pipeline, water, and air transportation. Current transportation problems; national transportation policy. (3 cr, §154; prereq Econ 2 or equiv)
- 56f,w,s. Corporation Finance.** Principles governing the planning, raising, and control of short- and long-term funds for a business enterprise. Cash-flow, valuation, capital structures, investment banking, dividend policy, mergers, and reorganization. (3 cr, §156; prereq 26)
- 57f,w,s. Principles of Marketing.** Marketing functions and institutions. Channels of distribution. Retail and wholesale trade. Pricing policies and practices. Marketing policies and methods for consumers' goods, producers' goods, and raw materials. (3 cr, §157; prereq Econ 2 or equiv)
- 58f,w,s. Business Law: Contracts.** Law of contracts. Case method. (3 cr, §158; prereq Econ 2 or equiv)
- 79Af-Bw. Administrative Secretarial Studies.** Office situations and problems in the work of an administrative assistant to an executive. Office procedures and secretarial dictation and transcription. (3 cr per qtr; prereq 34, 39)
- 142f,w. Settlement of Industrial Relations Disputes.** The nature of industrial conflict in employment relations; stresses contributing to conflict and dispute situations; public and private approaches to the prevention, reduction, and resolution of conflicts. (3 cr; prereq 52 or 152)
- 187w. Price Policy.** Selected topics on managerial and economic problems concerning market price and price policy. Methods by which goods and services are priced in industrial and consumer markets. Price behavior, administered pricing, price leadership, price lining, and government intervention. (3 cr; prereq 57)
- 191A-B. Statistical Methods in Business Administration.** Tests on nature of population and population characteristics. Normal, t, Chi-square, F distributions. Multiple linear and curvilinear regression and correlation. Other measures and tests of association. Introduction to design and analysis of experiments. Nonparametric estimation and tests. Conditions when a particular statistical method is appropriate, and illustrations of applications of statistical methods in business administration. (3 cr per qtr; prereq grad or §, 51 or 161 or Econ 121A or §...191A for 191B)

## CHEMISTRY

(Institute of Technology)

Chairman—Stuart W. Fenton

Major Advisers in SLA—Chemistry staff.

Major Sequence in SLA—OrCh 61, 62, 63 and 64; AnCh 100, 101, 102; PCh 101-102-103 with appropriate amount of laboratory in PCh 104-105-106.

Prerequisites: InCh 24, 25, 26 or their equivalent; Phys 7-8-9 or their equivalent; mathematics through integral calculus (ITM 25A or Math 54).

In addition to the courses required for the major sequence, SLA students majoring in chemistry are advised to take 8 credits in advanced courses in chemistry, 2 credits of which are to be in laboratory work. These additional courses will enable the student to meet the minimum requirements set for the Bachelor's degree by the American Chemical Society. Two full years of chemistry are required for admission to these courses.

Students majoring in chemistry are advised to arrange their work so that they can take physical chemistry in the junior year and they must take sufficient courses in German to give a reading knowledge of the chemical literature.

A 4-year professional course in chemistry is available in both SLA and IT. As many students find programming a professional course somewhat easier in IT, those interested in chemistry as a major field are advised to consult both SLA and IT bulletins.

Special training, adequate for a career as a technical librarian, is possible in SLA. The program includes a major in chemistry and a minor taken in the Library School.

**Major Adviser in the College of Education**—Professor C. H. Boeck.

For the specialized curriculums in natural science and physical science see the *Bulletin of the College of Education*.

## Analytical Chemistry (AnCh)

### Upper Division Courses

- 57f.s. Quantitative Analysis.** Introductory course covering the general principles and methods of gravimetric and volumetric analysis. Typical problems are assigned and attention is given to proper laboratory practice. (4 cr; primarily for premed students; prereq InCh 11 or 26) Herr
- 96f-97w-98s.† Senior Thesis.** (Cr ar; prereq 4th yr) Kolthoff, Sandell, Meehan, Bruckenstein
- 100f-101w. Quantitative Analysis.** Introductory lecture courses covering the general principles and theoretical foundations of quantitative analysis. 100: Gravimetric analysis. 101: Volumetric analysis. (2 cr for 100, 3 cr for 101; prereq InCh 26 for 100, 100 for 101) Meehan
- 102s. Laboratory in Gravimetric and Volumetric Analysis.** (4 cr; prereq 101) Meehan
- 103s. Quantitative Inorganic Microanalysis.** Representative methods of micro- and semimicro analysis, gravimetric, volumetric, and colorimetric. (3 cr; limited to 16; prereq 100, 101, 102 or 102A) Sandell
- 104f. Qualitative Inorganic Microanalysis.** Use of microscope. Technique of handling small amounts of materials. Inorganic qualitative analysis by means of crystal reactions and modern spot reactions. (3 cr; prereq 100, 101, 102 or 102A) Sandell
- 105w. Polarizing Microscope.** Its use and application to chemistry. Identification of substances. (3 cr; limited to 16; prereq PCh 101) Sandell
- 106f-107w-108s.† General Technical Analysis.** Analysis of commercially important materials such as iron, steel, nonferrous alloys, ores, and glass; use of microscope in technical problems, quantitative analysis of heterogeneous mixtures, particle size determinations. (2 or 3 cr per qtr; prereq 100, 101, 102) Sandell
- 111f. Physico-Chemical Methods of Analysis.** Lecture. Optical and electrochemical methods and methods of separation. (3 cr; prereq 102, PCh 103) Kolthoff and staff
- 112w. Physico-Chemical Methods of Analysis.** Laboratory course. Quantitative application of electrochemical, optical, and other physical techniques. (2 cr; prereq 111) Bruckenstein
- 122s. Advanced Analytical Chemistry.** Condensed review of fundamentals of gravimetric and volumetric analysis. (2 cr; prereq 100, 101, 102) Meehan
- 123f. Analysis of Complex Materials.** Literature study, critical selection and application of fundamentals of analysis to complex materials. (1-3 cr; prereq 112) Kolthoff
- 127f. Optical Methods of Analysis.** Lecture. (2 cr; prereq PCh 103; offered 1961-62 and alt yrs) Meehan
- 131f. Solution Equilibria.** Lecture. Systematic treatment of acid-base and related equilibria. (2 cr; prereq PCh 103) Bruckenstein
- 132w-133s. Electrochemical Methods of Analysis.** Lecture. Potentiometric, coulometric, polarographic, and other electrical methods. (2 cr per qtr; prereq PCh 103) Bruckenstein
- 134w-135s. Electrochemical Methods of Analysis.** Laboratory course. (1-2 cr per qtr; prereq 132 or ¶132 for 134 and 133 or ¶133 for 135) Bruckenstein
- 138s. Advanced Volumetric Analysis.** (3 cr; prereq 131) Kolthoff
- 140w. Water Analysis.** Analysis of potable water with interpretation of results. (2 cr; prereq 100, 101, 102) Sandell
- 141f-142w-143s.† Seminar: Modern Problems in Analytical Chemistry.** (1 cr per qtr; prereq 100, 101, 102 or 102A and PCh 103) Kolthoff

### For Graduate Students Only

- 201-202-203.† Selected Topics in Analytical Chemistry**
- 235-236-237.† Research Seminar in Analytical Chemistry**



262. General Survey of Analytical Chemistry  
301-302-303.† Research in Quantitative Analysis

## Inorganic Chemistry (InCh)

### Lower Division Courses

- 4f,w-5w,s.† **General Inorganic Chemistry.** Introduction to chemistry from the standpoint of atomic structure; periodic properties of the elements and compounds derivable from structural considerations; laws governing the behavior of matter, theories of solution, acids, bases, and equilibrium. (5 cr per qtr; prereq course in high school algebra; 3 lect, 1 quiz, 1 rec, and 3 lab hrs per wk) Brasted and staff
- 11f,s. **Semimicro Qualitative Analysis.** Laboratory work in systematic qualitative analysis of cations with lectures on solutions, ionization, chemical and physical equilibriums, oxidation and reduction, etc. (4 cr; prereq 5 or 25; 3 lect and 4 lab hrs per wk) Brasted and staff
- 24f,w-25w,s.†-26f,s. **Introduction to Chemical Principles.** Lectures deal primarily with the basic theories of chemistry: atomic structure, kinetic theory, chemical stoichiometry, the chemical bond, oxidation-reduction, solution theory, chemical equilibrium. Examples are drawn from all fields of chemistry. Much of the laboratory program involves qualitative analysis, including cation and anion analysis. (5 cr per qtr; for students whose major is chemistry or chemical engineering; 3 lect, 1 quiz, 1 rec, and 5 lab hrs per wk) O'Connor and staff
- 25Hw-26Hs. **Honors Course: Introduction to Chemical Principles.** (5 cr per qtr; prereq Δ)

### Upper Division Courses

- 96f-97w-98s.† **Senior Thesis.** (Cr ar; prereq sr) Staff
- 103f. **Atomic Structure and the Properties of Elements Based Thereon.** Systematic treatment of the nature of atomic and molecular electronic systems and the properties of various elements, including the transition elements. (3 cr; prereq PCh 103; 3 lect hrs per wk) Reynolds
- 104w. **Chemistry of the More Representative Elements.** Detailed discussion of the preparation, reactions, and chemical properties of the regular group elements and their compounds. (3 cr; prereq 103 or ‡; 3 lect hrs per wk) Brasted
- 107s. **Oxidation-Reduction Systematics.** Discussion of the application of tabulated thermodynamic data, including potential diagrams, to the prediction of chemical reactions. (3 cr; prereq PCh 101; 3 lect hrs per wk; offered 1961-62 and alt yrs) Hugus
- 111f. **Silicon and Related Elements.** Review of current studies of silicon, germanium, tin and lead, with emphasis on recent silicon chemistry. (3 cr; prereq OrCh 62; 3 lect hrs per wk; offered 1961-62 and alt yrs) Johnson
- 112f. **Radioactivity and Nuclear Chemistry.** Properties of nuclei, disintegration, properties of radiation; natural and artificial radioactivity; modern views of nuclear structure. (3 cr; prereq PCh 103; 3 lect hrs per wk; offered 1962-63 and alt yrs) O'Connor
- 113w. **Mechanisms of Inorganic Reactions.** A discussion of the prevalent ideas concerning the mechanisms of inorganic oxidation-reduction and substitution reactions. (3 cr; prereq PCh 103; 3 lect hrs per wk; offered 1961-62 and alt yrs) Reynolds
- 122s. **Advanced Inorganic Chemistry Laboratory.** Measurements of the equilibria and kinetics of selected inorganic reactions, and advanced synthetic methods. (2 cr; prereq AnCh 100, 101, 102 or 102A and PCh 103) Hugus, Reynolds, Britton
- 134f-135w-136s.† **Seminar: Modern Problems in Inorganic Chemistry.** (1 cr per qtr; prereq PCh 103) Staff

### For Graduate Students Only

203. Atomic Structure and the Chemical Bond
204. Advanced Inorganic Chemistry
205. Advanced Inorganic Chemistry
- 211-212-213.† Selected Topics in Inorganic Chemistry
- 220-221-222.† Advanced Inorganic Chemistry Laboratory Methods
260. General Survey of Inorganic Chemistry
- 301-302-303.† Research in Inorganic Chemistry

## Organic Chemistry (OrCh)

*Upper Division Courses*

- 61f,w-62w,s.† **Elementary Organic Chemistry.** (Chem, ChemE, Premed, Prødent, Pharm) Discussion of important classes of organic compounds, both aliphatic and aromatic together with some heterocyclic compounds. Laboratory work includes the preparation of typical substances. (4 cr per qtr; prereq 12-15 cr in chemistry; 3 lect, 1 lab conf, 1 quiz, and 4 lab hrs per wk) Dodson, Koelsch, Kreevoy
- 63f,s. **Elementary Organic Chemistry.** (Continuation of 61-62) Lecture course. (3 cr; prereq 62; 3 lect and 1 quiz hr per wk; this course is prerequisite to all other advanced courses in organic chemistry) Parham, Noland
- 64f,s. **Elementary Organic Chemistry Laboratory.** (3 cr; prereq 63 or ¶63; 6 lab hrs and 1 conf hr per wk; this course is prerequisite to all advanced courses in organic chemistry) Dodson
- 96f-97w-98s.† **Senior Thesis.** (Cr ar; prereq 4th yr) Any staff member of Division of Organic Chemistry
- 101w. **Intermediate Organic Chemistry.** Survey course which considers important modern topics: organic theory, unusual types of aliphatic, aromatic, and heterocyclic compounds. (3 cr; prereq 63, 64 or equiv) Lauer
- 102f. **Organic Qualitative Analysis.** Elementary course. Reactions of typical functional groups and introduction to methods of organic qualitative analysis. (4 cr; prereq 63, 64 or equiv) Fenton
- 130s. **Organic Quantitative Analysis.** Methods of proximate and ultimate analysis of organic compounds, with attention to semimicro methods. (3 cr; prereq 63 and 64, AnCh 100, 101, 102 and §) Lauer
- 139w. **Advanced Organic Chemistry Laboratory Work.** Selected laboratory synthetic problems, which may include original work. Includes considerable individual instruction. (2-5 cr; prereq 64 or equiv; 6-15 hrs lab work ar) Noland
- 142w. **Chemistry of Natural Products.** Including alkaloids, biogenesis. (3 cr; prereq 63 or 64; offered 1961-62 and alt yrs) Leete
- 143s. **Chemistry of Natural Products.** Hormones both steroidal and polypeptide, their isolation, proof of structure, synthesis, and action. (3 cr; prereq 63 and 64) Dodson
- 144w. **Heterocyclic Compounds.** Typical classes of heterocyclic compounds, their chemical and physical properties and uses, synthesis. (3 cr; prereq 63 and 64; offered 1962-63 and alt yrs) Leete

*For Graduate Students Only*

- 201-202-203.† **Organic Chemistry Seminar**
220. Survey
221. Survey
222. Theoretical Organic Chemistry
224. Survey
238. Introduction to Research
- 239-240. Introduction to Research
246. Organic Instrumental Analysis
250. Theoretical Organic Chemistry
261. General Survey of Organic Chemistry
- 301-302-303.† **Research in Organic Chemistry**

## Physical Chemistry (PCh)

*Upper Division Courses*

- 96f-97w-98s.† **Senior Thesis.** (Cr ar; prereq 4th yr )
- 101f-102w-103s. **Physical Chemistry.** General survey of the subject. (4 cr per qtr; prereq 1 yr college chemistry, Phys 9 or ¶Phys 9 with  $\Delta$ , ITM 25A or Math 53) Livingston

- 101Hf-102Hw-103Hs. Physical Chemistry.** (Honors Course) General survey of the subject. (4 cr per qtr; for students with GPA greater than 2.75 in mathematics, physics and chemistry; prereq 1 yr college chemistry, Phys 9 or ¶Phys 9 with  $\Delta$ , ITM 25A or Math 53) Prager
- 104f-105w-106s. Physical Chemistry Laboratory.** (1 or 2 cr per qtr; prereq 101 or ¶101 for 104... 102 or ¶102 for 105...103 or ¶103 for 106) Lipsky
- 107f-108w.† Elementary Physical Chemistry.** Primarily for premed students. (3 cr per qtr; prereq 1 yr college chemistry, 1 yr college physics, Math 40) Lumry
- 109f. Physical Chemistry.** Elementary atomic and molecular structure, wave mechanics, nuclear chemistry, photochemistry. (4 cr; prereq 103) Moscovitz
- 110f. Thermodynamics and Chemistry.** Principles of classical thermodynamics; their application to physical and chemical phenomena. (4 cr; prereq 103 and calculus) Wertz
- 111w. Thermodynamics and Statistical Mechanics.** Application of principles of thermodynamics to chemical phenomena including those occurring in solutions of electrolytes. Introduction to statistical thermodynamics. (4 cr; prereq 110) Wertz
- 117s. Fundamentals of Reaction Kinetics.** Empirical analysis of rate measurements, collision theory, transition state theory, chain reactions. (3 cr; prereq 103) Crawford
- 118f. Introduction to Quantum Theory.** Fundamentals of quantum mechanics and their application to simple physical and chemical problems. (3 cr; prereq 103 and calculus) Moscovitz
- 119w. Introduction to Molecular Structure.** Methods of determining molecular structure with simple applications. Chemical and physical properties in terms of nature of chemical bonds. (3 cr; prereq 103) Moscovitz
- 175s. Photochemistry.** General survey, including discussion of spectroscopy, with particular reference to visible and ultraviolet absorption spectra of molecular gases. (3 cr; prereq 103 and Phys 9; offered 1962-63 and alt yrs) Livingston

### *For Graduate Students Only*

- 204-205-206. Atomistics**
- 212. Statistical Mechanics**
- 214. Kinetics and Mechanism of Enzymic Reactions**
- 221-222-223.† Seminar in Radiation Chemistry**
- 250-251-252.† Physical Chemistry Seminar**
- 253-254-255.† Seminar in Molecular Spectroscopy**
- 256-257-258.† Seminar in Theoretical Chemistry**
- 259-260-261.† Seminar in Chemical Kinetics**
- 263. General Survey of Physical Chemistry**
- 265-266-267.† Seminar in Magnetochemistry**
- 268-269-270.† Seminar in Statistical Mechanics**
- 271-272-273.† Seminar in Physical Chemistry of Biological Systems**
- 274-275-276.† Seminar in Quantum Mechanics**
- 290-291-292.† Selected Topics in Physical Chemistry**
- 301-302-303.† Research in Physical Chemistry**

### **Agricultural Biochemistry**

(College of Agriculture, Forestry, and Home Economics)

Students in SLA may elect courses in agricultural biochemistry by arrangement with the department. See the *Bulletin of the College of Agriculture, Forestry, and Home Economics*.

**CHILD DEVELOPMENT (CD)**

(College of Education)

Director—Harold W. Stevenson

**Major Advisers in SLA**—Professor Templin; Assistant Professors Moore, Palermo, Ruebush, Wright.

**Major Sequence in SLA**—Prerequisites: Psy 1-2, 4-5, Soc 1 or Biol 2. Required courses: CD 80, 81, 85, Psy 70 or Soc 45. A minimum of 24 and a maximum of 30 credits in child development are required for the major. In addition, 9 Upper Division credits in one of the following fields as approved by the student's adviser is required for the major: anthropology, linguistics, psychology, sociology, speech, or zoology. The minor field must be selected from an area other than that chosen to fulfill requirements for the major. Soc 45 may be substituted for Psy 70 but will not count as part of the Upper Division credits required for the major.

The major in child development is designed for students who wish to acquaint themselves in a general way with the scientific literature concerning child psychology and child development. Students who wish to do graduate work in child psychology or child development should plan to take Math 10 and 40, as well as a broad background in biological and social sciences.

**Honors Course**—Students interested in the work of an honors course should consult the director of the department.

For a specialized curriculum in nursery school and kindergarten education, see the *Bulletin of the College of Education*.

*Upper Division Courses*

CD 80 is open to sophomores who have an average grade of at least C in Psy 1-2. Other Upper Division courses are open also to sophomores under conditions explained on the first page of Section II.

- 80f,w,s. Child Psychology.** Introduction to the science of child behavior. Emphasis is placed upon a critical review of theories and research in child psychology. (3 cr; prereq Psy 2) Charlesworth, Moore, Palermo, Ruebush, Wright
- 81f,w,s. Adolescent Psychology.** Social, physical, mental, emotional, and personality development during adolescence. (3 cr; prereq Psy 2) Harper
- 83f. Guidance of Children's Activities.** Techniques of guiding children's interests and activities with emphasis on creative materials and group activities. (3 cr; prereq 80) Robinson
- 85s. Psychological Appraisal of Child Behavior.** Observation, interview, testing, and other means of appraising children's behavior. (3 cr; prereq 80) Charlesworth
- 89i. Psychology of Parent-Child Relationships.** Discussion of parent-child relationships and family situations. Evaluation of relevant research literature. (2 cr; prereq 80) Robinson
- 90s. Child Rearing.** Practical problems in the development and rearing of children. Observations in the nursery school. (3 cr; prereq jr, Psy 2)
- 125f,w. Experimental Research with Children.** Supervised research experience. Design and conduct of experiments on child behavior in controlled laboratory situations. (3 cr; prereq 80, and §) Palermo, Wright
- 126w,s. Case Study of Children.** Supervised intensive study of the intellectual, personality, and social development and functioning of individual normal children. (3 cr; prereq 85, and §) Ruebush
- 127f,w,s. Social Behavior of Nursery School Children.** Social ecology of young children; supervised observation and experience in the nursery school. (3 cr; prereq 80, and §) Gold, Kilmer, Moore
- 140w. Behavior Problems.** Types, origin, development, and treatment of behavior difficulties in normal children. (3 cr; prereq 80 or equiv) Grams
- 142w. The Psychology of Handicapped Children.** Research related to sensory, speech, language, physical disabilities of children. (3 cr; prereq 80 or equiv) Templin

- 143s. **Problems of Mental Deficiency.** Diagnosis, care, training; social and vocational problems. (3 cr; prereq 80 or equiv) Ruebush
- 144s. **Psychology of the Gifted Child.** Psychology and development of high intellectual ability and of special talents. (3 cr; prereq 80 or equiv)
- 170w. **Parent Education.** Programs, materials, methods, organization, and administration. Comprehensive survey of related research. (3 cr; prereq 80 or equiv) Grams
- 179f. **Clinical Procedures with Children.** Survey of methods of clinical psychology emphasizing basic concepts and research problems in clinical work with children. Primarily for students not majoring in clinical psychology. (3 cr; prereq 12 cr in child development, psychology, educational psychology or sociology) Wirt
- 180f. **Personality Development in Children.** Origins of personality in personal and interpersonal behavior. Theories of personality and adjustment. (3 cr; prereq 80) Ruebush
- 181w. **Social Development of Children.** Group formation and organization; social interaction and social relations; developmental changes. (3 cr; prereq 80) Moore
- 182s. **Learning in Young Children.** Theories of learning; discussion of experimental literature on theoretically critical issues in thinking, problem solving, and learning in children. (3 cr; prereq 80) Wright
- 183s. **Language and Thought in Children.** Development of speech, language and thought processes in children. (3 cr; prereq 80) Templin
- 184w. **Sensory and Motor Development.** Development of sensory and perceptual processes; simple and complex motor skills. (3 cr; prereq 80) Roff
- 185s. **Children in Society.** Consideration of historical, socio-economic, cross-cultural influences and social changes in child development. (3 cr; prereq 80) Templin
- 190f,w,s. **Topics in Child Development.** Independent reading or research. (Cr ar; prereq 18 cr with B avg incl 80, Psy 70, BA 5 or Soc 45) Staff

### *For Graduate Students Only*

- 210-211. **Advanced Child Psychology**
212. **Design of Research in Child Development**
213. **Advanced Adolescent Psychology**
- 223-224-225. **Seminar in Developmental Psychology**
227. **Multiple Factor Analysis**
- 230-231-232. **Seminar in Recent Literature**
248. **Clinical Child Psychology**
249. **Treatment of Disturbed Children**
250. **Practicum in Clinical Child Psychology**
- 270-271-272. **Readings and Research in Child Development**
- 282-283-284. **Experimental Child Psychology**
- 285-286. **Theory and Practices in the Preschool**
- 287-288. **Guidance of Children in the Preschool**
291. **Mental Testing of Infants and Preschool Children**
292. **Practicum in Psychological Appraisal of Children**
295. **Seminar in Projective Methods with Children and Adolescents**

## CLASSICS

FACULTY—Norman J. DeWitt, *chairman*; Reginald E. Allen, Margaret M. Forbes, William A. McDonald, Donald C. Swanson, Roy A. Swanson.

Major Advisers in SLA—Professors DeWitt, McDonald.

## Greek (Grk)

**Major Sequences in SLA**—Twenty-seven credits in Greek courses numbered above 50; or 18 credits in such courses with (a) 9 credits in Latin courses numbered above 50, or (b) 6 credits from classics courses above 50 and 6 credits in the area of classical civilization offered by the Departments of Art, History, Philosophy.

A suggested minor sequence in Greek is as follows: 18 credits in Greek courses numbered above 50; or 12 credits in such courses with 9 credits from classics courses or in the area of classical civilization offered by the Departments of Art, History, Philosophy.

### Lower Division Courses

- Grk 1f-2w.† Beginning Greek.** Planned to acquaint students with the “real” language from the start. Grammar is not avoided, but the structure of the language is gradually brought out in the context of graded reading materials. Before the end of one quarter, students are reading sizable selections from the *New Testament*, Aesop, Xenophon, and Plato. Considerable stress is placed on aural-oral techniques. (10 cr; prereq 1 or equiv for 2) Staff
- Grk 3s.** Selections from Attic Prose. (5 cr; prereq 2 or equiv) Staff

### Upper Division Courses

- Grk 51f.** Plato: Selections. (3 cr; prereq 3 or equiv) Staff
- Grk 52w.** Greek Tragic Drama. (3 cr; prereq 3 or equiv) Staff
- Grk 53s.** Homer. (3 cr; prereq 3 or equiv) Staff
- Grk 73s.** Hellenistic Greek. The Koine language used in the New Testament, the papyri, and other contemporary documents. (3 cr; prereq Δ) Swanson
- Grk 101w or s.** The Structure of Greek. An application of descriptive linguistic principles to the Greek language, with emphasis on contrast (e.g., to English), morpheme identification, structuralization of data, linguistic patterns. (3 cr; prereq 5 qtrs Greek and Clas 56) D Swanson
- Grk 121f-122w-123s.† Advanced Prose Composition.** (3 cr per qtr; prereq 24 cr in Greek)
- Grk 151f.** Plato: Selections. (3 cr; prereq Δ)
- Grk 152w.** Greek Tragic Drama. (3 cr; prereq Δ)
- Grk 153s.** Homer. (3 cr; prereq Δ)
- Grk 171f-172w-173s.** Advanced Reading in ..... (e.g., Aeschylus, Sophocles, Pindar, Herodotus, Thucydides, Hellenistic prose). Since the authors to be read vary from quarter to quarter and from year to year, the course may be repeated for credit. (3 cr per qtr; prereq 53 or Δ)

### For Graduate Students Only

- Grk 221-222-223.** Seminar: Greek Drama

## Latin (Lat)

**Major Sequences in SLA**—Twenty-seven credits in Latin courses numbered above 50; or 18 credits in such courses with (a) 9 credits in Greek courses numbered above 50, or (b) 6 credits from classics courses above 50 and 6 credits in the area of classical civilization offered by the Departments of Art, History, Philosophy.

A suggested minor sequence in Latin is as follows: 18 credits in Latin courses numbered above 50; or 12 credits in such courses with 9 credits from classics courses or in the area of classical civilization offered by the Departments of Art, History, Philosophy.

**Major Adviser in the College of Education**—Professor DeWitt.

**Requirements for a Teacher’s Certificate in Latin** (applicable only to students in the College of Education)—*Major recommendations:* Lat 51-52-53, 73, 6 credits from 171-172-173, Clas 56, and 9 credits in classics courses or in the area of classi-

cal civilization offered by the Departments of Art, History, Philosophy. *Minor recommendations:* 23 credits of which 21 should be chosen from the following: Lat 51-52-53, 73, Clas 56, and at least 6 additional credits in classics courses or in the area of classical civilization offered by the departments of art, history, philosophy.

### Lower Division Courses

- Lat 11-2w.† **Beginning Latin.** Based on the "descriptive" or "linguistic" approach to a new language, i.e., development of language skills through laboratory techniques. Film strips and tape and disc recordings are used to give practice in quick recognition of phrase and sentence patterns. As the student's proficiency develops, reading materials are introduced, relating to the understanding of Roman culture and its contributions to Western civilization. Direct experience with graded original Latin documents is stressed with intensive language laboratory instruction. (5 cr per qtr; prereq 1 or equiv for 2) Forbes
- Lat 3s. **Intermediate Latin.** (Continuation of 2) Emphasis on the further development of reading proficiency. (5 cr; prereq 2 or equiv or 1 yr high school Latin) Forbes
- Lat 10f. **Introduction to Latin Reading.** A review course for students at any level in the University. Beginning with simple narrative and expository prose, reviews the fundamentals of Latin reading skill, and advances by the end of the quarter to poetry and prose on the "classical" level, preparing the student for the 51-52-53 sequence. Grammar, vocabulary, and sentence patterns are reviewed in context as they occur. (5 cr; prereq 1 yr high school Latin, or Δ) Forbes

### Upper Division Courses

- Lat 51f-52w-53s. **Survey of Latin Literature.** (3 cr per qtr, §151-152-153; prereq 3 or 10 or Δ) Staff
- Lat 73s. **Prose Composition.** (3 cr; prereq 3 yrs high school Latin or Δ) McDonald
- Lat 101w or s. **The Structure of Latin.** An application of descriptive linguistic principles to the Latin language, with emphasis on contrast (e.g., to English), morpheme identification, structuralization of data, linguistic patterns. (3 cr; prereq 3 cr in Latin above 50 and Clas 56; offered when feasible) Forbes
- Lat 111f-112w-113s.† **Advanced Prose Composition.** (2 cr per qtr; prereq 73) DeWitt
- Lat 133s. **Vulgar Latin.** Development of Latin into Romance languages. (3 cr; prereq adv students of Latin or a Romance language with §) D Swanson
- Lat 135s. **Medieval Latin.** Survey of Latin literature from the 5th through the 12th century; special attention to Carolingian and 12th-century Renaissance movements. (3 cr; prereq adv students of Latin or §) R Swanson
- Lat 151f-152w-153s. **Survey of Latin Literature.** (3 cr per qtr, §51-52-53; prereq Δ)
- Lat 171f, 172w, 173s. **Advanced Reading in** ..... (e.g., Plautus, Horace, Lucretius, Juvenal, Cicero, Livy, Tacitus, Suetonius). Since the authors to be read vary from quarter to quarter and from year to year, the course may be repeated for credit. (3 cr per qtr; prereq 53 or Δ) Staff

### For Graduate Students Only

- Lat 201-202-203. **Seminar: Cicero**

### Classics (Clas)

(Courses for Which No Knowledge of Greek or Latin Is Required)

- Hist 14f-15w-16s.† **Ancient Civilization.** (3 cr per qtr) Jones
- Clas 24f,w,s. **Technical Terms of Science, Medicine, and the Humanities.** Presentation in English contexts of Greek and Latin prefixes, suffixes, and roots basic in modern technical vocabularies. (3 cr; prereq soph) Staff
- Clas 42f,s. **Greek Mythology.** Classical myths; acquaints the student with the stories of gods, demigods, and heroes which are a basic component of the European cultural heritage, with attention to their artistic, religious, psychological, and anthropological implications. (2 cr; prereq soph) Forbes
- Clas 43w. **Ancient Mythology in Relation to Literature and Art.** The great myths are studied from the historical point of view, as a source of subject matter, allusion, and symbolism in the European cultural tradition. (2 cr; prereq soph) Forbes

- CLit 45f-46w-47s. *The Nature of Literature*. (3 cr per qtr; prereq soph) DeWitt, Falk, Wood
- Phil 50f-51w. *General History of Western Philosophy*. (5 cr per qtr) Staff
- Hist 50f-51w-52s.† *Ancient Civilization*. (3 cr per qtr, §14-15-16) Jones
- Clas 56f. *Elementary Linguistics*. Introduction to modern language science, involving brief history of the field and its methods, summary of the chief language families, basic phonetics of the European languages, how words are made and how they are analyzed, principles of language change, reconstruction of earlier stages in a language from extant dialects, and applications of linguistic science to language teaching and learning. (3 cr; prereq 1 yr foreign language study on college level or equiv, or §) D Swanson
- Clas 80f. *Classical Epic in Translation*. Critical reading of Homer's *Iliad*, *Odyssey*, Vergil's *Aeneid*, with attention to the cultural context of epic, the heroic character, epic formulas, and poetic techniques. (3 cr, §Clas 180; prereq 9 cr in English literature beyond C or in foreign literature, or Δ; offered 1962-63) McDonald
- Clas 81w. *Greek Tragedy in Translation* (Aeschylus, Sophocles, Euripides). Introductory lectures on the origin of drama as a distinct literary form, on the characteristics of Greek tragedy, and the ancient theaters and theatrical conventions. Careful discussion of about 12 of the tragedies. Major emphasis on understanding the problems posed in terms of the total cultural pattern of the time. (3 cr, §Clas 181; prereq 9 cr in English literature, English beyond C, or foreign literature, or Δ; offered 1962-63) McDonald
- Clas 82s. *Aristophanes and Roman Drama in Translation* (Aristophanes, Menander, Plautus, Terence, Seneca). Introductory material organized as in Clas 81, but with the emphasis on the tradition of comedy. Similar treatment of about 12 comedies and 3 Senecan tragedies. More attention to the influence of the Roman plays on later drama. (3 cr, §182; prereq same as 81; offered 1962-63) McDonald
- Clas 91f-92w-93s. *Classical Literary Traditions*. Readings from classical literature, with lectures on the origin of literary forms and their traditions in European literature. Topics include: (fall) epic, didactic, choral, and personal lyric poetry; (winter) drama and dramatic prose (dialogue), the rhetorical tradition; (spring) expository and narrative prose including history, romantic fiction, literary criticism. (3 cr per qtr, §corresponding qtrs of 191-192-193; prereq 9 cr in English literature, English beyond C or in foreign literature; offered 1961-62) DeWitt
- Art 100f. *Art in Ancient Egypt, Mesopotamia, and Greece*. (3 cr; prereq 9 cr in history of art, or 9 cr in lit or history with Δ) Simon
- Hist 100f-101w-102s.† *History of the Ancient Near East*. (3 cr per qtr; offered 1963-64 and every 3rd yr) Jones
- Hist 100Af-101Aw-102As.† *History of Greece to 200 B.C.* (3 cr per qtr; offered 1964-65 and every 3rd yr) Jones
- Hist 100Bf-101Bw-102Bs.† *History of Rome*. (3 cr per qtr; offered 1962-63 and every 3rd yr) Jones
- Art 101w. *Hellenistic Through Early Christian Art*. (3 cr; prereq 9 cr in history of art, or 9 cr in lit or history with Δ) Simon
- Clas 106w-107s. *Introduction to the Study of Language*. 106: Deals with general and descriptive linguistics, with special attention to phonology and morphemic analysis. 107: Deals with historical and comparative linguistics. (3 cr per qtr; prereq 56 or Δ) D Swanson
- Phil 115. *Greek Philosophy After Aristotle*. (3 cr; prereq 52 or 137 or §; offered when feasible)
- Clas 122w. *Introduction to Greek Archaeology*. Methods and techniques of modern field archaeology; history of major excavations at sites dating from the neolithic period down to the Roman conquest of the eastern Mediterranean; chronological development and regional peculiarities of architecture, sculpture, painting, and other special fields. Illustrated lectures, readings, and student reports. (3 cr) McDonald
- Clas 123s. *Introduction to Roman Archaeology*. (Continuation of 122) Pre-Roman Italy and the expansion of Roman power in the entire Mediterranean and adjacent areas. (3 cr) McDonald
- Clas 124f,w,s. *Technical Terminology*. Intensive study of the semantics and derivation of modern technical vocabularies with presentation in English of Greek and Latin prefixes, suffixes, and roots. (3 cr, §24) Staff
- Clas 180f. *Classical Epic in Translation*. (3 cr, §80; prereq grad; meets with 80 but students will do addtl independent work in consultation with inst; offered 1962-63) McDonald
- Clas 181w. *Greek Tragedy in Translation*. (3 cr, §81; prereq grad; meets with 81 but students will do addtl independent work in consultation with inst; offered 1962-63) McDonald



- Clas 182s. Aristophanes and Roman Drama in Translation.** (3 cr, §82; prereq grad; meets with 82 but students will do addtl independent work in consultation with inst; offered 1962-63) McDonald
- Clas 190f. Proseminar in Classical Archaeology.** Intensive study of one of the major archaeological subdivisions such as topography and monuments, epigraphy, sculpture, ceramics, architecture. Since the content varies from year to year, the course may be repeated for credit. (3 cr; prereq 122, 123 or §) McDonald
- Clas 191f-192w-193s. Classical Literary Traditions.** (3 cr per qtr, §corresponding qtrs of 91-92-93; prereq grad; meets with 91-92-93 but students will do addtl independent work in consultation with inst; offered 1961-62) DeWitt

### Sanskrit (Skt)

- Skt 128f-129w-130s. Readings in Sanskrit.** (3 cr per qtr; prereq sr with §, at least 2 Upper Division courses in early Indo-European languages; offered 1962-63 and alt yrs) D Swanson
- Skt 131-132. Introduction to Sanskrit.** (3 cr per qtr; prereq sr with §, at least 2 Upper Division courses in early Indo-European languages, preferably Greek, Gothic, or Latin; offered when feasible)

### COMMUNICATION

See Interdisciplinary Programs

### COMPOSITION

See English

## COMPARATIVE LITERATURE (CLit)

*Chairman*—Eugene H. Falk

For complete description of the Graduate Program in Comparative Literature, see *Bulletin of the Graduate School*.

### *Lower Division Courses*

The following course is designed for general education:

- 45f-46w-47s. The Nature of Literature.** Guided reading of major works of European literature with emphasis on the techniques of criticism: the analysis of a work of literature as such, and the encouragement of appreciation, sensitivity, and independent judgment of literary arts. While the works to be read are different each quarter, the reading material will range from the Homeric epics to the best of contemporary writing. (3 cr per qtr; prereq soph) DeWitt, Falk, Wood

### *Upper Division Courses*

Courses especially helpful in developing a knowledge of comparative literature include the following:

- Clas 191, 192, 193; Engl 129, 134, 180, 184, 185, 186; Scan 161, 171, 172; Span 161-162-163

### *For Graduate Students Only*

211. Epic Poetry of the Middle Ages  
 212. Lyric Poetry of the Middle Ages  
 213. Romances and Tales of the Middle Ages  
 221-222-223. Seminar in Comparative Literature

## ECONOMICS (Econ)

FACULTY—John A. Buttrick, *chairman*; Francis M. Boddy, Arthur M. Borak, Martin Bronfenbrenner, Oswald H. Brownlee, John S. Chipman, Edward Coen, Edward Foster, Peter Gregory, Walter W. Heller, James M. Henderson, Leonid Hurwicz, John H. Kareken, Anne O. Krueger, E. Scott Maynes, Robert S. Merrill, Herbert Mohring, George Perry, Marcel K. Richter, I. Richard Savage, Jacob Schmookler, Norman J. Simler, Larry Sjaastad, Harlan M. Smith, John G. Turnbull

The Department of Economics provides (a) a program for a major in economics, (b) a program for a minor in economics, and (c) numerous courses available to SLA students as electives.

The program for a major in economics, outlined below, is designed to give the liberal arts student a broad understanding of the way in which the economic system functions, and in addition some appreciation of and ability to use the analytical and research techniques required in business enterprises, government agencies, and various research units. Students more specifically interested in a degree in business administration or in the quantitative approach to economics provided by the B.S. in economics degree, with a major in either economics or statistics, should consult the *Bulletin of the School of Business Administration*.

**Major Advisers in SLA**—Professors Bronfenbrenner, Brownlee, Buttrick, Chipman, Hurwicz; Associate Professors Borak, Coen, Kareken, Maynes, Schmookler, Smith; Assistant Professors Gregory, Krueger, Richter, Simler.

**Prelaw Economics Adviser**—Professor Turnbull.

Assignment of advisers is done through the Department of Economics office. Please contact the departmental secretary.

**Major Sequence in SLA**—Lower Division prerequisites: Econ 1, 2 or equivalent (6 credits). Upper Division credits: A student majoring in economics is required to take 33 credits in Upper Division courses as follows:

1. Required courses: Econ 65, 66, 75
2. Three of the following courses: Econ 67, 69, 104 (or 114A), 178A, BA 52
3. Economics electives: 15 hours in any additional economics courses subject to the approval of the adviser

It is considered highly desirable that the student also take some accounting and statistics. A 1-quarter introduction to statistics (BA 5) might best be taken as part of the Lower Division program; if taken in Upper Division it may be taken without petition, though it cannot be included in the 33 credits required for the major sequence. BA 52 is available as an economics course for SLA credit without petition. For the student interested in bringing his economics to bear upon business problems and practices, elective courses are listed under business administration in this bulletin; as many as 2 of the following courses may be taken without petition for SLA credit as part of the 33 credits required in economics: BA 50, 51, 53, 54, 56, 57. Students may petition for a limited number of credits in other Upper Division courses in statistics and accounting, and if petition is approved such credits may be used for total credit requirement but for no other specific degree requirement.

**Major Adviser in College of Education**—Associate Professor Harlan Smith.

**Requirements for a Teacher's Certificate**—(applicable only to students in the College of Education)—*Major recommendation*: A minimum of 36 credits including Econ 1-2 or B-C or 50A-B; 65, 66, 68 or 178A; 69; 104; BA 52 and at least 12 credits from 2 of the 10 areas designated below.

See the *Bulletin of the College of Education* for additional required courses.

For a specialized minor curriculum in social studies see the *Bulletin of the College of Education*.

## General Economics

### Lower Division Courses

- Bw. The Scope, Methods, and Application of Economics.** An overview of economics for the student who wants to know what the subject is about. An opportunity is provided to hear different members of the economics profession explain the type of work done in their special fields. Attention is directed to the types of problems for which a study of economics is useful. (3 cr) Smith
- Cs. Introduction to Economic Analysis.** A concentrated course in economic principles, omitting much of the descriptive and institutional background provided in other courses. May substitute for Econ 1-2 as prerequisite for advanced courses in economics, except for majors in business administration. (3 cr, §1-2, §1T-2T; prereq B or 50A, 50B) Smith
- If,w,s-2f,w,s. Principles of Economics.** A study of the principles underlying economic activity and of the way these principles work out through our economic institutions. 1: Demand and supply, competition and monopoly, and the distribution of income. 2: National income, money and banking, business cycles, and international trade. Econ 1-2 or equivalent are prerequisite for most Upper Division courses in business administration and economics. (3 cr per qtr, §1T-2T, §C, §50A-B; prereq 3rd qtr fr for 1, 1 for 2) Staff
- 20s. Consumer Economics.** The application of economic principles to major decisions of consumers. How to use income most effectively. The use of credit. Saving; insurance principles; the decision to purchase houses. Sources of consumer information; product testing agencies; government efforts to protect consumers. (3 cr) Maynes
- 40. Decision Making and Scientific Inference.** An introduction to problems of decision making under uncertainty, with applications to economics, statistical inference, and games of strategy. (3 cr) Hurwicz, Chipman

### Upper Division Courses

- 50A-B. Economic Problems of the American Economy.** Open to students who have had no formal courses in economic principles. A nontechnical course designed to supply the need for general education in economics for the average citizen. (3 cr per qtr, §1-2, §1T-2T) Smith
- 80f. Survey of Economic Ideas.** Development of economic thinking from Adam Smith to J. M. Keynes, with emphasis on impact of industrial revolution and business cycle on the formation of theory. (3 cr; prereq 2 or equiv) Buttrick
- 90s. Honors Course in Economics.** A special course designed to help students integrate and apply the material learned during their economics training. Open to economics majors who have completed (or are currently completing) their major requirements. (3 cr; prereq consent of adviser) Staff
- 120w. Economics of Consumption.** Theories and research relating to saving and spending; the utility and indifference approaches, the behaviorist approach (Katona, Morgan, etc); the consumption function literature; the forecasting of consumer spending; the role of buying plans. (3 cr; prereq 65, 66 or §) Maynes
- 150A, B. Current Economic Issues.** Current controversies over economic policy and the problems that underlie the controversies. Special study of selected topics. (3 cr each qtr [with § course may be taken more than once]; prereq 65, 66 or equiv) Smith
- 160f. Comparative Economic Systems.** The contribution of economics to a consideration of the issues between capitalism and communism and other economic systems. The theories on which the various systems are based and the way they work out in practice are analyzed in terms of economic principles and the vital economic functions performed in each system. (3 cr; prereq 2 or equiv) Maynes
- 170s. Economics, Ethics, and Economic Philosophy.** A discussion of the literature, and the issues it raises, on the relation of ethics to economic organization, practice, and policy. Different economic philosophies and consideration of the elements involved in the formulation of an economic philosophy. (3 cr; prereq 2 or equiv) Smith
- 190f,w,s. Readings in Economics.** Arranged to cover areas in economics useful to individual programs and objectives but not available in regular course offerings. (Cr ar; prereq consent of adviser and inst in field covered) Staff

*For Graduate Students Only*

- 200A-B-C. Advanced Topics in Economics
- 280A. The History of Economic Thought: Before 1870
- 280B. The History of Economic Thought: After 1870
290. Individual Graduate Research
300. Seminar in Economic Methodology
320. Seminar on Consumer Behavior

**Econometrics and Statistics***Lower Division Courses*

40. Decision Making and Scientific Inference. (3 cr) Hurwicz, Chipman

*Upper Division Courses*

- 101Af. Foundations of Mathematics for Social Scientists. Sets. Relations. Partially ordered systems. Functional relations. Elements of logical calculus. Groups. Matrices. Applications mostly in economics, decision and game theory, some in statistics. (3 cr; prereq Math 10 or equiv or #) Hurwicz, Chipman
- 101Bw. Introduction to Decision Theory. Elements of probability. Basic concepts in statistical decision theory. Relationship to game theory and other types of decision problems. Prediction and inference. Likelihood methods. Problems of specification. Models underlying statistical analysis in economics and certain other fields (simultaneous equation systems; factor analysis models). Identification. (3 cr; prereq BA 5, Econ 101A or #...Math 40 advised) Hurwicz, Chipman
- 101Cs. Elements of Econometrics. Statistical inference in models, arising in economics and certain other fields, involving multivariate distributions. Least squares method, regression theory and their relationship to simultaneous equation and factor analysis problems. Specification error. Identification. Time series. Problems. Aggregation. Examples: production functions, demand functions, factor analysis. Covers some of the same ground as Econ 101B, but on a more advanced level. (3 cr; prereq Math 40, Econ 101B or ¶Econ 121C or #) Hurwicz, Chipman
- 121Af. Introduction to the Theory of Statistics. Acquaints the nonspecialist with some of the basic concepts and methods of classical statistics. Serves as a preparation for the more systematic and intensive treatment in Econ 121B-C. Focuses on problems of hypothesis testing and estimation. (3 cr; prereq Math 7 or 10 or #) Savage
- 121Bw. Theory of Statistics I. Primarily one-variable problems. Normal and related univariate distributions. Some large sample theory, including the law of large numbers. Likelihood methods in hypothesis testing and estimation; applications to regression and analysis of variance. Confidence intervals. Sequential methods. (3 cr; prereq 121A and ¶Math 53 or #) Savage
- 121Cs. Theory of Statistics II. Primarily an extension to the many-variable case of the concepts treated in Econ 121B. Analysis of co-variance. Discriminant analysis and statistical selection. Distribution-free methods. (3 cr; prereq 121B, Math 53 or #) Savage
- 181Af, Bw, Cs. Topics in Statistics. In each quarter this course is devoted to a specialized field of statistical methodology. The emphasis may be either on a topic in theory (e.g., estimation, hypothesis testing, nonparametric inference) or on a statistical model of applied interest (e.g., finite population sampling, population statistics, statistical quality control, time series). The objective of the course is to bring the student to the level where he can formulate and solve significant problems in the field covered. (3 cr each qtr; prereq 121C or ¶121C or #) Hurwicz, Neter and staff

*For Graduate Students Only*

- 201A. Econometrics A
- 201B. Econometrics B
- 201C. Econometrics C
301. Seminar in Statistical Inference and Econometrics
- 391A, B, C. Workshop in Econometrics

## Labor

### *Upper Division Courses*

- 152f,w. **Labor Movements.** Origins and growth of labor organizations and their problems under various forms of government; economic and social consequences of these developments. (3 cr; prereq BA 52 or 152) Gregory
- 162w,s. **Union Government and Policies.** Internal administration and government of unions, economic and social issues; hours, wages, and other conditions of employment. (3 cr; prereq BA 52 or 152) Seltzer, Gregory
- 172f,w. **Public Policy: Labor Relations.** Employer-employee-union relationships and their social control; legislative, executive, and judicial attempts to deal with these issues; economic and social implications. (3 cr; prereq BA 52 or 152) Turnbull
- 182f,s. **Economic Security.** Origins and development of economic and social problems of the individual worker; public and private attempts to deal with these issues; economic and social implications. (3 cr; prereq BA 52 or 152) Turnbull
- 192s. **Contemporary Labor Issues.** Designed to synthesize into an integrated whole the various specialized phases of the labor field and in so doing to treat various currently important labor problem areas. (3 cr; prereq BA 52 or 152) Staff

### *For Graduate Students Only*

372. Seminar in Trade Unionism
382. Seminar in Economic Security
- 392A-B-C. Workshop in Labor Economics

## Economic Development

### *Upper Division Courses*

- 103Aw. **Economic Development I.** Historical and institutional analysis of the growth of national and per capita income and population. Interrelations of economic development, technological progress, and capital formation. Mutual interaction of social institutions and economic change. (3 cr; prereq 2) Schmookler
- 103Bs. **Economic Development II.** Theories of economic growth and stagnation. Planning and programming models of economic development. Investment criteria in underdeveloped countries. Fiscal and monetary factors in economic development. International trade and economic development. (3 cr; prereq 103A, 65, and 66 or §) Buttrick, Krueger
- 133f. **The Development of American Industry.** Analysis of relations between long-run changes in technology, output, price, location, and market structure in major American industries, against the background of American institutions, the changing international environment, the growth of population, and per capita income. (3 cr; prereq 65 or 165) Schmookler

### *For Graduate Students Only*

333. Seminar in Technological Progress and Economic Development
- 393A-B-C. Workshop in Economic Development

## International Economics and Area Studies

### *Upper Division Courses*

- 104f. **International Economics.** An introductory treatment of the principal issues involved in international economic relationships. Significance of foreign trade and investment, international payments and foreign exchange, the gold standard, the International Monetary Fund and Bank, and the arguments over tariffs and foreign aid policies. (3 cr, §114A; prereq 2 or equiv; students who take 65, 66, and 67 are encouraged to consider taking part or all of the 3-qr sequence 114A,B,C instead of 104 in order to obtain a more thorough treatment of the subject) Krueger, Coen, Smith
- 114Af. **International Trade and Payments Theory I.** International payments: Basic determinants of international trade; the gains from trade and the effects of trade restrictions. (3 cr, §104; prereq 65) Coen, Krueger

- 114Bw. **International Trade and Payments Theory II.** Income factors in international trade: Monetary aspects of international trade; balance of payments adjustment mechanisms. (3 cr; prereq 66, 67, and 114A) Coen, Krueger
- 114Cs. **International Trade and Payments Theory III.** Factor proportions and trade: General equilibrium in international trade; welfare aspects of international trade. (3 cr; prereq 114B) Coen, Krueger
- 134s. **International Economic Problems.** Development of and current issues in the foreign economic policy of the United States. (3 cr; prereq 104 or equiv) Smith
154. **The Economy of Western Europe.** Structure and organization of the economy of countries in western Europe. Analysis of current internal and external economic problems and policies. Recent developments in production, public finance, income levels, and income distribution. Will commonly emphasize one particular country of western Europe, not necessarily the same from year to year. (3 cr; prereq 2 or equiv) Staff
164. **The Economy of the U.S.S.R.** Rise of the Soviet economic system. Development of economic organization of the state, planning and control of use of resources, and distribution of product. Performance of the economy in agriculture and industry under the 5-year plans. Internal and external economic policy. Public finance, income distribution, and economic incentives under the Soviet system. (3 cr; prereq 2 or equiv) Boddy
174. **The Economy of Latin America.** The structure of the economy of Latin America. Analysis of current internal and external problems. (3 cr; prereq 2 or equiv) Brownlee
184. **Economic Problems of the Far East.** Economic development of the Far East following contact with Western civilization. Some present problems: population, growth, capital formation, international economic relations, choice between types of economic organization. (3 cr; prereq 2 or equiv) Bronfenbrenner

*For Graduate Students Only*

224. **International Trade**
304. **Seminar in International Economics**

**Micro-Economics, Welfare Economics, Mathematical Economics***Upper Division Courses*

- 65f,w,s. **Intermediate Economic Analysis: The Firm.** Examination of the behavior of firms under competitive and monopolistic conditions with particular attention to factors influencing the firm's decisions regarding production, output, and prices. (3 cr, §165; prereq 2 or equiv) Staff
- 75w,s. **Intermediate Economic Analysis: The Household and Policy.** Consideration of decision problems faced by the household and the development of elementary welfare economics; application of evaluative techniques to various market phenomena and government policies. (3 cr, §175; prereq 65) Boddy and staff
- 135f,w. **Elements of Mathematical Economics.** Applications of mathematical concepts and techniques to selected economic problems. (3 cr; prereq Math 40, 53, or §)
- 165f,w,s. **Economic Analysis: The Firm.** Analysis of individual decision-making by firms under conditions of monopoly, competition, and monopolistic competition. (3 cr, §65; prereq grad, 2 or equiv) Boddy and staff
- 175s. **Economic Analysis: The Household and Policy.** Consideration of decision problems faced by the household and the development of elementary welfare economics; application of evaluative techniques to various market phenomena and government policies. (3 cr, §75; prereq grad, 65 or 165) Boddy and staff
- 185Aw. **Price Theory.** Theories of choice as applied to consumers, firms, and resource owners, economic behavior in competitive and monopoly market situations. (3 cr; prereq 65 or 165) Boddy
- 185Bs. **Market Structure.** Price and output policies under conditions of imperfect competition, competitive behavior in monopolistic types of market structure, problems of choice under conditions of uncertainty. (3 cr; prereq 185A or §) Boddy
- 186s. **Income Distribution.** Statistics of personal and functional income distribution. Wages, rent, interest, and profit under pure and imperfect competition. Aggregative theories of distribution as a whole. "Exploitation" and "maldistribution" problems. (3 cr; prereq 65, 66) Bronfenbrenner
- 195Aw. **Analytical Methods in Business Decision Making: A.** Some recently developed methods for solving selected problems in business choice. Maxima (or minima) subject to constraints.

Maximization of linear functions subject to inequalities. Applications to production, advertising, and purchasing decisions. (3 cr; prereq 65 or equiv, Math 40 or equiv or §) Brownlee, Chipman, Hurwicz

**195Bs. Analytical Methods in Business Decision Making: B.** Maximization of nonlinear functions. Decisions involving risk. Applications to inventory and insurance problems. Information processing as related to choice of organizational structure. (3 cr; prereq 195A or §) Brownlee, Chipman, Hurwicz

**195C. Analytical Methods in Business Decision Making: C.** A more intensive study of certain problems within the area covered by Econ 195A and 195B. (3 cr; prereq 195B or §) Chipman, Hurwicz

### *For Graduate Students Only*

**215A. Welfare Economics: A, B**

**225. General Equilibrium Theory**

**245A, B, C. Mathematical Economics: A, B, C**

**335. Seminar in Mathematical Economics**

**385. Seminar in Micro-Economics**

## Macro-Economics

### *Upper Division Courses*

**66f,w.s. Intermediate Economic Analysis: Income and Employment.** Determinants of national income, employment, and price level, with particular attention to aggregate consumption and investment. (3 cr, §166; prereq 2 or equiv or §) Staff

**116w. National Income Analysis.** Conceptual framework for study of income flows, use of statistical materials within this framework, and use of the results for measurement and welfare. (3 cr; prereq 66 or equiv) Staff

**166f,w.s. Economic Analysis: Income and Employment.** Determinants of national income, employment, and price level, with particular attention to aggregate consumption and investment. (3 cr, §66; prereq grad, 2 or equiv) Brownlee

**176Aw. Theory of Employment, National Income, and the Price Level I.** Equilibrium values for real output, employment, price level, and rate of interest under specified assumptions regarding the demand for and supply of labor, technical conditions of production, and the investment and consumption functions. (3 cr; prereq 66 or 166) Brownlee

**176Bs. Theory of Employment, National Income, and the Price Level II.** Effects of governmental monetary and fiscal policies upon equilibrium levels of output, employment, prices, and interest rates. Dynamic analysis. (3 cr; prereq 176A) Brownlee

### *For Graduate Students Only*

**376. Seminar in Macro-Economics**

## Money and Banking and Business Cycles

### *Upper Division Courses*

**67f,w.s. Money and Banking.** Historical development, present pattern, and economic role of financial institutions, with special emphasis on commercial banks, the money supply, and the Federal Reserve System. (3 cr; prereq 2 or equiv) Smith and staff

**157w. Business Cycles.** A study of the ups and downs of business; various explanations of the causes, the statistical data on such fluctuations, the relationship of cycles to economic growth; methods of forecasting, and an examination of proposals for economic stabilization. (3 cr; prereq 66, 67 or equiv) Smith, Kareken

**167f,w.s. Economics of Money and Banking.** Historical development, present pattern, and economic role of financial institutions, with special emphasis on commercial banks, the money supply, and the Federal Reserve System. (3 cr, §67; prereq grad, 66 or equiv) Smith, Kareken

**177f. Intermediate Money and Banking.** Analysis of the determinants of the value of money and of the principal problems of monetary policy. (3 cr; prereq grad, 66, 67 or equiv) Smith, Kareken

*For Graduate Students Only*

257. Business Cycles and the Structure of Production

277A-B. The Development of Monetary Theory

**Public Finance***Upper Division Courses*

68f,w.s. **Elements of Public Finance.** Survey of government expenditures, budgeting, fiscal policy, debts, and taxes in terms of fiscal institutions, impact on business and the economy, and policy issues. Condensed course given especially for School of Business Administration students. (3 cr, §168, §178A-B; prereq 2 or equiv) Borak

178Af-Bw. **Public Finance.** Government expenditures and budgeting, fiscal policy, debt management, and taxation in terms of economic effects, fiscal process, and social policy. Expenditure theory; budgetary process, alternative budgetary policies; debt burden; the taxing process; taxation, incentives, and markets; tax incidence; technical problems of income, profits, and sales taxation; defense finance. (3 cr per qtr [for 178A, §68, §168]; prereq 2 or equiv for 178A, 178A or 68 with grade of B or better for 178B)

188s. **State and Local Taxation.** Main problems of state and local finance and proposed solutions, including interstate comparisons and co-ordination of practices and policies. (3 cr; prereq 68 or 168 or 178B; offered 1962-63 and alt yrs) Borak

198s. **Fiscal Policy.** Theoretical framework and goals; potential contribution of taxation, government expenditures, and debt transactions to full employment, price stability, and economic growth; institutional limitations to the use of fiscal policy. (3 cr; prereq 20 cr in social science, incl course in public finance, 66, 67 or equiv)

*For Graduate Students Only*

298A-B-C. Workshop in Public Finance and Fiscal Monetary Policy

**Industrial Organization***Upper Division Courses*

69f,w.s. **Government Regulation of Business.** Economic aspects of public policy affecting the market process. Relations between market structure and economic efficiency and welfare; economic origins of monopoly and other business limitations on free competition; and purposes and effect of antitrust laws and laws relating to "unfair business practices." (3 cr, §169; prereq 65 or 165 for business or economics majors, suitable background in law or political science for others or §) Mohring, Schmookler, Simler

169f,w.s. **Government Regulation of Market Behavior.** General restraints of trade, monopoly, standards of fair competition and regulation of entry into trade and professions, and the regulation of public utility rates and services. Economic and legal analysis of federal regulation with study of state and local regulation. (3 cr, §69; prereq grad, 65 or 165 for majors, suitable background in law or political science for others or §) Mohring, Schmookler, Simler

179Af-Bw-Cs. **Industrial Organization.** A: The relationship of industry organization and market structure to market performance and price policies. B: The regulated industries, public utilities, general regulation of business behavior. C: Research and research techniques in industrial organization. (3 cr per qtr; prereq 65 or 165 or §)

*For Graduate Students Only*

209A-B-C. Advanced Industrial Organization

**EDUCATIONAL PSYCHOLOGY (EPsy)**

(College of Education)

The following courses in educational psychology, offered by the College of Education, are regularly open to SLA students:

117w,s. **Basic Principles of Measurement.** Role of measurement in educational work; developments in educational and psychological measurement; measurement theory and practice as re-



lated to appropriate statistical methods; types and uses of derived scores, and factors influencing reliability and validity of educational measurements. (3 cr; prereq 116 or 216 or Psy 70 or equiv)

- 140s. Instruments and Techniques of Measurement.** Intensive study of selected instruments for measuring intelligence, achievement, interests, attitudes, and personality traits with emphasis upon their use in educational guidance, personnel work, administration, and supervision. (3 cr; prereq sr, 110 or 117 or equiv) Edson
- 142f,w. Individual Mental Testing.** Revised Stanford-Binet and Wechsler-Bellevue Adult or Wechsler Intelligence Scale for Children. Student supplies materials for at least one test. Full day or 2 mornings per week required for practice administration of tests. (3 cr; prereq sr, 110 or 117 or equiv) Reynolds, Hodges

## ENGLISH (Engl)

(For courses in freshman English and in composition, see page 66)

**FACULTY**—John W. Clark, *chairman*; Harold B. Allen, Howard P. Anderson, Nicholas Barker, John Barsness, John Berryman, Morgan Blum, Bernard Bowron, James E. Breslin, Carole Brown, Huntington Brown, Emilie Buchwald, Frank Buckley, Richard D. Bullock, Richard J. Cody, Marimae Cross, Louise Duus, Keith Fort, Charles H. Foster, Richard J. Foster, Robert Foy, Douglas George, Everett Gibbs, Jay Gurian, Ledru Guthrie, Clifford Haga, David A. Hansen, Nathaniel Hart, J. Dennis Hurrell, Alan P. Johnson, David E. Jones, Karl Keller, Paul Kirchner, Yvonne Klein, E. James Korges, David Kvernes, Joseph Kwiat, J. C. Levenson, Milton Mays, Raymond McClure, Patrick McGinnis, Samuel H. Monk, Franz Montgomery, Joan Mooney, Robert E. Moore, Neil N. Myers, Gordon W. O'Brien, William Van O'Connor, Richard Peterson, Hugh Potter, Robert Ryley, Moira Shaw, Richard Shaw, John Shea, George K. Simson, Denzell Smith, G. Robert Stange, Martin Steinmann, Jr., Robert E. Steller, Allen Tate, Mary Turpie, Leonard Unger, Brom Weber, Burton Weber, Len Weingart, James A. Wright, Sarah H. Youngblood.

**Major Advisers in SLA**—Professors Brown, Clark, C. Foster, Levenson, Monk, O'Connor, Stange, Unger; Associate Professors Buckley, Kwiat, Montgomery, Moore, Turpie; Assistant Professor Youngblood (joint program).

**Major Sequence in SLA**—A total of at least 31 credits in literature for the entire sequence, comprising the following:

- A. Engl 75, Chaucer; 55-56, Shakespeare; 162, Milton.
- B. Eighteen additional credits in Upper Division courses, of which at least 12 must be from courses numbered 100 or above. A student who takes 9 credits of 97-98-99 may count 6 of these credits as part of this last requirement.

Modification of this sequence will be permitted upon petition approved by the major adviser and the assistant dean for the Upper Division.

Prerequisites: Engl 21-22 or 22-23, or 21, 23.

All English majors shall write 3 papers of a minimum of 3,000 words in Upper Division literature courses chosen by themselves. One of these should be written in the junior year and two in the senior year. Transfer students here only for the senior year need submit only two papers.

The department regards the knowledge of foreign languages, and especially of Latin, French, Greek, and German, as of particularly high value to students of the English language and English literature, and especially urges students planning to major in English to include as much foreign language study in their programs as possible and to begin such study as early as possible. Students who look forward to graduate study should consider this especially and should take into account the need for Latin in connection with English studies in certain fields.

**Major Advisers in the College of Education**—Professor Allen; Associate Professor Kegler.

**Requirements for a Teacher's Certificate** (applicable only to students in the College of Education)—*Major recommendation*: Engl 21-22-23 (15 credits); Engl 55-56 (6 credits); Engl 72-73-74 (9 credits); Engl 165 (3 credits); Comp 27-28 (6 credits); 9 additional credits in English courses numbered 100 or above (6 of these 9 additional credits may be in Upper Division humanities courses). *Minor*

*recommendation:* Engl 22-23 (10 credits); Engl 55-56 (6 credits); Engl 73-74 (6 credits); Comp 27-28 (6 credits).

Students interested in taking English as a major or minor subject in the College of Education should see also the bulletin of that college for the requirements for the language arts curriculum.

Education students who major in English are required to take EdCI 122, Literature for Adolescents.

**General Education**—The Department of English believes that most of its courses numbered below 100 are properly regarded as courses in general education and are suitable for nonmajor students—especially 19-20, 37-38-39, and 52-53-54, but also 21-22-23, 55-56, 66-67, and 72-73-74.

### Lower Division Courses

(For courses in freshman English, see page 66)

**19f-20w.1 Great English Writers.** Chronological study of some of the classics of English literature for students not majoring in English and not taking 21-22-23. 19: Such writers as Marlowe, Donne, Milton, Pope, Swift, Johnson, Boswell, and Goldsmith. 20: Such writers as Wordsworth, Byron, Shelley, Keats, Tennyson, Browning, and Arnold. (3 cr per qtr, §21 or §22 or §23; prereq ††; offered when feasible)

**21f,w-22w,s-23f,s. Introduction to Literature.** Chronological study of English literature with its historical background. Introduction to types of literature and literary ideas. 21: Chaucer to Milton. Marlowe, Spenser, Bacon, Browne, and Bunyan. 22: The Restoration and the 18th century. Pope, Swift, Addison and Steele, Johnson, Boswell, Fielding, and Sheridan. 23: The Romantic Movement and the Victorians. Wordsworth, Byron, Shelley, Keats, Carlyle, Tennyson, Browning, and Arnold. (5 cr per qtr, §19-20; prereq ††) Buckley, Cody, R. Foster, Hurrell, Moore, Montgomery

**Clas 24f,w,s. Technical Terms of Science, Medicine, and the Humanities.** (3 cr; prereq soph) Staff

**37f-38w-39s.† Modern Literature.** Intended for students in all departments and colleges, not particularly for English majors. Readings in 20th-century British and American fiction, drama, and poetry. Selected, arranged, and discussed—not to give a full historical survey, but to enhance the student's pleasure in, and understanding of, imaginative literature generally. Short critical papers are required and count in determining grades. 37: Short fiction. 38: Poetry and drama. 39: The novel since Thomas Hardy. (3 cr per qtr; prereq soph, ††) R Foster, Myers

**Clas 42f,s. Greek Mythology.** (2 cr; prereq soph) Forbes

**Clas 43w. Ancient Mythology in Relation to Literature and Art.** (2 cr; prereq soph) Forbes

Attention of students is called to Hum 1-2-3, 11-12-13, and 21-22-23 (see Interdisciplinary Programs), and to CLit 45-46-47 (see Comparative Literature).

### Upper Division Courses

Engl 52-53-54, 55-56, 66-67, 72-73-74, and 75 are open to Lower Division students who have a C average in the prerequisite courses. Other Upper Division courses are open to sophomores under the conditions explained on the first page of Section II.

**52f-53w-54s.† The English Novel.** 52: Reading of novels by such writers as Defoe, Fielding, Sterne, Smollett, and Richardson. 53: Reading of novels by such writers as Jane Austen, Scott, the Brontës, Thackeray, and Dickens. 54: Reading of novels by such writers as Trollope, George Eliot, Meredith, Hardy, Conrad, and Butler. (3 cr per qtr [for 53, §52 or §53 before 1959f...for 54, §53 before 1959f]; prereq \* \*) Wright

**55f,w,s-56f,w,s. Shakespeare.** 55: The reading of plays from Shakespeare's early and middle periods. All sections will read *Richard II*, *A Midsummer Night's Dream*, *The Merchant of Venice*,

\* \* Engl 1A-2A-3A or Engl 1B-2B-3B or Comm 1-2-3, and 5 additional credits; or Engl A-B-C; or 5 credits in 21-22-23.

†† Completion of, or exemption from, freshman English requirement.

- Julius Caesar*, and 2 or 3 other plays selected by the instructor, such as *Much Ado About Nothing*, *Henry IV* (1 and 2), *Henry V*, *As You Like It*. 56: Reading of plays from middle and late periods. All sections will read *Twelfth Night*, *Hamlet*, *Macbeth*, *The Tempest*, *Troilus and Cressida* or *Measure for Measure*; and *Othello* or *Antony and Cleopatra*. (3 cr per qtr; prereq °°; students may not start with 56 except by Δ)
- 66f-67w.1 **The Literature of the Bible.** Readings in the Old and New Testaments from the literary point of view. Selections from the historical narratives, the prophets, psalms, tales, wisdom literature, apocalypse. (3 cr per qtr; prereq °°) O'Brien
- 72f,w-73w,s-74f,s. **American Literature.** 72: The beginnings through Melville. 73: Whitman through Stephen Crane. 74: Dreiser to the present. (3 cr per qtr [for 72, §73 before 1958f ...for 73, §74 before 1958f]; prereq °°...72 for either 73 or 74, except for Ed minors...or #) R Foster, Kwiat, Turpie, Youngblood
- 75f,w,s. **Chaucer.** Reading of selections from *The Canterbury Tales* with introduction dealing with grammar and literary forms of 14th-century English. (4 cr; prereq °°) Cody, Jones, Monk
- Clas 80f. **Classical Epic in Translation.** Critical reading of Homer's *Iliad*, *Odyssey*, Vergil's *Aeneid*, with attention to the cultural context of epic, the heroic character, epic formulas and poetic techniques. (3 cr, §Clas 180; prereq 9 cr in English literature beyond C or in foreign literature, or Δ; offered 1962-63) McDonald
- Clas 81w. **Greek Tragedy in Translation** (Aeschylus, Sophocles, Euripides). (3 cr, §Clas 181; prereq same as 80) McDonald
- Clas 82s. **Aristophanes and Roman Drama in Translation** (Aristophanes, Menander, Plautus, Terence, Seneca). (3 cr, §182; prereq same as 80) McDonald
- 97f-98w-99s. **Proseminar in English Literature.** Three major periods—Renaissance, Restoration and 18th century, 19th century. Selected authors read to investigate the literary traditions and styles characteristic of each period. Long paper, written in consultation with instructor and counting as 1 of 3 long papers required for majors (see page 61). Six credits of this course may be counted as credits numbered 100 and above in the major sequence. Students are urged to take all 3 quarters. (3 cr per qtr; prereq sr, ††, B avg and Δ; offered when feasible)
- 100f,s. **Old English (Anglo-Saxon).** Introduction to sounds and grammar with some prose reading. Relation to Modern English stressed. (4 cr; prereq §§) Allen
- 102w. **Readings in Old English Prose and Verse.** Critical reading of texts, and introduction to versification. (3 cr; prereq 100) Brown
- 103s. **Beowulf.** Introduction to the Old English poem, with reading of considerable portions of the text. (3 cr; prereq 100) Brown
- 104w. **Emerson and Thoreau.** (3 cr; prereq §§) Turpie
- 105f. **Hawthorne and Melville.** (3 cr; prereq §§) Weber
- 106s. **Whitman and Mark Twain.** (3 cr; prereq §§) Kwiat
- 109f-110w.1 **Romantic Poets of the Early Nineteenth Century.** 109: Wordsworth, Coleridge, Scott, etc. 110: Byron, Shelley, Keats, etc. (3 cr per qtr; prereq §§)
- 111f. **Henry Adams and Theodore Dreiser.** (3 cr; prereq §§) Levenson
- 113s. **American Short Story.** Historical examination of American short story from 18th century to the present. (3 cr; prereq §§) Turpie
- 114f. **The Midwest in Literature.** (3 cr; prereq §§; offered when feasible) Buckley
- 115s. **The Development of English Prose Style I.** Definition of six broad types of prose style on historical principles. (3 cr; prereq §§; offered alt yrs) Brown
116. **The Development of English Prose Style II.** Styles of selected writers since 1700. (3 cr; prereq §§; offered when feasible)
- 120f-121w-122s. **The Interpretation of Poetry.** Certain technical aspects of poetry in relation to poetic meaning. 120: Analysis of a number of short poems. 121: Emphasis on Coleridge, Housman, Frost, and Eliot. 122: Intensive study of six longer poems. (3 cr per qtr; prereq §§) Tate
- 123f-124w-125s.1 **The Technique of the Novel.** Special studies in novels of the late 19th and 20th centuries, with particular regard to structure. See also Comp 101-102-103 for the writing of fiction. (3 cr per qtr; prereq for undergrad, English major with B avg, or #) Unger

°° Engl 1A-2A-3A or Engl 1B-2B-3B or Comm 1-2-3, and 5 additional credits; or Engl A-B-C; or 5 credits in 21-22-23.

†† Completion of, or exemption from, freshman English requirement.

§§ Five credits in literature, English or American, exclusive of freshman English.

- 126f-127w.† **Drama, 1660-1900.** 126: Restoration and early 18th century. The heroic play, tragedy, comedy of manners, beginnings of sentimental comedy. 127: 18th- and 19th-century English drama. The beginnings of modern realism: Ibsen and Chekhov. (3 cr per qtr; prereq §§) Moore
- 129s. **Modern Drama.** Survey of the chief dramatists, English, American, and Continental, from 1900. (3 cr; prereq 55-56 or 126-127) Moore
130. **Victorian Poetry I.** Early and mid-Victorians: Tennyson, the Brownings, Clough, FitzGerald, Arnold, and others. (3 cr; prereq §§; offered when feasible)
- 131s. **Victorian Poetry II.** Pre-Raphaelites and after: the Rossettis, Swinburne, Morris, Wilde, and the poets of the 1890's. (3 cr; prereq §§; offered when feasible) Montgomery
- 134s. **The Origins of American Naturalism.** (3 cr; prereq §§) Bowron
- 136f. **Advanced Shakespeare.** The work of the poet's maturity. Special attention to *Othello*, *King Lear*, *Antony and Cleopatra*, *Cymbeline*, *The Winter's Tale*. (4 cr; prereq 55-56) Brown
- 137f-138w-139s.† **Nineteenth-Century Literature.** Prose, poetry, and selected fiction—particularly of the period 1830-1890. Emphasis on the critical study of particular works of major authors and their relation to the recurrent themes and literary interests of the period. (3 cr per qtr; prereq §§) Stange, Youngblood
- 140w-141s. **Advanced Chaucer.** The longer poems apart from *The Canterbury Tales*. Treatment primarily literary and historical. (3 cr per qtr; prereq 75 or equiv) Clark
- 142w-143s.† **Twentieth-Century Literature.** Survey of British and American literature from 1890 to present, studied for theme and technique and as part of literary and intellectual history. Emphasis in 142 will be on British authors; in 143, on American. (3 cr per qtr; prereq §§) O'Connor
- 147f-148w-149s. **The Literature of England in the Middle Ages Exclusive of Chaucer.** Reading includes Latin documents in translation. (3 cr per qtr; prereq 75 or 175, and 100; offered when feasible) Clark
- 151s. **Recent Poetry.** Development of 20th-century poetry in England and America. Yeats, Hardy, Housman, Robinson. Movements in the second decade—Georgians, Imagists, etc. Lawrence, Sandburg, Frost, Eliot, Jeffers, younger poets. (4 cr; prereq §§; offered when feasible)
- 154w-155s.† **American Novel.** History of the American novel from the beginning to the present. (3 cr per qtr; prereq §§) Bowron
- 156s. **American Drama.** (3 cr; prereq §§)
- 157w-158s.† **American Poetry.** Critical survey of American poetry from Anne Bradstreet to the present, with some attention to historical and intellectual backgrounds; emphasis upon major figures. (3 cr per qtr; prereq §§) Levenson
- 159w-160s. **American Literature: Colonial and Early National Periods.** Critical survey with emphasis upon principal writers such as Taylor, Edwards, Franklin, Poe; attention given to historical and cultural backgrounds such as puritanism, neoclassicism, early romanticism, the revolution, and to the transition from early American literature to the "American Renaissance." (6 cr; prereq §§) Weber
- 162f,w,s. **Milton.** The minor poems, *Areopagitica*, *Paradise Lost*, and *Samson Agonistes*. (3 cr; prereq 21-22 or 55-56) Unger, O'Brien, Steinmann
- 165f,w. **Introduction to Modern English.** Scientific approach to sounds and grammar of present-day English, with some attention to syntax; implications for a reasonable attitude toward English usage in America. (3 cr; prereq §§) Allen
- 166s. **Historical Backgrounds of Modern English.** Historical influences upon, and changes within, the language as both a popular and a literary medium of communication. (3 cr; prereq §§; offered when feasible) Allen
- 168-169. **The Tragic in Modern Fiction.** Thematic approach to the British and American novel in the context of modern European fiction and the western literary tradition. (3 cr per qtr; prereq §§; offered when feasible)
- 170w. **Shakespeare's Later Contemporaries.** Selected plays of Chapman, Jonson, Dekker, Marston, Webster, Heywood, Beaumont and Fletcher, Middleton, Ford, and Shirley. (3 cr; prereq 55-56; offered alt yrs) O'Brien
- 171f-172w.† **Eighteenth-Century Novel.** The rise and development of the English novel. 171: Defoe, Richardson, Fielding, and others. 172: Smollett, Sterne, Goldsmith, and others. (3 cr per qtr, §62; prereq grad or §; offered when feasible) Montgomery

§§ Five credits in literature, English or American, exclusive of freshman English.

- 173s. **Dr. Johnson and His Circle.** Boswell; Johnson's influence on his contemporaries. (3 cr; prereq §§ and Δ; offered alt yrs) Moore
- 174s. **American English.** The developing distinctiveness of the English language in America; its relationships to American cultural patterns; significant regional variations in vocabulary, pronunciation, and grammar; introduction to field methods of American dialect geography; access to unpublished collections of the Linguistic Atlas of the Upper Midwest. (3 cr) Allen
- 175s. **Chaucer.** Reading of *The Canterbury Tales* with introduction dealing with grammar and literary forms of 14th-century English. (4 cr, \$75 or equiv; prereq 100)
- 176f-177w.† **Study of Meter and Rhyme.** The sound and music of verse. The common lines and stanzas with their uses and variations. (3 cr per qtr; prereq §§; offered when feasible)
- 178s. **The South in Literature.** (3 cr; prereq §§; offered alt yrs) Tate
- 180w. **The Influence of Poe.** The French "Symboliste" school; influence of this school on modern literature, chiefly poetry, in English. (3 cr; prereq §§; offered when feasible) Tate
- 181f. **Modern Literary Criticism.** Major texts and movements in modern literary criticism; examination of a few of the more important historical documents from earlier centuries. (3 cr; prereq §§) O'Connor
182. **The Far West in Literature.** Expansion beyond the Mississippi as a force in American thought and letters; literature of exploration and travel; Pacific Coast regional movement; Mark Twain. (3 cr; prereq §§; offered when feasible)
- 183f. **The Poetry of T. S. Eliot.** (3 cr; prereq §§; offered alt yrs) Unger
- 184f-185w-186s.† **Form and Idea in Dramatic Literature.** Dramatic types, in chronological sequence; analytical reading of selected representative plays. 184: Tragic and religious drama (classical, medieval, Renaissance, and modern); theories of tragedy. 185: Comedy (classical, Renaissance, and modern); theories of comedy. 186: Experimental and nonrealistic drama. (3 cr per qtr; prereq §§...55-56 recommended) Hurrell
- 187f-188w-189s.† **Eighteenth-Century Literature.** Survey of English literature from 1700 to 1790. Parallel readings and critical essays. Graduate students will submit a term paper each quarter. (3 cr per qtr; prereq §§) Monk
191. **Imagery and Symbolism in English and American Literature.** Manifold literary influences, from the 17th century onward, upon T. S. Eliot and other 20th-century writers. (3 cr; prereq §§; offered when feasible)
- 193s. **The Poetry of W. B. Yeats.** (3 cr; prereq §§; offered alt yrs) Unger
- 194f-195w-196s.† **Elizabethan Literature: Prose, Poetry, Drama.** 194: From beginning of Tudor period to about 1580; Medieval origins of the drama. 195: From early work of Spenser and Sidney to the mid-nineties. 196: The decade centering in the last year or two of the Queen's reign. (3 cr per qtr; prereq §§) Brown (194-195), O'Brien (196)
- 197f-198w-199s.† **Seventeenth-Century Literature.** 197-198: Prose and nondramatic poetry of the century down to 1660. 199: Dryden and his contemporaries. (3 cr per qtr; prereq §§) Unger (197-198), Monk (199)

Attention is called to the following courses, in which foreign languages or literatures are studied but for which no specific foreign language courses are prerequisites: Clas 91, 92, 93, 106-107, 180, 181, 182, 191-192-193; Ger 53-54-55, 140-141-142; Hum 51-52-53, 61-62-63, 71-72-73; Ital 164; Russ 110, 111, 112; Scan 161, 162, 171, 172, 173. Students are urged to examine the course offerings of the foreign language departments for other courses which are pertinent to English studies.

### *For Graduate Students Only*

204. **History of the English Language**
205. **Structure of Modern English**
206. **Studies in the English Language**
- 210-211-212. **Studies in Seventeenth-Century Literature**
213. **Bibliography and Methods of Literary Research**

§§ Five credits in literature, English or American, exclusive of freshman English.

- 222-223-224. Studies in the Origins and Early Development of the American Literary Tradition  
 225-226-227. Elizabethan Drama  
 231-232-233. Shakespeare's Tragic and Comic Art  
 234-235-236. Studies in Medieval English Culture  
 240-241-242. The Canterbury Tales  
 243-244-245. Nondramatic Literature of the Sixteenth Century  
 246-247. English Literary Criticism  
 250-251. Studies in Modern Literature  
 253-254-255. American Renaissance I: Emerson, Whitman, Melville  
 256-257-258. Spenser and Milton  
 265-266-267. American Renaissance II: Hawthorne, Thoreau, Emily Dickinson  
 268-269. Studies in Aesthetics  
 274-275-276. Studies in Early Eighteenth-Century Literature  
 277-278-279. American Realism  
 281-282-283. Studies in the English Romantic Movement  
 284-285-286. Dryden and His Age  
 287-288-289. Studies in Victorian Literature  
 290-291-292. Studies in Critical Theory  
 297-298-299. Independent Reading

### Freshman English; Composition

**Major and Minor Sequences**—There is no major or minor sequence in composition. A half-minor (9 credits in Comp 101-102-103) is permissible under the usual SLA rules (see page 10), and may be taken along with a major in English.

**Concurrent Registration in Freshman English and in Composition Courses**—Students may not register for more than one of these courses at a time.

**Important Note**—No student may register for any freshman course in composition or communication without presenting an "English Classification Card (Part II)" as evidence of his assignment. On the basis of various factors, including examinations, the student is assigned to 1 of 6 categories. If he is assigned to Category 1, he is not required to take any course in composition or communication—though he may, if he wishes to, take Engl A-B-C, Engl 1A-2A-3A, Engl 1B-2B-3B, or Comm 1-2-3. If assigned to Category 2, he must take Engl A-B-C, Engl 1A-2A-3A, Engl 1B-2B-3B, or Comm 1-2-3. If assigned to Category 3, he must take Engl 1B-2B-3B or Comm 1-2-3. If assigned to Category 4, he must take Comp X; and he must, after passing it, take Engl 1B-2B-3B or Comm 1-2-3. The other two categories—Categories 1A and 4A—need not be explained here.

Engl A-B-C is a 15-credit course consisting of 6 credits of composition and 9 of literature; Engl 1A-2A-3A, a 12-credit course consisting of 6 credits of composition and 6 credits of literature; Engl 1B-2B-3B, a 12-credit course consisting of 9 credits of composition and 3 of literature; Comm 1-2-3 (offered in one of the interdisciplinary programs), a 12-credit course in composition and speech. The student may satisfy the Group A requirement for graduation, and for admission to the Upper Division, by passing any of these courses or by being assigned to Category 1 or 1A. Comp X is a no-credit course in composition. Any student who has already completed 1 or more quarters of composition in another college or university must consult the Committee on Scholastic Standing of his college before registering for any freshman course in composition or communication.

### Lower Division Courses

- Comp Xf,w,s.\*\*** Preparatory Composition. A remedial course in composition. (No cr; prereq assignment to Category 4 or 4A [see "Important Note" above])
- Engl Af,w-Bw,s-Cf,s.\*\*** Freshman Literature and Composition. A combined course in composition (6 cr) and literature (9 cr) identical with Engl 1A-2A-3A, except that it puts even greater emphasis upon literature. It satisfies the Group A requirement for graduation. (5 cr per qtr; prereq assignment to Category 1, 1A, or 2 [see "Important Note" above])
- Engl 1Af,w-2Aw,s-3Af,s.\*\*** Freshman English. A combined course in composition (6 cr) and literature (6 cr) identical with Engl 1B-2B-3B, except that it puts greater emphasis upon literature. It satisfies the Group A requirement for graduation. (4 cr per qtr; prereq assignment to Category 1, 1A, or 2 [see "Important Note" above])
- Engl 1Bf,w-2Bw,s-3Bf,s.\*\*** Freshman English. A combined course in composition (9 cr) and literature (3 cr). It concentrates upon developing the student's skill in writing exposition, with an introduction to literary types as the chief means of providing subject matter for the writing. The literature read consists of novels, short stories, plays, and poems, both English and American. It satisfies the Group A requirement for graduation. (4 cr per qtr; prereq assignment to Category 1, 1A, 2, or 3 [see "Important Note" above])
- Engl 10Hf-11Hw-12Hs.\*\*** Honors Course: Freshman Literature and Composition. A combined course in composition (6 cr) and literature (9 cr) for the exceptionally able student. (5 cr per qtr; prereq assignment to Category 1 [see "Important Note" above]) McClure
- Comp 25s.** Grammar and Rhetoric. Not a remedial course or a review of elementary English grammar, but (a) a study of some of the basic concepts of grammar (e.g., syntax and the phoneme) and rhetoric (e.g., metaphor) useful in courses in language and literature; and (b) composition of papers analyzing selected literary and nonliterary texts. (3 cr; prereq Engl C, 3A, or 3B or Comm 3)
- Comp 27f,w,s-28f,w,s.\*\*** Advanced Writing. 27: The more direct forms of expository prose. Chief topics: (a) the situation of the writer—the demands of his subject and audience; (b) definition, argument, etc.; (c) prose style. 28: The less direct forms of expository prose. Chief topics: (a) comparison, characterization, dialogue, etc.; (b) description and narration; (c) the account of personal experience. (3 cr per qtr; prereq Engl C, 3A, or 3B, or Comm 3; after first day of classes students must have  $\Delta$  to attend class)

*Note*—For journalism majors Comp 27 or 28 is required. For English and language arts majors and minors in the College of Education, both 27 and 28 are required. They may be taken in either order, but students are strongly advised to take 27 first.

### Upper Division Courses

Upper Division courses are open to sophomores under conditions explained on the first page of Section II.

- Comp 58s.** Business Reports and Letters. Style, forms, and methods in business writing. (3 cr; open to students in business administration, and with # to others; prereq Engl C, 3A, 3B, or Comm 3, or exemption) Haga
- Comp 101f-102w-103s.** The Writing of Fiction and Poetry. Principles of composition in these arts. Class meetings are devoted to analysis of examples drawn from standard sources; meetings in the first 2 quarters to fiction, those in the third to poetry; but the student's compositions may be in either form in any quarter. (3 cr per qtr; prereq for undergrad 6 cr above 50 in English literature or #) Blum

*Note*—Attention is called to Engineering Engl 85-86 (Advanced Technical Communication), offered in the Institute of Technology by members of the English staff and open to SLA students by  $\Delta$ .

### For Graduate Students Only

- Comp 200-201-202.** Graduate Seminar in Writing

\*\* Students absent on the first day will lose their place in this class.

## FAMILY STUDIES (FamS)

**FACULTY**—Gerhard Neubeck, *chairman*; Reuben Hill, *director of Family Study Center*; Armin Grams, Maurine Hansen, Helen Ludwig, Nathan Mandel, E. Scott Maynes, Virginia Senders, David Torbett

The Family Study Center administers an interdisciplinary program in education for marriage and parenthood for the Arts College. The several roles involved in effective family living are the subject of analysis; e.g., marital, parental, planning, and decision-making roles as consumers and as participants in the labor force. The courses are designed for students who will specialize in other subjects and thus will not be able to elect a sequence of courses in family study.

- 1f,w,s. Preparation for Marriage.** Application of principles from the behavioral sciences to dating, courtship, mate selection, engagement, mixed marriages, roles of men and women, interaction of marital spouses, and marital stability. (3 cr) Hansen, Mandel, Neubeck, Torbett, staff
- 1Af,w,s. Preparation for Marriage.** (See FamS 1f,w,s) Designed for Upper Division engaged or married students. (3 cr, §1) Neubeck, staff
- 15f,w,s. The Home and Its Furnishing.** Present-day housing problems; choice of location; house plans as they affect family living; exterior and interior design; choice of appropriate furnishings and accessories; building furnishing costs. (3 cr [cr must be added to SLA graduation requirements]) Ludwig
- Econ 20s. Consumer Economics.** For course description, see Econ 20 under Department of Economics. (3 cr) Maynes
- 25f,w,s. Child Development and Adjustment.** The child as a growing person in the home and in society; development of habits, skills, attitudes, and adjustment; development of self-direction; provision of good environment for child growth. (3 cr, §CD 40 or 80; for the general student, not for those interested in professional work with children; majors in the nursery-kindergarten-primary program as well as majors in psychology may not register for this course) Grams
- 50s. The Educated Woman in the United States.** Biological and psychological differences between men and women; legal and economic status of women; educational needs and problems of women; parental roles; occupational choice. (2 cr [cr must be added to SLA graduation requirement]; limited to 25, with preference given to jr and sr women with 3.00 avg or above; prereq #) Senders and guest lecturers

## FINE ARTS

See Art

## FRENCH

See Romance Languages

## GEOGRAPHY (Geog)

**FACULTY**—Eugene C. Mather, *chairman*; Ward J. Barrett, John R. Borchert, Jan O. M. Broek, Ronald A. Helin, Fred E. Lukermann, Philip W. Porter, John W. Webb.

**Major Advisers in SLA**—Professors Borchert, Broek; Associate Professor Mather; Assistant Professors Barrett, Helin, Porter, Webb; Instructor Lukermann.

**Major Sequence in SLA**—30 credits in Upper Division courses in geography, including Geog 70, 138, 160 and 170. Prerequisites: Geog 1, 4, 41, and Geol 1-2 and A. In addition, the student is strongly urged to take (a) Geol B and 6 Upper Division credits in geology, preferably in geomorphology; (b) at least 9 Upper Division credits in other social sciences; (c) a course in statistics, preferably PubH 110.

Modification of this sequence will be permitted upon petition approved by the major adviser and the assistant dean for the Upper Division.

**Major Adviser in the College of Education**—Professor Barrett.



**Requirements for a Teacher's Certificate** (applicable only to students in the College of Education)—*Major requirement:* Geog 1—Geography of Natural Resources (5); Geog 4—Human Geography (5); Geog 41—Geography of Primary Production (5). Elective courses in geography—at least 24 credits, including 1 course in each of the following areas: (a) Anglo-America, (b) Europe, (c) Soviet Union, (d) Southeast Asia, (e) Africa and the Middle East, (f) Latin America. A total of 39 credits in geography.

Because of the geography teacher's need for a broad social studies background, geography majors must complete a substantial number of courses in other social science fields. For further details the student should consult the *Bulletin of the College of Education*.

*Minor requirement:* 28 credits of geography, including Geog 1, 4, and 41, plus 1 course in each of 3 of the 6 areas listed for geography major.

**General Education**—In the Lower Division, Geog 1, 4, and 41 deal with world patterns of resources, population, and production which are an essential part of general education. In the Upper Division, the survey courses of particular countries, continents, or regions of the world offer much of interest to the nonspecialist.

### Lower Division Courses

- 1f,w,s. **Geography of Natural Resources.** Physical characteristics and geographic distribution of the world's natural resources; major regional differences in the problems of physical resource development. (5 cr) Barrett
- 1Hf. **Honors Course: Geography of Natural Resources.** Students attend lectures in Geog 1 and meet with the lecturer 1 hour per week in the honors discussion section. (5 cr; prereq #) Barrett
- 4f,w,s. **Human Geography.** Geography of population and principal ways of life; capacity of the earth for future population. (5 cr) Broek (f,s), Webb (w)
- 4Hw. **Honors Course: Human Geography.** Students attend lectures in Geog 4 and meet with the lecturer 2 hours per week in the honors discussion section. (5 cr; prereq #) Webb
- 41f,w,s. **Geography of Primary Production.** Introductory economic geography with special emphasis on commodities of commercial significance. Particular attention is given to world patterns of raw material occurrence and production, and to associated centers of industrial fabrication. (5 cr) Lukermann
- 41Hs. **Honors Course: Geography of Primary Production.** Students attend lectures in Geog 41 and meet with the lecturer 1 hour per week in the honors discussion section. (5 cr; prereq #) Lukermann

### Upper Division Courses

Upper Division courses are open to sophomores under conditions explained on the first page of Section II.

- 60f. **Maps and Map Interpretation.** Uses and abuses of maps. Interpretation of topographic and statistical maps. Survey of map sources, and air photo as a map. Emphasis on map analysis with minimum of drafting. (3 cr; prereq soph, 5 cr or #) Porter
- 67s. **Geography of Minnesota.** Geographical survey of physical resources, population, and commercial production of Minnesota. Field trips in eastern Minnesota. (3 cr; prereq 5 cr or #) Borchert
- 70f,w. **Introduction to Cartography.** Principles of map design, compilation, specification, and drafting. Map symbols. History of cartography. Projections—analysis of construction, properties, and uses. (3 cr; prereq 5 cr or #) Porter
- 78w. **Geography of Industrialization.** Historical and comparative geography of the changing landscape, socio-economic structure and trade relations of selected areas in the world undergoing industrialization in the 18th, 19th and 20th centuries. (3 cr; prereq 41 or #) Lukermann
- 100s. **Geographical Exploration and Discovery.** Extension of the geographic horizons of Western society, by the discovery of the basic land-sea relationships of the earth, from Portuguese explorations along the coast of Africa down to modern times. (3 cr; prereq 10 cr or #) Webb

- 101w. **Western Europe.** The physical and human geography of western Europe considered as a whole, followed by a more intensive discussion of selected topics on the British Isles, France, the Low Countries, the Rhine basin, Norway, and Denmark. (3 cr; prereq 10 cr or #) Webb
- 102s. **Central Europe.** The physical and human geography of Central Europe followed by a more intensive discussion of population patterns, resources, and industries in the individual countries. (3 cr; prereq 10 cr or #) Helin
- 105f. **Mediterranean Region.** Physical and human geography of lands adjacent to the Mediterranean Sea: Greece, Italy, Spain, Portugal, and Southern France. (3 cr; prereq 10 cr or #) Webb
- 107w. **Soviet Union.** Character of and bases for the regional diversity of physical resources, population, agriculture, manufacturing, and transportation in the U.S.S.R. (3 cr; prereq 10 cr or #) Helin
- 109s. **Middle America.** Physical and human geography of the West Indies and the mainland from Mexico to Colombia. (3 cr; prereq 10 cr or #; offered 1961-62 and alt yrs) Barrett
- 110w. **South America.** Regional survey of the physical resources, population, agriculture, manufacturing, and transportation in the countries of South America. (3 cr; prereq 10 cr or #; offered 1962-63 and alt yrs) Mather
- 111f. **Canada and Alaska.** Regional analysis of the physical and human geography, with an examination of both internal and external areal relationships. (3 cr; prereq 10 cr or #) Mather
- 112s. **Western United States.** Regional analysis of the physical and human resources of western United States. (3 cr; prereq 10 cr or #) Mather
- 113w. **Eastern United States.** Regional analysis of the physical and human resources east of the Great Plains. (3 cr; prereq 10 cr or #) Mather
- 114f. **Historical Geography of North America.** Sequential analysis of settlement and economy in the changing environment and resource patterns of North America. (3 cr; prereq 10 cr or #) Lukermann
- 117w. **The Middle East.** A historical-geographical description of land and people in the changing environment of the Afro-Eurasian bridgelands with an analysis of the location and pattern of its present cultural and physical resources. (3 cr; prereq 10 cr or #) Lukermann
- 118w. **Africa.** Regional differentiation of human groups and environments in Africa with special emphasis on culture contact and problems of underdeveloped countries south of the Sahara. (3 cr; prereq 10 cr or #) Porter
120. **South Asia.** Physical and human geography of India, Pakistan, and Ceylon; geographic aspects of population pressure, development of resources, and international relations. (3 cr; prereq 10 cr or #; offered when feasible) Broek
- 121s. **Southeast Asia.** Physical and human geography of Burma, Thailand, Indochina, Malaya, Indonesia, and the Philippines; geographic aspects of population pressure, development of resources, and international relations. (3 cr; prereq 10 cr or #) Broek
122. **East Asia.** Physical and human geography of China, Korea, and Japan; geographic aspects of population pressure, development of resources and international relations. (3 cr; prereq 10 cr or #; offered when feasible)
- 126s. **Australia-New Zealand-Oceania.** Physical and human geography of Australia, New Zealand, Polynesia, and Melanesia; modification of aboriginal land use after European contact, current land-use trends in non-European societies, and use and modification of the environment by Europeans. (3 cr; prereq 10 cr or #; offered 1962-63 and alt yrs) Barrett
- 133f. **Climatology.** World distribution of climatic elements; methods of arranging climatic data; climatic classifications, and the world distributions of climatic types; the general circulation; climatic change and climatic fluctuations. (3 cr; prereq 1 or #) Barrett
- 134w. **Advanced Climatology.** Detailed consideration of methods and results of study of the heat and moisture balance of the earth; the reception and disposal of precipitation and energy in the local environment; the qualities of vegetation and soil cover and terrain that influence local and regional climates; characteristics of ground and surface waters that reflect and influence local climate. (3 cr; prereq 133 or #) Barrett
- 135s. **Advanced Physical Geography.** Laboratory work and field observations in the quantitative description and analysis of terrain and climate. Particular emphasis on the North-Central United States. (3 cr; prereq 134 or #) Barrett
- 138w. **Statistical Cartography.** Principles of and practice in representing quantitative data on maps. Analysis of dot, line, isogram, chorogram, and central tendency techniques. Representation of terrain. (3 cr; prereq 70 or #) Porter
- 139s. **Air Photo Interpretation.** Extraction of quantitative and qualitative information from air photos. Analysis and interpretation of physical and cultural phenomena. Air photo scale control, stereoscopy, and sources. (3 cr; prereq 70 or #) Porter

- 140f. **Advanced Cartography.** Advanced statistical mapping techniques, with emphasis on the mapping of population and settlement. Measures of distribution. History of cartography. (3 cr; prereq 138) Porter
- 143w. **Political Geography.** Scope and methods of political geography as exemplified by various writers; analysis of selected areas. (3 cr; prereq 4 or #) Broek
- 150f. **Rural Geography.** Geographic components and assemblages of rural settlement. World regional occupance and production patterns and the geographic problems of rural settlement and agricultural production on the American scene. (3 cr; prereq 10 cr or #) Mather
- 152s. **Geography of Economic Localization.** An analysis of the localization of economic activity, the circulation of resources, and the process of industrial regionalization in the economies of the world. (3 cr; prereq 41 or #) Lukermann
- 153f. **Urban Geography.** Discussion of character and distribution of cities in present-day world, including analysis of their development. Emphasis placed on internal character of cities, their associations with rural areas, and their functional differentiation. (3 cr; prereq 4 or #) Webb
- 160f. **Development of Geographic Thought.** Objectives, subdivisions, concepts, and methods of geography, with special reference to different schools of geographic thought as expressed in literature of the last century. (3 cr; prereq sr, 15 cr) Broek
165. **Source Materials for Geographic Research.** Bibliographic aids and archival sources of geographic material at international, national, and local levels. Particular attention will be given to methods of handling data and to preparation of written reports. (3 cr; prereq sr, 15 cr; offered when feasible)
- 170s. **Field Course.** Concepts and techniques of field work. Saturdays devoted to field study in eastern Minnesota and neighboring areas. (3 cr; prereq sr, 15 cr) Staff
- 190f,v,s. **Directed Readings.** (1-3 cr; prereq sr) Staff
- 196s. **Proseminar in East and South Asia.** (Same as Anth 196, Pol 196, Ortl 196, and Hist 196) Integrating course for students majoring in the East and South Asia Area Studies program. (3 cr; prereq sr) Interdepartmental staff

*For Graduate Students Only*

- 251-252-253.† Seminar
- 256-257-258.† Seminar
- 261-262-263.† Seminar
- 266-267-268.† Seminar
- 271-272-273.† Seminar
- 276-277-278.† Seminar
- 281-282-283.† Seminar
- 286-287-288.† Seminar
- 291-292-293.† Seminar
- 296-297-298.† Seminar
301. Research Problems

**GEOLOGY AND MINERALOGY (Geol)**

FACULTY—Preston E. Cloud, Jr., *chairman*; J. Campbell Craddock, Paul W. Gast, Harold L. James, William C. Phinney, Robert E. Sloan, Frederick Swain, Herbert E. Wright, Tibor Zoltai.

**Major Advisers in SLA**—Professors Swain, Wright; Associate Professor Craddock; Assistant Professors Gast, Sloan.

**Major Sequence in SLA**—(1) Geol 1-2, A-B, or equivalent; (2) Geol 23-24, 25 which should be taken as early as possible; (3) Math 53; (4) a year of college chemistry; (5) a year of college physics, preferably Phys 7-8-9 (Phys 8 and 9 are Upper Division courses recommended as part of a minor). Courses in cartography (Geog 70), geophysics, and surveying (CE 17, see *Bulletin of the Institute of Technology*) are recommended.

The following Upper Division courses are required of all majors: Geol 100 or 115, 106, 107, 118, 125, 150, 151, 171; 2 courses selected from the following: Geol 101, 110, 112, 131.

Modification of this sequence will be permitted upon petition approved by the major adviser and the assistant dean for the Upper Division.

Geol 1, 2, A, B, 51, and 118 are designed for general education and are recommended for nonmajors who are interested in an understanding of the natural environment in which they live. The courses are designed to give the student the proper concept of time as indicated by geologic processes and their results. Open to all from any college. Highly recommended for high school general science teachers.

### *Lower Division Courses*

Laboratory science credit can be gained by 1 and A (5 credits) followed if desired by 2 and B (5 credits).

- 1f,w,s. General Geology (Physical).** Geologic processes and the materials on which they operate. (3 cr)
- 2f,w,s. General Geology (Historical).** Résumé of the history of the earth and its inhabitants as recorded in the rocks. (3 cr; prereq 1 or 51)
- Af,w,s. General Geology Laboratory (Physical).** Physical properties of common minerals and rocks; interpretation of topographic maps. (2 cr; prereq 1 or 51 or ¶1 or ¶51)
- Bf,w,s. General Geology Laboratory (Historical).** Identification of fossils, interpretation of geologic maps. (2 cr; prereq A, 2 or ¶2)
- 23f-24w. Mineralogy.** Introduction to crystallography and crystal chemistry. Chemical and physical properties of minerals. Classification and description of common minerals. Crystallographic problems, study of crystal symmetry, and sight identification of minerals in the laboratory. (4 cr per qtr; prereq soph, high school trigonometry, a term of college chemistry) Zoltai
- 25s. Rock Study.** Occurrence and origin of rocks; their mineral and chemical composition and classification. (2 cr; prereq soph, 24) Phinney

### *Upper Division Courses*

Upper Division courses are open to sophomores under conditions explained on the first page of Section II.

- 51f. Principles of Physical Geology.** Geologic processes and materials; relations of geology to man. Comparable to Geol 1 in subject matter, but with broader scope and wider readings. Suitable for nonscience majors. (3 cr, §1, §5, or §NSci 6)
- 100. Field Work in Northern Minnesota.** (July 15-30 approximately) Geologic field methods and study of selected areas on the iron ranges and other parts of northern Minnesota. Comprehensive report required for Graduate School credit. (3 cr; prereq 25)
- 101f. Sedimentation.** Environments of sedimentation. Origin of sedimentary rocks and their primary structures; lithologic associations. (3 cr; prereq 24)
- 102w. Methods of Study of Sediments.** Textural and mineralogical analysis of clastic and non-clastic sediments and sedimentary rocks. (3 cr; prereq 101, 106)
- 103f. Micropaleontology.** Study and classification of Foraminifera, Ostracoda, and other small fossils, and their use in stratigraphy. (3 cr; prereq 107) Swain
- 104w. Micropaleontology.** Advanced study of selected groups of microfossils. (2 cr; prereq 103; offered 1962-63 and alt yrs) Swain
- 106f. Optical Mineralogy.** Optical methods for identification of minerals in thin sections and immersion media. (3 cr; prereq 25) Phinney
- 107f. Invertebrate Paleontology.** Morphology and classification of important fossil groups, principles of paleontology. (3 cr; prereq B or Δ) Sloan
- 108w. Stratigraphic Paleontology.** Uses of fossils in stratigraphy; environmental analysis; detailed study of a selected fauna. (3 cr; prereq 107) Sloan
- 109s. Advanced Invertebrate Paleontology.** Procedures in taxonomy, preparation of a paleontologic report. (3 cr; prereq 108) Sloan

- 110w-111s. **Economic Geology.** Nature, genesis, and distribution of mineral deposits; relation of mineral deposits to structure and surficial alteration. (3 cr per qtr; prereq sr, 125)
- 112f. **Petroleum Geology.** Composition and origin of petroleum, methods of exploration, and geology of important oil-producing regions. (3 cr; prereq sr, 125) Swain
115. **Field Work in Southeastern Minnesota.** (July 15 to 30, approximately) Stratigraphic methods and principles as illustrated by study of Cambrian and Ordovician rocks. Comprehensive report will be required for Graduate School credit. (3 cr; prereq 25) Sloan
- 118f. **Geomorphology.** Origin and evolution of landforms in temperate, arctic, desert, and tropical regions in different geologic settings. Effects of structural history and climatic change on landform development. Relations of geomorphic processes to soil formation and engineering problems. Field trips; term paper or field project. (3 cr; prereq B) Wright
- 119Aw. **Geomorphology of Eastern United States.** General geology of physiographic provinces east of the Great Plains, with emphasis on the landforms and the Cenozoic history. Map study. (3 cr; prereq 118 or 125; offered 1961-62 and alt yrs) Wright
- 119Bw. **Geomorphology of Western United States.** General geology of physiographic provinces from the Great Plains westward, with emphasis on the landforms and the Cenozoic history. Complementary to Geol 119A. Map study. (3 cr; prereq 118 or 125; offered 1962-63 and alt yrs) Wright
- 120f. **Glacial Geology.** Physics of modern glaciers. Glacial erosion and deposition. Stratigraphy and chronology of the Pleistocene in glaciated and nonglaciated areas. Causes of Pleistocene climatic changes. (3 cr; prereq B) Wright
- 121f. **Crystallography.** Geometrical fundamentals of crystallography. Symmetry relations in the 32 crystal classes and 230 space groups. (3 cr; trigonometry and 1 yr college chemistry) Zoltai
- 125f. **Structural Geology.** Primary and secondary structures of rocks, mechanics and modes of deformation, and structural techniques. Laboratory exercises in 3-dimensional representation and solution of selected structural problems. (4 cr; prereq 25 or #) Craddock
- 126w. **Advanced Structural Geology.** Fundamental problems and genesis of secondary structural features with emphasis on detailed analysis of typical examples. Comprehensive term paper required for graduate credit. (3 cr; prereq 125) Craddock
- 131w-132s. **Petrology.** Petrographic description, classification, and origin of rocks. 131: Igneous rocks. 132: Metamorphic rocks. (4 cr per qtr; prereq 106) Phinney
- 145s. **Aerial Photographs.** Elements of photogrammetry, construction of mosaics and of planimetric and topographic maps, stereovision, geologic and geomorphic interpretation, field use. (3 cr; prereq 118 or #) Wright
- 146f-147w. **Soil Mineralogy.** Introduction to crystallography and crystal chemistry. Chemical and physical properties of minerals. Classification and description of common minerals. Crystallographic problems, study of crystal symmetry, and sight identification of minerals in the laboratory. For students in soil science, soils mechanics, and biology. (3 cr per qtr; prereq high school trigonometry, a term of college chemistry) Zoltai
150. **Field Geology.** (June 15 to July 15) Detailed systematic field work. Preparation of geologic maps, structure sections, reports; genesis of ores and their relations to geologic structures. Field: Black Hills, S.D., and northern Wyoming. (6 cr; prereq 125)
- 151w. **Stratigraphy I.** Principles of stratigraphic classification and correlation; biostratigraphic zones, sedimentary facies and cycles. Study of typical pre-Mesozoic sequences. (3 cr; prereq 25, 107) Swain
- 152s. **Stratigraphy II.** Typical Mesozoic and Cenozoic sequences; methods of presentation of stratigraphic data. (3 cr; prereq 151) Swain
- 153s. **Subsurface Stratigraphy.** Application of sample logs, electrical logs, and other methods to the detailed stratigraphy of the subsurface in selected areas. (2 cr; prereq 151) Swain
- 154w. **Geological Oceanography and Limnology.** Sedimentary and biological processes in modern oceans and lakes and their application to geology and paleontology. (2 cr; prereq 118 and 101, or #; offered 1961-62 and alt yrs) Swain
- 155f. **Vertebrate Paleontology.** Stratigraphic and morphologic aspects of fossil vertebrates. (3 cr; prereq 107 or Zool 56, or #; offered 1961-62 and alt yrs) Sloan
161. **Advanced Mineralogy.** Crystal chemistry and structures of minerals. Crystal growth. Laboratory study of specimens and structure models. (3 cr; prereq 24; offered 1961-62 and alt yrs) Zoltai
- 166w-167s. **Mineralography.** Methods of studying opaque minerals and applications to problems in ore genesis and history. (3 cr per qtr; prereq sr, 111, 131)

- 170f,w,s. **Geologic Problems.** Individual research in laboratory, or field problems at Upper Division and graduate levels. (1-3 cr per qtr)
- 171f,s. **Preparation of Geologic Report.** Supervised preparation of a geologic report, with maps and other illustrations on an acceptable area or subject. Preliminary manuscript due at midquarter. (1 cr; prereq sr; 150 or Δ)
- 175s. **Field Work in Glacial Geology and Geomorphology.** Mapping of surficial deposits and landforms of selected areas in Minnesota. One day of field work each week. (3 cr; prereq 118, 120) Wright
- 176w. **Pleistocene Geology.** Pleistocene history of glaciated and unglaciated areas, particularly North America, Europe, and the Mediterranean. Relation of Pleistocene climatic changes to soils, biogeography, and archaeology. Pollen analysis. (3 cr; prereq 120) Wright
- 177f. **Advanced Geomorphology.** Geomorphology of rivers, lakes, and oceans; landforms of arctic, desert, and tropic regions, quantitative geomorphology, other selected subjects. (3 cr; prereq 118; offered 1962-63 and alt yrs) Wright
- 178f. **Advanced Course in Principles of Economic Geology.** Fundamental principles involved in the origin of ore deposits. (3 cr; prereq 111)
- 179f. **Mining Geology.** Economic geology applied to problems in mining. (3 cr; prereq 111)
181. **Principles of Geochemistry.** Chemical structure and composition of the earth. Distribution of the elements within the lithosphere, hydrosphere, atmosphere, and biosphere. (3 cr; prereq 25 and 1 yr college chemistry) Gast
182. **Isotopic and Nuclear Processes in Geology.** Measurement of geologic time using natural radioactivity. Variations in isotopic compositions due to radioactivity and to natural isotope fractionation processes. (3 cr; prereq 25 and physical chemistry or #) Gast
183. **Advanced Geochemistry.** Selected topics in geochemistry. (2 cr; prereq 182 or #; offered 1961-62) Gast

### *For Graduate Students Only*

- 211-212-213. **Research in Paleontology**
214. **Seminar in Economic Geology**
217. **Research Course in Petroleum Geology**
227. **Geotectonics**
241. **Field Course in Geology**
- 243-244. **Research Course in Geology**
- 245-246. **Research Course in Sedimentation**
247. **Research in Geomorphology and Pleistocene Geology**
248. **Seminar in Geomorphology and Pleistocene Geology**
- 251-252. **Mineralogical Problems**
- 253-254. **Research Course in Economic Geology**
261. **Theoretical Mineralogy**
265. **Seminar in Special Research Fields**
266. **X-Ray Mineralogy**
267. **X-Ray Crystallography**
268. **Seminar in Mineralogy**
271. **Phase Equilibrium in Mineral Systems**
272. **Advanced Igneous Petrology**
273. **Advanced Metamorphic Petrology**
275. **Seminar in Mineralogy, Petrology, and Geochemistry**

### **GERMAN (Ger)**

FACULTY—Herman Ramras, *chairman*; Norbert G. Benzel, Frank D. Hirschbach, Edwin F. Menze, Gerhard H. Weiss, Cecil Wood, Frank H. Wood.

Major Advisers in SLA—Professor Ramras; Associate Professor Menze.

**Major Sequence in SLA**—35 credits in courses numbered 56 or above, of which at least 18 must be in literary courses.

**Suggested Courses for a Minor**—15 credits in courses numbered 56 or above, of which at least 9 should be in literary courses.

**Major Adviser in the College of Education**—Associate Professor Menze.

**Requirements for a Teacher's Certificate** (applicable only to students in the College of Education)—*Major recommendation*: Ger 57, 58, 59, 61, 62, 63, 68; 91-92-93 or 94-95-96, 80 or Clas 56, Elementary Linguistics; and 9 additional credits in literary courses numbered 56 or above. *Minor recommendation*: 23 credits including Ger 57-58-59, 61-62-63, 68 and 7 additional credits in courses numbered 56 or above.

### Lower Division Courses

*Note*—There are 3 course sequences in first-year German, 1A-2A-3A, 1B-2B-3B, and 1C-2C-3C, each of which prepares the student for Ger 4, the second-year course. The student should study the description of each sequence and choose the one most suited to his interests and needs. Credit cannot be earned for more than one of these sequences.

- 1A1-2A1-3A1. Beginning German: Conversational Section.** Five class meetings a week. Provides basic experience in speaking and understanding the German language through the use of texts dealing with everyday situations; provides a reading knowledge that is adequate for this level; provides necessary insight into the structure of the language by analysis of texts already learned. (5 cr per qtr)
- 1B1-2B1-3B1. Beginning German: Language and Culture.** Five class meetings a week. Provides, without emphasis on formal grammar, foundation of a reading knowledge adequate for cultural or professional purposes; gives an introduction to German culture and its contributions to Western civilization; encourages an understanding of the nature of language by systematic comparison between German and English. Stresses direct experience with a variety of reading material in German and English. (5 cr per qtr)
- 1C1,w,s-2Cf,w,s-3Cf,w,s. Beginning German.** Five class meetings a week. Gives a knowledge of the elements of grammar and the facility to read and write easy German. (5 cr per qtr; students submitting 1 yr high school German for entrance take Ger 2; those offering 2 yrs take Ger 3)
- 4f,w,s. Intermediate German.** Selected readings from literature. (3 cr; prereq 3A or 3B or 3C, or 3 yrs high school German)
- 5f,w,s. Intermediate German.** Elementary composition and conversation. May be taken at the same time with Ger 4. (2 cr; prereq 3A or 3B or 3C, or 3 yrs high school German)
- 11Hw-12Hs. Honors Course: Beginning German—Conversation.** (5 cr per qtr; prereq 1A and #)
- 13Hw-14Hs. Honors Course: Beginning German—Language and Culture.** (5 cr per qtr; prereq 1B or equiv and #)
- 15Hw-16Hs. Honors Course: Beginning German.** (5 cr per qtr; prereq 1C or equiv and #)

Attention of students is called to CLit 45-46-47, The Nature of Literature. See Comparative Literature.

### Upper Division Courses

Upper Division courses are open to sophomores under conditions explained on the first page of Section II.

- 50f-51w-52s. Reading German: A Beginning Course for Juniors and Seniors.** Develops reading proficiency by concentrating from the outset on vocabulary building and reading techniques and reduces presentation of formal grammar to a minimum. Intensive study of a variety of texts in class; individual projects in extensive reading. (3 cr per qtr)
- 53f-54w-55s. German Masterpieces in English Translation.** Requires no knowledge of the German language. German literature from medieval to modern times in its relation to other literatures; representative works are read in translation. Topics include *Parzival*, *Tristan und Isolde*, *Nibelungenlied*, Minnesinger and Meistersinger; Humanism, Reformation and Counter Reformation.

- mation; Goethe, Schiller, and the new Humanism; romanticism; Heine, Wagner, Nietzsche; Hauptmann, Mann, Rilke, Werfel. (2 cr per qtr) Wood
- 56f,w,s. **Reading and Analysis of Literary Texts.** Short stories are read to develop reading fluency and appreciation of literary values. (3 cr; not open to students who have had 70 or above; prereq 4, or 4 yrs high school German) Weiss
- 57f-58w-59s. **Composition.** Review of German grammar, with emphasis upon colloquial usage, and original compositions. (2 cr per qtr; prereq 4 and 5)
- 61f-62w-63s. **Conversation.** Systematic development of vocabulary in areas relating to everyday life and practice in the use of spoken German. (2 cr per qtr; prereq 4 and 5)
- 64f-65w-66s. **Advanced Conversation and Essay Writing.** (2 cr per qtr; prereq 59 and 63)
- 68s. **German Pronunciation.** German sounds, laboratory techniques. (2 cr; prereq 4 and 5)
- 69w,s. **German Play.** Practice in the use of standard German through participation in dramatic productions. (1 or 2 cr; prereq 3)
- 70f-71w-72s.† **Lyric Poetry from Goethe to Rilke.** 70: Goethe period. 71: Heine to the end of the 19th century. 72: Twentieth century. (2-3 cr per qtr; prereq 56, or 4 and Δ) Wood
- 73f-74w-75s.† **German Drama from Lessing to the Present.** Reading and discussion of outstanding dramatic works. 73: Classical period. Lessing, Goethe, Schiller. 74: Nineteenth century. Kleist, Hebbel, Grillparzer. 75: Modern drama. Plays representing the more recent movements in German literature, naturalism, impressionism, expressionism. (3 cr per qtr; prereq 56, or 4 and Δ) Menze, Ramras
- 76f-77w-78s.† **German Prose of the Nineteenth and Twentieth Centuries.** 76: Nineteenth century. Selected *Novellen* by renowned mid-century prose writers, such as Keller, Meyer, Ludwig, Fontane. 77 and 78: Modern writers. Writers and literary movements of the 20th century are represented in selected works of Thomas and Heinrich Mann, Schnitzler, Kafka, and others. (2-3 cr per qtr; prereq 56 or 4 and Δ) Menze, Weiss
80. **History of the German Language.** (3 cr; prereq 6 cr in courses 70 or above; offered when feasible)
- 91f-92w-93s.† **German Civilization and Culture.** Survey of important movements and leading personalities in art, music, science, religion, and education against a general historical and geographical background. Class discussions and lectures supplemented with demonstration materials. (3 cr per qtr; prereq 3 cr in courses 70 or above)
- 94f-95w-96s.† **Survey of Literature.** Recommended for all undergraduate majors. Reading of some of the more significant works, supplemented by lectures on the history and development of German literature. 94: From the beginnings to the 18th century. 95: From the 18th century to the end of the Goethe period. 96: From romanticism to the 20th century. (9 cr; prereq 3 cr in courses 70 or above) Hirschbach
- 97f-98w-99s.† **Goethe.** 97: Storm and Stress. 98: Classical period. 99: Faust I. (3 cr per qtr; prereq 3 cr in courses 70 or above) Ramras

Courses numbered 100 to 199 are open to seniors upon recommendation of advisers. The prerequisites for any course between 150 and 199 are 14 credits in courses 70 and above or equivalent.

#### COMPOSITION AND BIBLIOGRAPHY

- 103f-104w-105s.† **German Syntax and Composition.** Required of all graduate majors. (1 cr per qtr; prereq 66 or equiv; offered 1962-63 and alt yrs)
- 133f-134w-135s.† **Bibliography and Research Methods.** Required of all graduate majors. (1 cr per qtr; offered 1961-62 and alt yrs)

#### LITERATURE

- 116f-117w. **The Middle High German Epic.** (3 cr per qtr; prereq 111, or Δ; offered when feasible) C Wood
- 118s. **The Minnesang.** (3 cr; prereq 111 or Δ; offered when feasible) C Wood
- 140f-141w-142s.† **Drama in Translation.** (3 cr per qtr; prereq 9 cr in theater arts or literature above 50; no knowledge of German language required; cannot be used for German major or minor; offered 1962-63) Menze
149. **Directed Reading.** (2-3 cr)
- 150f-151w-152s.† **The Age of Luther.** (3 cr per qtr; offered when feasible)



- 153-154. German Literature of the Seventeenth Century. (3 cr per qtr; offered when feasible) Weiss
- 160f-161w-162s.† Klopstock, Wieland, Lessing, Herder. (3 cr per qtr; offered 1963-64 and every 3rd yr) Ramras
- 163f-164w-165s.† Goethe. (3 cr per qtr; offered 1962-63 and every 3rd yr) Ramras
- 166f-167w-168s.† Schiller. (3 cr per qtr; offered 1961-62 and every 3rd yr) Ramras
- 170f-171w-172s.† Romanticism. (3 cr per qtr; offered 1963-64) Menze
- 173f-174w-175s.† The Nineteenth-Century Novel. (3 cr per qtr; offered 1961-62) Menze
- 176f-177w-178s.† The Nineteenth-Century Drama. (3 cr per qtr; offered when feasible) F Wood
- 179A-B.† German Drama from Naturalism to the Present. 179A: 1880-1910. 179B: 1910 to present. (3 cr per qtr; offered when feasible) Hirschbach, Weiss
- 180f-181w-182s.† The Twentieth-Century Novel. (3 cr per qtr; offered when feasible) Ramras, F Wood, Hirschbach
- 183f-184w-185s.† Studies in the Literature of the Twentieth Century. Literary movements represented in drama, lyric, and shorter prose forms. (3 cr per qtr; offered when feasible) F Wood
- 186f-187w-188s.† Lyric Poetry. 186: Renaissance through *Sturm und Drang*. 187: Goethe through romanticism. 188: Heine to Rilke. (3 cr per qtr; offered when feasible) F Wood
189. Expressionism in German Literature. (3 cr; offered when feasible) Hirschbach
- 190f-191w-192s.† English-German Literary Relations. (3 cr per qtr; offered when feasible)
- 190A-191A-192A.† French-German Literary Relations. (3 cr per qtr; offered when feasible) F Wood
- 193f-194w-195s.† Studies in Literary Theory and Criticism. (3 cr per qtr; offered when feasible) Ramras

#### GERMANIC PHILOLOGY

- 110f-111w. Middle High German Language. (3 cr per qtr; prereq 94 and 11 cr in courses 70 and above or equiv; offered 1962-63) C Wood
- 112s. History of the German Language. (3 cr; prereq 111; offered 1962-63) C Wood
- 157f-158w-159s. Old Norse Language and Literature. (3 cr per qtr; prereq knowledge of 1 Germanic language other than modern English; offered when feasible) C Wood

#### GERMANIC LINGUISTICS

- 113f. Gothic. (3 cr; prereq 80 and 11 cr in courses 70 and above or equiv; offered 1961-62) C Wood
- 114w-115s. Methods of Comparative Germanic Linguistics. (3 cr per qtr; prereq 113; offered 1961-62) C Wood
- 119f. Old High German. (3 cr; prereq 112 or 115; offered when feasible) C Wood
- 120w. Old Saxon. (3 cr; prereq 119; offered when feasible) C Wood
- 121s. The Hildebrandslied. (3 cr; prereq 119 and 120; offered when feasible) C Wood

#### *For Graduate Students Only*

253. Seminar: Eighteenth Century
254. Seminar: Nineteenth Century
255. Seminar: Twentieth Century

#### GREEK

See Classics

#### HISTORY (Hist)

FACULTY—Harold C. Deutsch, *chairman*; W. Donald Beatty, *assistant chairman*; Josef L. Altholz, George W. Anderson, Paul W. Bamford, Robert F. Berkhofer, Jr., Clarke A. Chambers, Ralph E. Giesey, Robert S. Hoyt, Tom B. Jones, Philip D. Jordan, Rodney C. Loehr, Karl F. Morrison,

Paul L. Murphy, David W. Noble, Stanley G. Payne, Otto P. Pflanze, Darrett B. Rutman, Theofanis G. Stavrou, Burton Stein, Romeyn Taylor, David H. Willson, John B. Wolf, William E. Wright.

**Major Advisers in SLA**—Professors Deutsch, Hoyt, Jones, Jordan, Pflanze, Willson, Wolf; Associate Professors Anderson, Bamford, Beatty, Chambers, Loehr, Murphy, Noble, Stein, Wright; Assistant Professors Altholz, Giesey, Rutman, Stavrou, Taylor; Instructors Berkhofer, Morrison, Payne.

**Major Sequence in SLA**—Students majoring in history will be expected to take Hist 1-2-3 or 4-5-6 or 11-12-13 or 14-15-16 or 17-18-19 in the freshman year, Hist 20-21-22 in the sophomore year, and 27 hours in history courses numbered 65 or above in their last 2 years. Of these Upper Division courses, at least 18 hours must consist of two 9-hour sequence courses.

In special cases students will be allowed to substitute sequence courses numbered 65 or above in lieu of the courses normally taken in the first 2 years. (Courses numbered 50-64 may not be used for Upper Division credit in satisfying the major requirements.)

In 1 of the Upper Division 9-hour sequence courses, the student majoring in history will be expected to write a paper, or papers, satisfactory to the professor, and these papers must be filed with the secretary of the department as a prerequisite for graduation.

*Students planning to do advanced work in history should acquire a reading knowledge of French and German in their early undergraduate years.*

**Requirements for Honors in History**—Students majoring in history who have a University average of 3.00 and an average of 3.25 in history courses may try for honors in history.

In the junior year the candidate for honors in history will be expected to take one 9-hour Upper Division sequence course and Honors Course: History (82H-83H-84H). If for one reason or another it is not possible to take the honors course in the junior year, another 9-hour Upper Division course may be substituted and the honors course then would be taken in the senior year. The department strongly urges that Honors Course: History should be taken in the junior year. In the senior year the honors candidate will take a 9-hour sequence course and one of the proseminars (numbered 170 or above) in which he will prepare a research paper.

Upon completion of the program a committee composed of the chairman of the department, the professor in charge of the honors course, and the professor under whom the research paper was written, will pass upon the award of honors, high honors, or highest honors in history.

**Major Advisers in the College of Education**—Professors Murphy and Wright.

**Requirements for a Teacher's Certificate** (applicable only to students in the College of Education)—*Major recommendation*: a minimum of 48 credits; at least 30 credits must be in Upper Division courses numbered 65 or above. See the *Bulletin of the College of Education* for details. *Minor recommendation*: a minimum of 30 credits of which at least 12 credits must be in courses numbered 65 or above.

No major recommendation to teach history will be given unless the candidate has taken the general course in American history, Hist 20-21-22, or equivalent. For other history courses the same provisions apply as for SLA majors in history, noted above.

For a specialized minor curriculum in social studies see the *Bulletin of the College of Education*.

**General Education**—The offerings of the History Department numbered below 170 attract and are designed to serve the needs of students from all areas of the University. Lower Division students will find any of the courses numbered between

1 and 22 fit the category of general education as well as providing the basis for more advanced work. For Upper Division students who have had no previous work in history, the department particularly recommends the courses numbered between 50 and 65.

### Lower Division Courses

- 1f,w-2w,s-3f,s.† Civilization of the Modern World.** 1: Rise of the European state system as framework within which Western civilization developed, and economic, cultural, political, intellectual, and religious implications to the emerging system. 2: Struggle for control over the Western states system, and emergence of liberal democracy in the modern world. 3: Impact of industrialism upon Western and world civilization in the 20th century. (3 cr per qtr) Bamford, Payne, Wolf, Wright
- 1Hf,w-2Hw,s-3Hf,s.† Honors Course: Civilization of the Modern World.** Students attend lectures in Hist 1-2-3 and meet with the lecturer 1 hour per week to discuss readings, problems in historiography, and research methods relative to the civilization of the modern world. (3 cr per qtr; prereq #) Bamford, Payne, Wolf, Wright
- 4f-5w-6s.† English History.** 4: Conquest and settlement, feudal age, foreshadowings of limited monarchy and popular government. 5: Tudors, Stuarts, and Hanoverians, parliament versus king, colonization and American Revolution. 6: Coming of democracy, Britain and Europe, Empire and Commonwealth. (3 cr per qtr) Willson
- 11f-12w-13s.† Medieval and Renaissance History.** 11: Roman heritage, "age of faith," feudal age, crusades. 12: Towns and trade, learning and literature, Gothic, early Renaissance. 13: Renaissance and Reformation, rise of national states, exploration and discovery. (3 cr per qtr; prereq sophomore or #) Hoyt
- 14f-15w-16s. Ancient Civilization.** Survey of rise and fall of ancient civilization. 14: Near East to 500 B.C. 15: Greek civilization, 750-323 B.C. 16: Roman civilization to A.D. 305. (3 cr per qtr) Jones
- 14Af-15Aw-16As. Ancient Civilization with Basic Readings.** Students attend lectures in Hist 14-15-16 and meet 2 additional hours per week to discuss assigned readings in the literature of the Near East, Greece, and Rome. (5 cr per qtr) Jones
- 17f-18w-19s.† History of Asia.** A survey of the history of China, Japan, India, and Southeast Asia from ancient times to the present. 17: Ancient history and culture of China, Japan, and India to A.D. 1200. 18: Asia, A.D. 1200-1800 (Chinese empire period; India: Muslim domination; Japanese feudalism; the beginning of Western influence). 19: Modern Asia: The impact of Europe, nationalism, post-World War II Asia. (3 cr per qtr) Stein and Taylor
- 20f,w-21w,s-22f,s.† American History.** Survey of political, economic, and social history of the United States with emphasis on forces that resulted in emergence of modern America. 20: Colonial and early national period. 21: Sectionalism and national development. 22: Modern America. (3 cr per qtr; prereq soph) Berkhofer, Chambers, Murphy, Rutman
- 20Hf,w-21Hw,s-22Hf,s.† Honors Course: American History.** Students attend lectures in Hist 20-21-22 and meet with the lecturer 1 hour per week to discuss readings, problems in historiography, and research methods in American history. (3 cr per qtr; prereq soph and #) Berkhofer, Chambers, Murphy, Rutman

### Upper Division Courses

Except where otherwise stated, there are no prerequisites for the courses numbered 50 to 169. Most of these courses are announced for f-w-s or w-s, but students may enter any quarter.

Upper Division courses are open to sophomores under conditions explained on the first page of Section II.

The first four courses listed below are survey courses designed for students who do not intend to major in history and may not be used to fulfill the major requirement in Upper Division. Upper Division students may, however, use them as substitutes for their Lower Division equivalents.

**50f-51w-52s.† Ancient Civilization.** (3 cr per qtr, §14-15-16) Jones

**53f-54w-55s.† Civilization of the Modern World.** (3 cr per qtr, §1-2-3) Altholz

**56f-57w-58s.† History of England.** (3 cr per qtr, §4-5-6) Willson

**59f-60w-61s.† History of Asia.** (3 cr per qtr, §17-18-19) Stein and Taylor

- 62Af-63Aw.† **Cultural History of Japan.** 62A: Prehistoric times to A.D. 1600. 63A: A.D. 1600 to present. (3 cr per qtr; offered when feasible)
- 70f-71w-72s.† **English Constitutional History.** 70: Medieval period. 71: Later medieval and early modern period. 72: Modern period. (3 cr per qtr; prereq prelegal soph with at least a C avg in 4-5-6, 1-2-3, or in all college work, or jr) Hoyt
- 79f-80w-81s.† **The United States in the Twentieth Century.** Political, economic, diplomatic, and social history of United States from Spanish-American War to present. 79: 1898-1916. 80: 1916-1932. 81: 1932 to present. (3 cr per qtr) Chambers
- 82Hf-83Hw-84Hs.† **Honors Course: History.** (3 cr per qtr; prereq candidacy for honors in history, #) Wright
- 86f-87w-88s.† **American Colonies.** 86: In the 17th century. 87: In the 18th century. 88: In the empire and the revolutionary crisis. (3 cr per qtr) Rutman
- 89s. **Economic History of Modern War.** Economic aspects of the French Revolution and Napoleonic Wars, and of World War I and World War II. (3 cr; offered when feasible)
- 90f-91w-92s.† **The American West.** Interpretation of American frontier from its establishment in the colonies to its disappearance as a factor in American life. 90: Colonial frontier. 91: Mid-America. 92: Beyond the hundredth meridian. (3 cr per qtr) Berkhofer
- 93f-94w-95s.† **American Diplomatic History.** 93: American diplomacy, 1776-1848. 94: Period of national development. 95: United States as a world power. (3 cr per qtr) Beatty
- 97f-98w-99s.† **Minnesota and the Northwest.** (3 cr per qtr) Jordan
- 100f-101w-102s.† **History of the Ancient Near East.** (3 cr per qtr; offered 1963-64 and every 3rd yr) Jones
- 100Af-101Aw-102As.† **History of Greece to 200 B.C.** (3 cr per qtr; offered 1964-65 and every 3rd yr) Jones
- 100Bf-101Bw-102Bs.† **History of Rome.** (3 cr per qtr; offered 1962-63 and every 3rd yr) Jones
- 103f-104w-105s.† **Europe in the Middle Ages.** 103: Decline of Rome; early Middle Ages. 104: High Middle Ages. 105: Later Middle Ages and the Renaissance. (3 cr per qtr) Hoyt, Morrison
- 103Af-104Aw-105As.† **Renaissance and Reformation.** 103A: Age of Dante and Petrarch. 104A: Italian Renaissance. 105A: Reformation. (3 cr per qtr) Giesey
- 106f-107w-108s.† **Early Modern Europe.** 106: Reformation and religious wars. 107: 17th century. 108: 18th century. (3 cr per qtr) Wolf
- 106Af-107Aw-108As.† **Europe in the Nineteenth Century.** 106A: French Revolution and Napoleon. 107A: Liberalism and nationalism, revolutions of 1820, 1830, 1848. 108A: 1852-1900, unification of Italy and Germany, industrialism and imperialism. (3 cr per qtr) Pflanze
- 109f-110w-111s.† **Europe in the Twentieth Century.** 109: 1890-1918. 110: 1918-1938. 111: 1938 to the 1950's. (3 cr per qtr) Payne
- 112f-113w-114s.† **Economic History of Europe.** 112: Economic life in ancient and medieval times. 113: Economic developments in early modern world. 114: Economic developments since 1750. (3 cr per qtr) Bamford
- 115f-116w-117s.† **European Overseas Expansion.** 115: Voyages of discovery and overseas expansion, 1400-1600. 116: Colonial development, 1600-1815. 117: Imperialism since 1850. (3 cr per qtr; offered when feasible) Stein
- 120f-121w.† **Modern France.** 120: Political, social, and economic history of France from Vienna settlement to establishment of Third Republic. 121: Struggle of Third and Fourth Republics to meet challenge of 20th century. (3 cr per qtr; prereq 9 cr, or 15 cr in social science, or major in French; offered when feasible)
- 125f-126w-127s.† **Russia.** 125: Origins of the Slavs, the eastward movement, and the rise of Russia through the death of Peter the Great. 126: The Empire after Peter the Great to the 19th century. 127: 19th century to the end of the Empire. (3 cr per qtr) Anderson
- 125Af-126Aw-127As.† **Eastern Europe.** Balkan countries, Poland, Hungary, Czechoslovakia. 125A: Balkan countries, Poland, and Hungary up to the 19th century. 126A: 19th century and World War I. 127A: After World War I to the present. (3 cr per qtr; prereq 3) Anderson
- 125Bf-126Bw-127Bs.† **Modern Russia.** 125B: The reign of Nicholas II to 1914. 126B: 1914-1929, World War I, revolutions, civil war, new economic policy. 127B: The Soviet regime from 1929 to the present. (3 cr per qtr) Stavrou
- 125Cf-126Cw-127Cs.† **The Modern Near East: The Balkans and the Arab World.** 125C: From the fall of Constantinople (1453) to the Treaty of Jassy (1792). 126C: From the Treaty of Jassy to the Congress of Berlin (1878). 127C: From the Congress of Berlin to the present. (3 cr per qtr) Stavrou

- 128f-129w-130s. **Modern England: Tudor and Stuart Periods.** 128: 1485-1588, from Henry VII to defeat of Spanish Armada. 129: 1588-1642, from Spanish Armada to English civil wars. 130: 1642-1714, from civil wars to death of Queen Anne. (3 cr per qtr; offered 1962-63 and alt yrs) Willson
- 128Af-129Aw-130As.† **Modern England: 1783 to the Present.** 128A: 1783-1846, the triumph of the middle class. 129A: 1846-1901, the Victorian era. 130A: 1901-1951, war and social change. (3 cr per qtr; offered 1961-62 and alt yrs) Altholz
- 128Bf-129Bw-130Bs.† **Modern England: Social History.** 128B: The age of Queen Elizabeth I. 129B: The 18th century. 130B: The age of Queen Victoria. (3 cr per qtr; offered 1961-62 and alt yrs) Willson
- 131f-132w-133s.† **Intellectual and Cultural History of Modern Europe.** 131: The 18th century and its background. 132: The early 19th century, romanticism and liberalism. 133: The late 19th and early 20th centuries, the breakdown of the intellectual unity of Europe. (3 cr per qtr; offered 1962-63 and alt yrs) Altholz
- 134f-135w-136s.† **World War II.** 134: Origins and background. 135: War period, 1939-1942. 136: Period 1943-1945. (3 cr per qtr) Deutsch
- 137f-138w-139s.† **The Early National Period in United States History.** 137: 1783-1815. 138: 1815-1835. 139: 1835-1850. (3 cr per qtr) Jordan
- 137Af-138Aw-139As.† **American History, 1850-1900.** 137A: Compromise of 1850 to Appomattox. 138A: 1865 to 1880. 139A: 1880 to 1900. (3 cr per qtr) Loehr
- 140f-141w-142s.† **History of Germany.** 140: To 1648. 141: 1648-1871. 142: Since 1871. (3 cr per qtr; prereq 3 or major in German or §) Wright
- 145s. **American Agricultural History.** The development of American agriculture from the colonial to the present. (3 cr) Loehr
- 146f-147w-148s.† **American Economic and Social History.** 146: Colonial life. 147: From American Revolution to 1860. 148: Developments since 1860. (3 cr per qtr) Loehr
- 146Af-147Aw-148As.† **History of the South.** 146A: 1607-1840. 147A: 1840-1890. 148A: Since 1890. (3 cr per qtr) Noble
- 149f-150w-151s.† **Social and Intellectual History of the United States.** (3 cr per qtr) Noble
- 149Af-150Aw-151As.† **American Constitutional History.** 149A: English and colonial background through the Age of Jefferson. 150A: The slavery controversy, sectionalism, Civil War and Reconstruction. 151A: Constitutional developments in an industrial age. (3 cr per qtr) Murphy
- 154Af-155Aw-156As.† **The History of the British Empire and Commonwealth.** 154A: First empire to 1783. 155A: Second empire, 1783-1914. 156A: Development of the Commonwealth. (3 cr per qtr; offered when feasible) Stein
- 154Bf-155Bw-156Bs.† **The History of South Asia, Especially India.** 154B: Ancient India to A.D. 1000. 155B: Muslim India, A.D. 1000-1757. 156B: Modern India, 1757-1947. (3 cr per qtr) Stein
- 157f-158w-159s.† **Survey of Latin-American History.** 157: Colonial period. 158: Latin-American republics. 159: Recent Latin-American history. (3 cr per qtr) Beatty
- 162f-163w.† **Cultural History of China.** 62: Prehistoric times to A.D. 600. 63: A.D. 600 to the present. (3 cr per qtr; prereq ¶Art 111 recommended; offered when feasible)
- 164f-165w-166s.† **History of China, Prehistoric Times to Present.** 164: To 221 B.C. 165: 221 B.C. to A.D. 1279. 166: A.D. 1279-1949. (3 cr per qtr) Taylor
- 164Aw-165As.† **The Chinese Revolution, 1851-1949.** A survey of modern Chinese history focused on the transition from imperial bureaucracy to communist bureaucracy in a context of broad cultural adjustment under Western influence. 164A: 1851-1911. 165A: 1911 to present. (3 cr per qtr; offered 1961-62 and after when feasible) Taylor
- 167f-168w-169s.† **Readings in the Works of Great Historians.** (2 cr per qtr; prereq sr; required of all Ph.D. candidates) Giesey

#### PROSEMINARS IN EUROPEAN HISTORY

- 170f-171w-172s.† **Ancient History.** (3 cr per qtr) Jones
- 173f-174w-175s.† **Medieval History.** (3 cr per qtr) Hoyt, Morrison
- 173Af-174Aw-175As.† **Medieval English History.** (3 cr per qtr)
- 173Bf-174Bw-175Bs.† **Renaissance History.** (3 cr per qtr) Giesey
- 176f-177w-178s.† **Seventeenth-Century France.** (3 cr per qtr; prereq reading knowledge of French) Wolf

- 176Af-177Aw-178As.† **Russian History.** (3 cr per qtr; prereq 127 and reading knowledge of Russian, German, or French, or #) Anderson
- 176Cf-177Cw-178Cs.† **Recent European History.** (3 cr per qtr; prereq lect course in 20th-century Europe or World War II, or #) Deutsch
- 176Df-177Dw-178Ds.† **Nineteenth-Century European History.** (3 cr per qtr; prereq reading knowledge of French or German and 108A, or #) Pflanze
- 176Ef-177Ew-178Es.† **Modern European History—The Eighteenth Century.** (3 cr per qtr) Wright
- 179f-180w-181s.† **European Economic History Since 1500.** (3 cr per qtr) Bamford
- 179Af-180Aw-181As. **History of European Commerce.** (3 cr per qtr; offered 1961-62 and alt yrs) Bamford
- 182f-183w-184s.† **English History: Tudor and Stuart Periods.** (3 cr per qtr) Willson

### PROSEMINARS IN AMERICAN HISTORY

- 185f-186w-187s.† **American Political and Constitutional History.** (3 cr per qtr) Murphy
- 185Af-186Aw-187As.† **The West in American History.** (3 cr per qtr; offered 1961-62 and alt yrs) Berkhofer
- 185Bf-186Bw-187Bs.† **American Diplomatic History.** (3 cr per qtr; offered 1961-62 and alt yrs) Beatty
- 185Cf-186Cw-187Cs.† **Twentieth-Century American History.** (3 cr per qtr) Chambers
- 185Df-186Dw-187Ds.† **Nineteenth-Century American History.** (3 cr per qtr) Jordan
- 185Ef-186Ew-187Es.† **Seventeenth- and Eighteenth-Century American History.** (3 cr per qtr) Rutman
- 188f-189w-190s.† **American Economic History.** (3 cr per qtr; offered 1962-63 and alt yrs) Loehr
- 188Af-189Aw-190As.† **American History, 1850-1900.** (3 cr per qtr; offered 1961-62 and alt yrs) Loehr
- 188Bf-189Bw-190Bs.† **Intellectual History of United States in Nineteenth, Twentieth Centuries.** (3 cr per qtr) Noble
- 191f-192w-193s.† **Latin-American History.** (3 cr per qtr; prereq reading knowledge of Spanish; offered when feasible) Beatty

### PROSEMINARS IN ASIAN HISTORY

- 176Bf-177Bw-178Bs.† **History of India.** (3 cr per qtr) Stein
- 194Af-195Aw-196As.† **Chinese History.** (3 cr per qtr; prereq 2 yrs of literary Chinese or equiv preparation) Taylor
- 196s. **East and South Asia.** (Same as Anth 196, Geog 196, Ortl 196, and Pol 196) Integrating course for students majoring in East and South Asia Area Studies program. (3 cr; prereq sr) Interdepartmental staff

### *For Graduate Students Only*

- 200-201-202. **Historical Bibliography and Criticism**
- 210-211-212. **Ancient History**
- 213-214-215. **Medieval History**
- 216-217-218. **Renaissance History**
- 220-221-222. **Medieval English History**
- 223-224-225. **English History, Tudor-Stuart Period**
- 233-234-235. **Seventeenth-Century France**
- 240-241-242. **Nineteenth-Century Europe**
- 243-244-245. **Recent European History**
- 250-251-252. **European Economic History**
- 253-254-255. **Russian History**
- 260-261-262. **Latin-American History**
- 263-264-265. **History of India**

- 270-271-272. Seventeenth- and Eighteenth-Century American History  
 273-274-275. Nineteenth-Century American History  
 276-277-278. American History, 1850-1900  
 280-281-282. Twentieth-Century American History  
 283-284-285. American Economic History  
 286-287-288. American Political and Constitutional History  
 290-291-292. The West in American History  
 293-294-295. American Diplomatic History

## HOME ECONOMICS (HE)

(College of Agriculture, Forestry, and Home Economics)

Director—Louise A. Stedman

The courses in home economics listed in this bulletin are open to SLA students as well as to students from other colleges.

Students registered in colleges other than Agriculture, Forestry, and Home Economics who wish to take courses not listed on the following pages must have the approval of the director of the School of Home Economics.

Students from colleges other than Agriculture, Forestry, and Home Economics who wish to take courses in related art should choose their courses, to avoid duplication of content, according to the following sequences which have been planned to accommodate nonmajors:

1. HE 20, 120 (or)
2. HE 20, 24, 123 (or)
3. HE 20 (or any studio art course), 22, 125 (or)
4. FamS 15; HE 120, 123

### Lower Division Courses

- 1f,w,s. **Choice and Care of Clothing.** Principles of planning, selecting, and caring for the wardrobe. Design and color as they relate to dress and personal appearance. Some textile knowledge of help to consumer. (3 cr, §GC 3C; not open to srs or to men)
- 20f,w,s. **Introduction to Related Art.** Development of an appreciation of art involved in the everyday life of student; cultivation of taste in varied fields such as home furnishings and architecture. Arts and crafts of various countries studied briefly for their contribution to student's breadth of view, enjoyment, and understanding of other cultures. (4 cr) Myren
- 22f,w. **Beginning Costume Design.** Opportunity to plan suitable and becoming costumes for different personality and figure types. Study of regional costumes. Craft problems related to costume. (3 cr; prereq 1, 20...21 recommended) Esteros (f), Forsyth (w)
- 30s. **Introduction to Nutrition.** Discussion of the application of the principles of nutrition to the selection of food. (2 cr, §GC 3B, §HE 31; intended for SLA students [open to home economics students only by special permission of director of School of Home Economics]; offered on Mpls Campus) Doyle
- 31f,w,s. **Introduction to Nutrition.** Application of nutrition principles to food selection of college students. Includes information on relation of food to promotion and maintenance of health. (3 cr, §GC 3B, §HE 30; not open to home economics sr) Morse, Doyle
- 40f,w,s. **Food Preparation.** Development of technique and application of fundamental science principles to cookery processes and preservation. Establishment of good standards for food products. (5 cr; no prereq for SLA students)

### Upper Division Courses

- 50f,w,s. **Textiles.** Consumer textile problems; characteristics of fibers, fabrics, and finishes; selection, maintenance, and serviceability of fabrics for clothing and home furnishing; laboratory study of selected fabrics. (4 cr; prereq 3rd qtr soph, InCh 5 or NSci 2, or GC 7C, or §) Gorham

- 70f,w. Advanced Food Preparation.** (Continuation of 40) Emphasizes scientific principles that underlie cookery processes and food preservation. (3 cr; prereq 40 and Δ) Swansburg
- 72f. Nutrition.** Discussion of the application of the principles of nutrition to the selection of food. (2 cr, §GC 3B, §PNur 14, or §HE 31; intended for students majoring in fields other than home economics [open to HE students only by ‡]; prereq jr; given on Mpls Campus) North
- 78f,s. Nutrition.** Principles of nutrition and the problems of food selection most commonly met in everyday living. (4 cr, §170, §171; prereq 30 or 31, and 40, physiology or human biology) Doyle
- 85f,w,s. Home Management Principles.** Managerial aspects of homemaking; work simplification of household activities; financial records and budget making for individual and family. (3 cr; prereq 40...41 recommended) Jeary
- 120f,w,s. Art History.** Art from the Egyptian period to present. Painting, sculpture, architecture, furniture, and costume of the past studied for their present influences and contributions and their significance to contemporary houses and furnishings and to dress. Field trips. (3 cr) Esteros
- 121w. Textile Design.** Historic and modern textile designs and designers. Original designs applied to textiles by means of silk screen, batik, and block print techniques. (3 cr; prereq 23, 50 or ‡) Abell
- 123w. History of Home Furnishings.** Historic styles in home furnishings with their corresponding styles in exteriors; effect of historic styles on contemporary design in home furnishings. (2 cr) Ludwig
- 125s. Advanced Costume Design.** Modern and historic costume. Studies and reports on selected topics. Problems in draping and sketching designs. Pencil, crayon, and watercolor techniques. (3 cr; prereq 3, 22 or ‡) Esteros

## HOW TO STUDY

See Interdisciplinary Programs

## HUMANITIES

See Interdisciplinary Programs

## INTERDISCIPLINARY PROGRAMS

FACULTY—J. W. Buchta, *chairman*; George Amberg, Robert Ames, John Berryman, Fred H. Blum, Morgan Blum, Patrick Brooks, David Brown, Daniel V. Bryan, David Cooperman, Soren F. Cox, Mark Graubard, Don Hausdorff, John V. Jensen, Anne O. Kruger, Joseph J. Kwiat, Marcia Morrison, Gerhard Neubeck, Robert C. O'Hara, Clement Ramsland, Mordecai Roshwald, Ralph G. Ross, Mulford Q. Sibley, Philip Siegelman, Jogindar Uppal.

The Arts College offers both departmental and interdepartmental courses for the purpose of general education. Such courses are designed in the main for students who will not specialize in the academic area with which these courses are concerned. Introductory courses in most departments help serve this purpose, and many departments offer courses beyond the introductory level also suitable to the interests of the nonspecialist. The student will find a brief guide to courses in the introduction to a number of department listings that are particularly suitable for the nonspecialist.

Interdepartmental courses or divisional courses devised especially for the purposes of general education are also offered by the Arts College. These courses draw subject matter and materials from several disciplines. They are designed in the main for students who will specialize in other subjects and thus will not be able to elect several courses in the field.

The courses have been arranged in six programs. In registering for these courses, write the program heading (abbreviated prefix) in the column labeled "department" as indicated in the listings that follow:



## Communication (Comm)

*Program Chairman*—Harold B. Allen

**1f,w,s-2f,w,s-3f,w,s. Communication.** The English language and its uses, with constant practice in speaking and writing, in listening and reading. 1: Language in its social context; meaning, structure, and appropriateness in exposition. 2: Language and reasoning; processes and responsibilities of investigation, deliberation, and persuasion. 3: Language and public discourse; the structure, content, and social implications of utterances through the mass media of communication. Instruction individualized through conferences; staff consultant on speech available. Meets the Group A requirement in Freshman English. (4 cr per qtr; prereq assignment to Category 1, 1A, 2 or 3 [see "Important Note," page 66])

**2Hw-3Hs. Honors Course: Communication.** Parallel to Comm 2-3; more extensive study of major works on rhetoric and public discourse, greater individual participation in class work. (4 cr per qtr; prereq recommendation of Comm 1 inst)

## Foreign Study (FS)

**161su-162su. Seminar for Foreign Study.** Directed field study (SPAN program) in selected foreign countries, investigating the current economic, political, educational, cultural, and religious patterns of life. Each student will study the country carefully before embarking and write a comprehensive report of his findings upon returning. (12 cr; prereq approval before December by a faculty selection committee [grad students must also have approval of adviser])

## Humanities (Hum)

*Program Chairman*—Ralph G. Ross

**Major Advisers in SLA**—Professors Amberg, Ross, Wood; Associate Professors Ames, Berryman, Bryan; Assistant Professors Blum, Frank, Ramsland, R. Swanson.

The subject of the humanities is man. The courses listed below attempt to reveal something about the values, the aspirations, and the limitations of the human spirit through a carefully integrated study of literature, philosophy, history, and the arts. While it is a distinctive field of study, humanities is related to the social sciences, which deal with relations between men, and the natural sciences to the extent that they have implications for human behavior. The documents studied in Humanities in the Modern World and in European Heritage are selected for their capacity to express man's perennial effort to identify the nature of the human condition. The other courses listed below are for students who wish to pursue the subject into more specialized areas.

**Major Sequence in SLA**—This is an interdepartmental major which rests upon interdepartmental humanities courses and on Upper Division electives in the several departments of the humanities division. There must be a minimum of 60 credits in Upper Division courses. Specifically, these requirements are as follows:

1. 3 quarters of Humanities in the Modern World and 3 quarters of European Heritage, taken either in Upper or Lower Division. Any grade points earned in Lower Division sections are not computed in determining the grade points of the major.
2. 9 Upper Division credits in social science (history included).
3. 9 Upper Division credits in history of art or history of music.
4. 9 Upper Division credits in philosophy.
5. 18 Upper Division credits in literature (English or foreign).
6. 9 Upper Division credits in Humanities Proseminar.

For courses labeled "Humanities," see the listings below. For all other courses in the program, see the separate departments mentioned in the above list of requirements.

### *Lower Division Courses*

**1f,w,s. Humanities in the Modern World I.** Old Regime, French Revolution and Napoleonic Era, neoclassicism and romanticism. Authors: Pope, Voltaire, Rousseau, Burke, Goethe, and

- Tolstoy. (5 cr) Amberg, Ames, Blum, Bryan, Kwiat, Ramsland, Siegelman, J Wright, W Wright, Wood
- 2f,w,s. **Humanities in the Modern World II.** Industrial revolution, liberalism and socialism, individualism. Authors: Adam Smith, Malthus, Carlyle, Marx, Ibsen, Zola, Flaubert, Tolstoy, and Dostoevsky. (5 cr; prereq 1) Amberg, Ames, Blum, Bryan, Kwiat, Ramsland, Siegelman, J Wright, W Wright, Wood
- 3f,w,s. **Humanities in the Modern World III.** Impact of science and evolution; religion and morals in a changing world. Authors: Darwin and the evolutionists, Nietzsche, Chekhov, Kierkegaard, and Thomas Mann. (5 cr; prereq 2) Amberg, Ames, Blum, Bryan, Kwiat, Siegelman, J Wright, W Wright, Wood
- 2Hw, 3Hs. **Honors Course: Humanities in the Modern World.** (Same as Hum 1, 2) Limited to 20 students of high ability chosen from sections of Hum 1 or 2. (5 cr; prereq recommendation of 1 or 2 inst)
- 4f,w,s. **Humanities in the Modern World IV.** Introduction to humanities since World War I. Authors: Freud, Lenin, Joyce, T. S. Eliot, Kafka, and others. Background topics: impact of psychoanalysis, existentialism, communism, and fascism. (5 cr; prereq 1 or 2 or 3) Amberg, Berryman, Siegelman
- 11f-12w-13s.† **The European Heritage.** Masterpieces of European civilization from Homer to Descartes. Literature, philosophy, theology, the arts of Greece, Rome, the Middle Ages, and the Renaissance. Attention will be paid to ideals and forces of continuing importance to the modern world.
- 11f. **The Greek Heritage.** Greece through the Peloponnesian War. Emphasizes the golden age of Athens: tragic visions of the dramatists, classical art and architecture, Athenian democracy, concepts of reason and justice. Homer, Hesiod, the dramatists, Plato, Aristotle, Thucydides, and, for purposes of comparison, *The Book of Job* and other readings from the *Old Testament*. Greek art and architecture. (5 cr) Morrison
- 12w. **Roman and Medieval Heritage.** Roman state. Hellenistic and Roman civilization. Epicureanism and Stoicism. Neoplatonism. Hebrew background and setting for Christianity. Christian doctrine. Medieval society, faith, theocracy. Lucretius, Marcus Aurelius, Epicetetus, *New Testament*, Augustine, church documents, Dante. Early Christian, Romanesque, and Gothic art. (5 cr) Morrison
- 13s. **The Renaissance and Reformation.** The 15th-17th centuries. Rise of Italian communes, commercial life, banking; age of Lorenzo the Magnificent in Florence; ideal of beauty in art, politics, and morals; universal man. High renaissance and the power of Rome. Pietism and Reformation in Germany. Counter Reformation in Spain and France. Golden Age of Spain and beginnings of Age of Reason. Readings from Pico, Machiavelli, Castiglione, Luther, Calvin, Loyola, Montaigne, Pascal, Cervantes, Descartes. Renaissance and baroque art and architecture. (5 cr) Cody
- 21f-22w-23s.†\*\* **American Life.** Each quarter is organized around a topic, such as individualism in American life and thought, religious and philosophic attitudes in relation to American ideas, the rise of American nationalism and its place in the modern world. (3 cr per qtr) Berkhofer, Kwiat, Turpie, Weber

Attention is called to the following courses: Art 1-2-3; CLit 45-46-47; Clas 42-43; Mus 1, 31-32-33; Spch 31.

### Upper Division Courses

Upper Division courses in this program are not open to Lower Division students except by special permission of the Scholastic Committee.

- 51f-52w-53s.† **Humanities in the Modern World.** Similar to Hum 1-2-3; more reading, papers. Confined to juniors and seniors. (5 cr per qtr, †corresponding qtr of 1-2-3) Same staff as for 1-2-3
- 52Hw, 53Hs. **Honors Course: Humanities in the Modern World.** (Same as Hum 52, 53) Limited to 20 students of high ability chosen from sections of Hum 1, 2, 51, or 52. (5 cr; prereq recommendation of 1, 2, 51, or 52 inst)
- 54f,w,s. **Humanities in the Modern World.** Similar to Hum 4; more reading, papers. Confined to juniors and seniors. (5 cr, †4) Amberg, Berryman

\*\* A student may take any combination of 21, 22, 23, 71, 72, 73 up to a maximum of 9 credits. Upper Division students are advised to take the 71-72-73 sequence if possible.

61f-62w-63s.† **The European Heritage.** Similar to Hum 11-12-13; more reading, papers. Confined to juniors and seniors. (5 cr per qtr, §corresponding qtr of 11-12-13) Ames, Berryman, Ross, R Swanson, Cody

71f-72w-73s.†\*\* **Humanities in the United States.** Introduction to American cultural history. Each quarter is organized around topics which disclose a major conflict of ideals—for example, liberty and property in the early Republic, individualism and majority rule in the pre-Civil War era, materialism and idealism in the present industrial age. Such figures as Jefferson, Hamilton, Thoreau, Mark Twain, Frank Lloyd Wright, and William Faulkner are studied. (3 cr per qtr) Cooperman, Levenson

131f-132w-133s. **Humanities Proseminar.** Topic: The arts, the sciences, and civilization. (3 cr per qtr; prereq sr) Ross, Ames, Berryman, M Blum and others

Pol 163s. **Political Theory and Utopia.** (3 cr; prereq Pol A-B or 9 cr in social science or §; offered 1962-63 and alt yrs) Sibley, R Swanson

Attention is called to the following courses: Clas 80, 81, 82, 91-92-93; Ger 53-54-55, 97-98-99; Mus 50, 51, 52, 104-105-106, 124-125-126, 130, 131, 132; Pol 141-142, 143, 160, 162, 164-165-166; Spch 109, 171-172-173; and the following in Slavic and Oriental Languages: Arab 161-162-163, Chin 110-111, Jap 110-111-112, Orl 75-76-77, Russ 75-76-77, 110-111-112.

### Natural Science (NSci)

*Program Chairman—J. W. Buchta*

Two general education courses in natural science are listed below, each serving a distinctive purpose. NSci 1-2-3 is intended for students desiring an introduction to the total field of science, 4-5-6 for those desiring an acquaintance with the physical universe. (Biol 1-2-3 and 1A-2A-3A is offered by the Departments of Botany and Zoology for those wishing to explore the world of life.)

Students taking NSci 1-2-3 may not receive credit for NSci 4-5-6. Students who have taken the elementary course of any science department may not register for the corresponding portion of these courses.

#### *Lower Division Courses*

1f-2w†-3s. **Orientation in the Natural Sciences.** Integrated survey course in which student is introduced to basic principles and subject matter of science and the meaning of the scientific method in physical and biological sciences. 1: Astronomy and physics. 2: Chemistry and geology. 3: Cells and tissues, bodily functions, disease and antibodies, behavior, heredity, and evolution. (5 cr per qtr) Graubard

4f-5w†-6s. **The Physical World.** Essential elements of astronomy, physics, chemistry, and geology, selected to illustrate methods of science and to acquaint student with the physical universe around him. (3-4 cr per qtr; prereq 1 yr high school algebra)

Attention is called to Biol 1-2-3 and 1A-2A-3A (General Biology) listed under the Departments of Botany and Zoology.

#### *Upper Division Courses*

Upper Division courses in this program are open to sophomores only by special permission of the Scholastic Committee.

171f-172w-173s.† **The Development of the Sciences.** Provides first-hand acquaintance with the manner in which man evolved science, as we know it today, through a study of his past approaches, errors, and achievements. Stress laid on original works (in English translation) rather than summaries; on roles of culture, values, techniques, goals, and social and emotional intrusions. 171: Deals with science of antiquity and Middle Ages. 172: Period from 1543 to 1800. 173: Selected high spots in modern science of 19th and 20th centuries. (3 cr per qtr; prereq 1 yr biological and 1 yr physical science in high school or college or §) Graubard

\*\* A student may take any combination of 21, 22, 23, 71, 72, 73 up to a maximum of 9 credits. Upper Division students are advised to take the 71-72-73 sequence if possible.

### Personal Orientation (PO)

*Program Chairman*—Kenneth MacCorquodale

The successful person cannot be content with a knowledge of only such fields as humanities and natural and social science. He must also know himself—his abilities, interests, habits, and their relation to educational and vocational requirements. The following courses seek to provide such understanding and to promote personal competence.

**1f,w,s. How to Study.** Practical assistance to the student in developing efficient methods of study and concentration, organizing material, preparing for examinations, and improving reading ability. Attention to the orientation of students in their attitudes and motivation, and the relation of these to satisfactory performance. (2 cr [cr must be added to SLA graduation requirement])

**11f,w,s. Choosing a Vocation.** Application of the principles of occupational psychology to help students achieve self-understanding as a basis for vocational-educational planning. Consideration of occupational classification, description, and trends. Active student participation in individual projects and in small group discussions of vocational choices of members. (2 cr [cr must be added to SLA graduation requirement]) Hewer

### Social Science (SSci)

*Program Chairman*—David Cooperman

These courses provide a broad framework within which the student may develop an understanding of man, his institutions, ideas, and values. The courses are organized around central themes of human existence.

#### Lower Division Courses

**1f,w,s-2f,w,s-3f,w,s. Personality, Work, and Community.** Integrated study of social scientific factors that influence and are influenced by man's conduct. Organized around three basic themes: (a) development of personality, (b) work as a central aspect of modern life, and (c) quest for community. (3 cr per qtr; course may be used toward satisfying the social science requirement for admission to Upper Division of SLA, College of Education, and School of Business Administration) F Blum, Cooperman, Sibley, and staff

#### Upper Division Courses

Upper Division courses in this program are open to Lower Division students only by special permission of the Scholastic Committee.

**51f-52w-53s.† Personality, Work, and Community.** Similar to SSci 1-2-3 except that it is confined to juniors and seniors and is conducted on a more advanced level. (4 cr per qtr, †corresponding qtr of 1-2-3) F Blum, Cooperman

**71f-72w-73s. Selected Topics in the Classics of the Social Sciences.** 71: Law and social change. 72: Institutionalism and American social science, 1880-1920. 73: Culture wholes. (3 cr per qtr; prereq 15 Upper Division cr in 2 or more social sciences, and C-plus over-all avg) Cooperman, Noble, Lukermann

## INTERNATIONAL RELATIONS AND AREA STUDIES

*Chairman*—Harold C. Deutsch; *Director*—Charles H. McLaughlin

### Major Advisers in SLA—

(a) **GENERAL INTERNATIONAL RELATIONS MAJOR**—Professors Jan O. M. Broek, Harold C. Deutsch, Werner Levi, Charles H. McLaughlin, Lennox A. Mills, Raymond B. Nixon, and John E. Turner; Associate Professors Edward Coen, Robert T. Holt.

(b) **AREA STUDIES**—*Northwest Europe: Scandinavia*—Professor Alrik Gustafson; *British Isles*—Professor Samuel H. Monk; *France*—Professor John B. Wolf; *Germany*—Professor Werner Levi. *Russia*—Associate Professor George W. Anderson.

*East and South Asia*—Professor John E. Turner. *Latin America*—Professor Raymond L. Grismer.

In addition to these advisers, students may consult other advisers who are listed in the special bulletin, *Programs in International Relations and Area Studies*, or inquire in the Center for International Relations and Area Studies, 310 Ford Hall.

(c) PREPARATION FOR FOREIGN SERVICE—Professor Charles H. McLaughlin.

**Purpose of the Programs**—In response to increasing student interest in world affairs, several programs in international relations and area studies have been developed which permit students to cross departmental lines. These include:

1. A general international relations major without particular area emphasis, for students who wish to specialize in the governmental and legal as well as the more general aspects of international relations study.

2. A group of area study majors designed to develop a comprehensive understanding and appreciation of the civilization of the peoples of given areas. Areas are demarcated on the basis of the culture or civilization of their peoples rather than upon a political basis. Programs may now be arranged for the following areas: Northwest Europe (with concentration in a subarea, either Scandinavia, British Isles, France, or Germany); Russia; East and South Asia (with concentration in a subarea, either East Asia, Southeast Asia, or South Asia); Latin America. In each case the major program is an integrated study of the social, political, economic, and aesthetic ideas and institutions of the area, comprising courses drawn from the social sciences, language and literature, fine arts, humanities, and philosophy.

3. A program of training in preparation for careers in the Foreign Service or in agencies having related functions. This ordinarily combines some elements of the general international relations major, or one of the area study majors, and courses in diplomatic history and administration, with the emphasis determined by the student's interests.

4. Most of the courses included in these programs can be elected for purposes of general education by nonmajor students. At the Lower Division level Pol 25, 26, and at the Upper Division level the courses prescribed hereafter as a core curriculum for the general international relations major will be found especially suitable for this program.

Graduate training is also available in both international relations (M.A., Ph.D.) and area studies (M.A.), and training in intelligence research is offered at the M.A. level for students with basic training in an area program. Upper Division students who expect to proceed to this advanced training are advised to acquaint themselves early with the prerequisites.

**Courses in the Lower Division**—Students must satisfy the distribution requirements for entrance into the Upper Division of SLA but should complete at least 4 quarters, or the equivalent, of a foreign language in the Lower Division. This will enable them to complete without delay the special foreign language requirements for majors in international relations and area studies in the Upper Division, i.e., the first Upper Division sequence in conversation or composition. In the case of area study majors preparation should be in a foreign language appropriate to the area to be studied. Foreign Service candidates should choose either French, German, or Spanish.

Since the Upper Division majors include courses selected from several social sciences care should be exercised to complete any Lower Division courses which are prerequisite to the advanced courses in these departments. Selection can ordinarily be made from the following list, but advisers should be consulted as to variations and special recommendations peculiar to the several majors. In the case of the general international relations major, Econ 1-2 is a specific prerequisite of a required course in the major, and Pol 25 and 27 are strongly recommended as an introduction to the field.

(Credits shown in parentheses)

Anth 1A—Introduction to Anthropology: Pre-historic Man and Culture (5)  
 Anth 2A—Introduction to Anthropology: Cultural Anthropology (5)  
 Econ C—Introduction to Economic Analysis (3)

Econ 1-2—Principles of Economics (6)  
 Geog 1—Geography of Natural Resources (5)  
 Geog 4—Human Geography (5)  
 Geog 41—Geography of Primary Production (5)

Hist 1-2-3—Civilization in the Modern World (9)	Pol 27—Analysis of International Relations (3)
Pol A-B-C—The State in the Modern World (9)	SSci 1-2-3—Introduction to Social Science (12)
Pol 25—World Politics (3)	Soc 1—Introduction to Sociology: Man in Modern Society (3)
Pol 26—American Foreign Policy (3)	Soc 3—Introduction to Sociology: Social Problems (3)

The Lower Division curriculum may be completed with courses which satisfy special interests or needs of the student. He should devote some time whenever possible to basic cultural training in the fine arts, humanities, literature, and philosophy, for which the following courses may be considered:

(Credits shown in parentheses)

Art 1-2-3—Introduction to Art (11)	Hum 1-2-3-4—Humanities in the Modern World (20)
CLit 45-46-47—The Nature of Literature (9)	Hum 11-12-13—The European Heritage (15)
Engl 19-20—Great English Writers (6)	Hum 21-22-23—American Life (9)
(or) Engl 21-22-23—Introduction to Literature (15)	Mus 31-32-33—Music Literature (6)
Engl 37-38-39—Modern Literature (9)	Phil 1—Problems of Philosophy (5)
	Phil 3—Ethics (5)
	Phil 11—World Religions (5)

Students planning to elect an international relations or area study major should consult a major adviser as early as possible, preferably upon entrance into the University.

**Courses in the Upper Division**—In consultation with a major adviser, the student will select courses totaling 45 credits, equivalent to a major and a minor. A minimum of 60 credits in Upper Division courses must be earned for graduation.

For the general international relations major the 45 credits in major courses must include a prescribed core curriculum of 30 or 33 credits comprising the following courses:

- Econ 104. International Economics.** (3 cr; prereq Econ 2 or equiv)
- Geog 143. Political Geography.** (3 cr; prereq Geog 4 or #)
- Hist 109-110-111. Europe in the Twentieth Century.** (3 cr per qtr)  
(or) **Hist 134-135-136. World War II.** (3 cr per qtr)
- Jour 124. International Communications and Foreign Affairs.** (3 cr; prereq 15 cr in social science, with inclusion of an Upper Division history or political science course in international relations recommended)
- (or) **Jour 130-131. Public Opinion and Propaganda.** (3 cr per qtr; prereq 15 cr in social science for 130, 130 for 131)
- Pol 175. Diplomacy.** (3 cr)
- Pol 180-181. International Law: Pacific Relations.** (3 cr per qtr)
- Pol 184. International Relations and Organization I.** (3 cr)

Additional courses may be selected from approved courses to form an integrated plan of study relevant to the student's interests and vocational objectives. Foreign language study is to be continued through at least the basic composition and conversation courses in one language at the Upper Division level; this is in addition to major courses. Additional courses contributing to the international relations program, or courses suited to other cultural interests of the student, may be elected.

The area study majors must include at least 18 credits in the social sciences and, whenever available, 6 credits in an honors or reading course or proseminar designed to integrate the program. Courses acceptable for this purpose are listed in the special bulletin, *Programs in International Relations and Area Studies*. The remainder of the 45 credits will be distributed among courses in foreign language and literature and in fine arts, humanities, and philosophy. The rest of the 60 or

more Upper Division credits may be elected by the student to complete his program in accordance with his cultural or vocational interests.

Detailed requirements and listing of courses for each major appear in the special bulletin, *Programs in International Relations and Area Studies*.

## ITALIAN

See Romance Languages

## JAPANESE

See Slavic and Oriental Languages

## JOURNALISM (Jour)

FACULTY—Robert L. Jones, *director*; Roy E. Carter, Jr., Mitchell V. Charnley, Edwin Emery, J. Edward Gerald, George S. Hage, Fred L. Kildow, Robert G. Lindsay, William A. Mindak, Raymond B. Nixon, R. Smith Schuneman, John C. Sim, Willard L. Thompson, Harold W. Wilson, Willis L. Winter.

**Major Advisers in SLA**—Professors Carter, Charnley, Emery, Gerald, Jones, Kildow, Nixon; Associate Professors Hage, Mindak, Wilson; Assistant Professors Sim, Winter; Instructors Lindsay, Schuneman.

**Adviser in College of Education**—Professor Kildow.

**Adviser for Students in Other Colleges**—Professor Charnley.

Young men and women planning on careers in the various fields of mass communications enter the School of Journalism to earn a B.A. in journalism degree. Those showing superior performance and desiring superior preparation in journalism and supporting social sciences will be recommended during the third quarter of their fourth year for Graduate School admission and may then earn both the M.A. and B.A. degrees in 5 years. The fifth year will permit such students to meet the M.A. requirements, Plan A or Plan B, on pages 8-12 of the *Bulletin of the Graduate School*.

The School offers instruction in all the principal fields of journalism. Some require substantially similar preparation. There are five course sequence listings which meet the requirements for a major in SLA. Those sequences and the areas of professional work to which they relate are:

1. *News-Editorial Major Sequence*—Daily and weekly newspaper reporting, editing, and editorial direction; radio and television news and editorial writing and presentation, script and continuity writing; photojournalism; press association work; magazine writing, editing, and administration; science and technical writing; industrial editing; graphic arts processes; public relations and public opinion; mass communications research; journalism teaching.
2. *Advertising Major Sequence*—Advertising for print and broadcast media; advertising agencies; manufacturer's and retail advertising departments; related services; creative advertising; copywriting and layout; print and broadcast production; media, market, and consumer analysis; public relations; sales and promotion; mass communications research; journalism teaching.
3. *Newspaper Management Major Sequence*—Daily and weekly newspaper business management; circulation and promotion; weekly editorial administration and publishing.

4. *Agricultural Journalism Major Sequence*—Daily and weekly newspaper work in rural areas; farm and technical journals; agricultural information work.
5. *Home Economics Journalism Major Sequence*—Work on daily and weekly newspapers and in public information and technical writing related to the home economics field.

Preparation for journalism rests on a searching liberal education, a knowledge of the social and professional responsibilities of the journalist, and a basic acquaintance with journalistic techniques. The journalism major student meets Arts College Lower Division requirements and plans an Upper Division program, in conference with his adviser, so as to gain both general and professional education. About three-fourths of the student's University work is in the social studies, the humanities and general education areas; about one-fourth in professional courses.

The journalism major begins his journalism course work in his sophomore year. Freshmen who are interested in journalism and communications and who plan to enter the School of Journalism at a later time are urged to discuss their course programs and vocational desires with members of the journalism staff. Students who plan the 5-year program should consult a journalism adviser in their sophomore year.

All prejournalism students must meet the Arts College freshman English and public health requirements. All must include Jour 13, Comp 27 or 28, Econ B-C or 1-2, and Pol 1-2 or 5 in their Lower Division programs. All must include either 6 credits in American history (Hist 20-21-22) in their Lower Division programs, or 6 credits in their Upper Division programs for which Hist 79-80-81 is recommended. All except those planning to enter the journalism major for students specializing in advertising must include also Jour 14-15. Preadvertising students must include Jour 18, 41.

It is recommended that the prejournalism student meet Lower Division requirements so as to include substantial basic work in the following fields:

**Social Studies**—The required history, economics, and political science courses may be supplemented by sociology, geography, anthropology, and SSci 1-2-3.

**Natural Science**—NSci 1-2-3 or 4-5-6 or either psychology, chemistry, physics, biology, or a combination of courses in these fields.

**Humanities**—French, Spanish, or German; humanities; philosophy; speech; English or American literature.

Electives to make the required Lower Division total of 84 to 90 credits should include courses from the areas listed above, or other areas chosen in consultation with the journalism adviser. Recommended as providing, in most cases, a sound foundation for major work in journalism are: Pol A-B, 25; Soc 1, 2; Psy 1-2; Hist 1-2-3; 2 or more quarters of humanities; Geog 1, 4, 41; Engl 37-38-39.

No student whose average is lower than C will be permitted to enroll in any journalism course, either Lower Division or Upper Division.

The fourth hour Tuesday is free of journalism classes (except Jour 13) so that vocational and professional meetings may be scheduled. Journalism majors are urged to keep this hour open for such meetings.

**Major Sequence Co-ordinating Work for the Degree of Bachelor of Arts in SLA, and of Master of Arts in the Graduate School**—Students in the news-editorial major sequence will present Jour 51, 55, 56, 73, 101, 109, 113, 121, 122 or an approved substitute, 130, 140-141, 200 and 1 additional seminar in the 200 series. A co-ordinated program also may be worked out for students in the advertising major sequence. Credit for the M.A. must be earned while registered in the Graduate School. See the *Bulletin of the Graduate School*. Students using the co-ordinated plan are urged to make a 5-year program with a journalism adviser early in the junior year. For the M.A., specialization is possible in 1 of the social sciences or humanities related to journalism and in a journalism field centering about 1 of the following



graduate seminars: Jour 209, 213, 215, 221, 224, 230, 264, or 277. Modifications of the 5-year program requirements may be approved in terms of a student's special professional interests.

**News-Editorial Major Sequence**—Jour 51, 55, 56, 73, 101, 109, 140-141, and 12 additional credits in journalism. Six of the additional credits must be numbered above 90, and 3 of them must be chosen from among Jour 113, 121, and 130. Students of superior scholarship may substitute outside courses for 6 of the additional credits with adviser approval. In some cases other modifications of the sequence may be approved by the adviser.

**Advertising Major Sequence**—Jour 57, 60, 71, 79, 161, 162, 163, 164, Psy 156, BA 57, and 6 additional credits in journalism or other adviser-approved areas. Three of the additional credits must be chosen from among Jour 109, 113, 121, and 130. Psy 1-2 is a required Lower Division course for such students.

Students in this sequence may, with adviser approval, substitute for the usual type of minor work the following special marketing minor: 15 credits chosen from among BA 97, 97C, 107, 107C, 117, 117C, 147, 187; Econ 69, 120, and either BA 51, or Psy 70.

Students wishing special training in commercial design are advised to elect from among Art 63, 64, 65. A student may prepare for a general minor in art by electing Art 23, 24, 25.

**Newspaper Management Major Sequence**—Jour 51, 57, 60, 73, 79, 93, 95, 101, 161 and 12 additional credits chosen from among Jour 78, 109, 113, 115, 121, 122, 130, 131, 140, 141, 149, 163, and 177.

A special minor sequence for students in this specialization may be elected from among BA 57, 60, 70, 107, 147; Psy 140, 156, and Art 65.

**Agricultural and Home Economics Journalism Major Sequences**—These programs, offered jointly by the Arts College and the College of Agriculture, Forestry, and Home Economics, combine courses so as to offer students either editorial or advertising sequences in journalism with extensive specialized work in fields of agriculture or home economics. Students register in SLA, but have advisers in both colleges. Full details of the various programs and of Upper and Lower Division requirements may be obtained from major advisers in journalism and in agriculture or home economics.

**Professional Emphasis in Specialized Fields**—Students with professional interest in special fields of journalism may design programs in conference with advisers to prepare for work in these areas. Such programs usually can be developed within either the news-editorial or the advertising major sequence. Combinations or modifications are possible in some cases. For all of these specializations a 5-year program is recommended. Students should arrange programs in specialized fields in early conferences with Upper Division advisers. The principal fields of specialization, and elective courses recommended for them, are:

**Radio-Television Journalism**—Jour 6, 53, 84, 85, 120, 142, 162, 113, 130; Spch 65, 69, 170

**Magazine Journalism**—Jour 74; 53, 58, 66, 103, 106, 113, 115, 121; Engl 72-73-74, 113, 142-143, 151, 174; Comp 101-102-103; Psy 118, 140

**Creative Graphic Arts**—Jour 58, 59, 60; 53; Art 50, 63, 64, 65, 69 (this specialization is for students interested in advertising layout or in production, typography, and make-up of periodicals and promotional matter)

**Photojournalism**—Jour 6, 7, 53, 66, 85, 113, 121, 130 (a minor in art including 50, 83, 84, 85 is strongly recommended)

**Public Relations**—Jour 78, 149; 18, 113, 115, 130, 163. Recommended Lower Division courses: Psy 1-2, Soc 1, Spch 5

Students expecting to specialize at the graduate level in advertising or mass communication research should elect during their senior years Jour 113, 115, and a course in statistics chosen in consultation with their graduate advisers.

**Journalism Minor for Non-SLA Students**—For students in the College of Agriculture, Forestry, and Home Economics, the Institute of Technology, and the School of Business Administration—Jour 11, 41, 71 and 6 additional credits in Upper Division journalism courses, to be chosen in conference with the adviser. Jour 57, 73, 90 or 121, 109, 124, and 130 are recommended. Students in the School of Business Administration specializing in marketing or advertising may set up a minor including Jour 79, 161, 162, 163, 164. For students in the College of Education—Jour 11, 41, 71, 82, and 9 additional credits chosen from among Jour 57, 90 or 121, 103, 109, 120, 124, and 130. EdT 74 (see *Bulletin of the College of Education*), offered by the School of Journalism, is a required education course for students in this sequence.

**Nonprofessional Minor in Journalism**—A group of courses dealing primarily with the social aspects of mass communications is open to students majoring in other SLA departments and may be used for a nonprofessional minor by undergraduates or graduates: Jour 90 or 121, 103, 106, 109, 110, 113, 115, 120, 124, 125, 126, 130, 131, 177. SLA students interested in taking an undergraduate minor in journalism with view toward professional specialization in a fifth year of journalism work should consult a journalism adviser.

### Lower Division Courses

- 6f.w. Beginning Photojournalism I.** Photography as a creative means of communication. Fundamentals of photography; use of news cameras; basic darkroom processes. Lectures and laboratory. (3 cr; prereq soph) Schuneman
- 7f.s. Beginning Photojournalism II.** Picture content for visual reporting. Problems of organization, selection, and tonal values. The miniature camera as a reporting tool. Photographic projects for communications media. Light and lighting. Lectures and laboratory. (3 cr; prereq 6 and ¶13) Schuneman
- 11f.w. Reporting for Nonmajors.** (For journalism minors in the College of Agriculture, Forestry, and Home Economics, College of Education, Institute of Technology, and the School of Business Administration) Newspaper fact-gathering and newswriting; specialized reporting; fundamentals of press law. (3 cr; prereq soph, C avg, Engl C, 3A, 3B, or Comm 3 or Rhet 3 or exemption from English requirement) Kildow, Sim, Schuneman
- 13f.w.s. Introduction to Journalistic Writing.** (For majors) Lectures and laboratory in journalistic media and audiences; fundamentals of fact-gathering and fact-writing for newspapers, periodicals, broadcasting, and advertising. (4 cr; prereq soph, C avg, Engl C, 3A, 3B, or Comm 3 or English exemption, and proof of typing skill of 35 words a minute or BA 33 or 32) Charnley, Hage, Kildow, Emery, Sim, Lindsay
- 14w.s-15f.s. Newspaper Reporting.** (For majors) Lectures and laboratory in problems of reporting, feature writing, and interpretative reporting; laws of libel, access to information, property right in news, etc. (3 cr per qtr; prereq soph, C avg in journalism courses and in all work, or #, ¶Comp 27 or 28, and typing skill of 35 words a minute) Charnley, Hage, Lindsay, Gerald
- 18f.w.s. Principles of Advertising.** Theory, principles, and functions of advertising; its role in economic, social, and marketing structure. Newspapers, magazines, and radio and television as advertising media. (3 cr; prereq soph, 13, C avg, and ¶Comp 27 or 28) Mindak, Winter
- 41w.s. Publications Editing.** Lectures and laboratory in basic problems of copy editing for newspapers and magazines. For journalism majors planning to specialize in advertising, and for journalism minors. (3 cr; prereq soph, 11 or 13) Kildow, Sim

### Upper Division Courses

Upper Division courses in the School of Journalism are open to Lower Division students only by special permission of the Scholastic Committee as explained on the first page of Section II.

- 51f.s. News Editing.** Lectures and laboratory in basic copy editing problems and techniques. (3 cr; prereq 15, or B avg in 13, 14) Sim, Carter

- 53w. Picture Editing.** Criteria for picture selection. Analysis of work of Cartier-Bresson, Bourke-White, Capa, Eisenstaedt, Riis, Salmon, and others. Combining word and picture in communication; editing; layouts; editing television news film. Lectures and laboratory. (3 cr; prereq 41, 51 or #) Schuneman
- 55w. Newspaper Editing.** Lectures and laboratory in news and picture selection and editing. Newspaper make-up. Press association teletype service. (3 cr; prereq 51 and ¶56 or #) Sim
- 56w. Newspaper Make-up and Typography.** Technique of newspaper make-up. Principles of type display. Planning the headline schedule, including choice of display and text typefaces. (3 cr; prereq journalism major, 51 and ¶55 or #) Wilson
- 57f.s. Advertising Layout and Typography.** Principles of design and layout. Preparation of layouts and reproduction in type. Photo-type and paste-up techniques. Appropriate uses of type. (3 cr; prereq journalism-advertising major, or journalism minor in the colleges and schools of Education, Business, and Agriculture and Home Economics, or #) Wilson
- 58s. Newspaper and Periodical Design and Typography.** Analysis of major trends in format, make-up, and typography of newspapers and magazines. Experiments in make-up. Individual laboratory projects. (3 cr; prereq 56 and #) Wilson
- 59w. Advanced Advertising Typography and Layout.** Practice and experimentation with display typography: individual laboratory projects in retail advertising display, point of purchase display, posters, direct mail brochures, labels, etc. (3 cr; prereq 57) Wilson
- 60f.s. Graphic Arts: Processes.** Letterpress, offset lithography, and gravure printing processes; engravings and copy preparation; significant graphic arts developments. (3 cr; prereq jr) Wilson
- 66s. Advanced Photojournalism.** Visual presentation of information and ideas. Magazine photography; production of series and sequences. Principles of advertising illustration. Photojournalism markets. (3 cr; prereq 7 or #) Schuneman
- 71s. Business News and Feature Writing.** For journalism majors or minors planning to specialize in advertising. Gathering material and writing of news stories, feature articles, and other types of copy in the business-advertising field. Audiences in this field; media. (3 cr; prereq 41) Kildow, Schuneman
- 73f.w. Magazine Writing.** Planning and writing feature articles for general, class, and trade publications; marketing; problems of magazine editing; employee publication and industrial journal problems. (3 cr; prereq 15, or 41 and #) Charnley, Hage, Kildow
- 74w. Magazine Editing.** Planning and editing consumer and specialized magazines; problems of magazine layout, design, and make-up; book publishing procedures. Individual projects in magazine editing and advanced magazine writing. (3 cr; prereq 73, ¶56 and #) Charnley
- 78f. Public Relations Methods.** Publicity, external and internal communication, use of media; techniques and application of institutional promotion and communication, including use of company publications, institutional advertising, and trade journals. Projects and campaigns. (3 cr; prereq 51 or 56, and 73...or 41, 57, and 69) Lindsay
- 79f.w.s. Advertising Copy Writing.** Advertising appeals; techniques of writing advertising copy for newspapers, magazines, direct mail, posters, brochures; planning advertising campaigns. (3 cr; prereq 41 or 51, and 57 and 60) Winter, Wilson
- 82s. Supervision of School Publications.** For those who plan to become advisers of high school or college newspapers, yearbooks, magazines. Emphasis is upon editorial content, staff organization, editing, typography, make-up, and business management of such publications. (3 cr; prereq 41 or 51) Kildow
- 84f. Radio News and Public Affairs.** Radio as a medium of journalistic communication. The radio newroom; radio news gathering, writing, editing, preparation. Uses of research in radio journalism. Basic preparation for television news. (3 cr; prereq 15) Lindsay
- 85w. Television News and Public Affairs.** Television as a medium of journalistic communication. The television newroom; television news writing and visualization. Use of news film camera; editing, scripting news film. Uses of research in television journalism. (3 cr; prereq 84) Lindsay
- 86s. Radio and Television Script Writing.** (3 cr; prereq 51 and # for journalism majors, 13 and # for speech-radio majors; offered when feasible)
- 88w. Radio and Television Station Administration.** (3 cr; prereq 120 or Δ; offered when feasible)
- 90s. Mass Communications and the News.** How the news gets to, and affects, the public, in print, on the air, by film. Evaluation of news gathering and presentation methods. Contemporary influences on communication media. Individual news media and news commentators. (3 cr; not open to journalism majors) Charnley
- 93f. The Community Newspaper.** The local newspaper and its editor—their place in American life. Problems of news and editorial direction, organization, and responsibility. (3 cr; prereq 41 or 51 or ¶41 or ¶51) Sim

- 95s. Newspaper Management.** Analysis of management problems, including advertising, circulation, and commercial printing as sources of income; records and cost systems; plant layout and inventories; operating expenses; business policies. (3 cr; prereq 41 or 51) Sim
- 101w,s. The Reporting of Public Affairs.** Reporting court trials, city, county, state, federal, administrative, and legislative agencies; politics, business, and labor. Students attend and report trials, hearings, legislative sessions, and press conferences. (3 cr; prereq sr, 51) Hage
- 103s. Literary Aspects of Journalism.** Survey of the literary aspects of journalism as exemplified in, and influenced by, the works of English and American writers, past and present. Lectures, discussions, and weekly papers. (3 cr; prereq #) Hage
- 106f. Critical Writing.** Theory and practice of writing book, theater, and motion picture reviews. Analysis of work of leading critics and critical periodicals. Weekly reviews are written. (3 cr; prereq an Upper Division writing course and #) Hage
- 109f. History of Journalism.** Development of American newspapers and periodicals, from early beginnings in Europe to the present day; the rise of radio and television; the relation of communications developments to political, economic, and social trends in America. (3 cr) Emery
- 110w. Topics in the History of Journalism.** Intensive study of significant individuals, newspapers, and periodicals in the history of American journalism; comparative study of present-day leading newspapers; examination of major periods of change and of developing trends. Individual projects and readings. (3 cr; prereq 109) Emery
- 113f,s. Mass Communication Theory.** Nature of the communication process; contributions of other disciplines to knowledge about this process; similarities and differences between interpersonal and mediated communication; use of research concepts and findings in determining policy; comparative roles of the printed and electronic media. (3 cr; prereq sr, journalism major or #) Nixon
- 115s. Communications Analysis: Content, Audiences, Effects.** Research procedures and methods for analyzing content and audiences of newspapers, periodicals, radio, television, and motion pictures. Field and experimental approaches to studies of mass media effects. (3 cr; prereq BA 5 or Soc 45, or Psy 70 or equiv or #...Psy 167 recommended) Jones, Carter
- 118f,w,s. Advanced Projects in Journalism.** (1-3 cr per qtr, but course may be repeated for more than 1 qtr until a total of 6 cr is reached; prereq sr, jour major, B avg, #) Staff
- 120f. Development of Radio and Television Communications.** Historical and economic development of aural broadcasting, television, and facsimile; government regulation; broadcasting and the press; radio and television as social factors. Broadcasting in other countries. (3 cr; prereq 15 or 18 for journalism majors, 13 or # for others) Charnley
- 121w. Mass Media in a Dynamic Society.** Economic, political, and social determinants of the character and content of mass communications. Patterns of operations, their effect on content, and their relative social utility. Government and mass communications. (3 cr; prereq 15 or 18 for journalism majors, # for others) Gerald
- 122s. Current Communications Problems.** Individual project method is used for analyses of communications problems of current importance in the light of their social, economic, and technological environment. Conducted in small seminar-like groups. (3 cr; prereq sr, 51) Gerald
- 124f. International Communications and Foreign Affairs.** Channels of international communication and news gathering agencies. Factors affecting flow of news throughout the world. Role of foreign correspondent. Relation of communications to foreign affairs and international understanding. (3 cr, §old 111; prereq 15 cr in social sciences, with inclusion of an Upper Division course in history or political science...course in international relations recommended) Nixon
- 125w. Communication Systems of the Free World.** Communications in foreign democracies as compared with the United States and with totalitarian systems. Special emphasis upon Great Britain, the Netherlands, the Scandinavian countries, France, and Latin America; problems of constructing a free press in Germany, Italy, Japan, and less developed areas. (3 cr; prereq 15 cr in social sciences with an Upper Division course in international relations or comparative government recommended) Nixon
- 126s. Communications in Authoritarian Society.** Traditional relationships between government and communication media in authoritarian nations. Rise of totalitarian regimes; their impact upon structure and operations of mass communication media. Case studies of communications in selected communist, fascist, and neofascist states. (3 cr; prereq 15 cr in social sciences with an Upper Division course in international relations or comparative government recommended) Nixon
- 130f-131w. Public Opinion and Propaganda.** Functions of the press and other communication agencies in the formation of public opinion. Studies of persuasion and attitude change. Problems in the interpretation of opinion and attitude research in the mass media field.

Pressure-group activities and political and international propaganda. (3 cr per qtr; prereq 15 cr in social sciences for 130, 130 for 131) Carter

- 140f-141w. Interpretation of Contemporary Affairs.** Analysis of major political, economic, and social developments and their interpretation in the editorial, interpretative article, and commentary. (3 cr per qtr; prereq sr, 51 and 15 cr in social sciences for 140, 140 for 141) Gerald, Emery, Nixon
- 142s. News Interpretation for Radio and Television.** Preparation, writing, scripting of news analyses, commentaries, editorials, documentaries, interpretative material for electronic media. Emphasis on editorial investigation and content, style and techniques, audience and effects, in the presentation of such programs. (3 cr; prereq 85, 140) Lindsay
- 149w. Public Relations Theory.** Theories and principles of the public relations function; their application in industry, government, education, social agencies and other institutions; pertinence of social science research and journalistic implications in the public relations process. Case studies and analyses. (3 cr; prereq sr, 78, 113 or 130, or 15 cr in social sciences and §) Emery
- 150s. Institutional Public Relations.** Principles and practices of public relations in public health, social work, education, and other community institutional service fields. Use of the mass media and journalistic implications of the public relations process. (2 or 3 cr; not open to journalism majors; prereq sr, §) Emery, Lindsay
- 161f,w. Advertising: Newspapers and Other Print Media.** Characteristics of the print media. Newspapers, their role in advertising; relations with retail advertisers and other representatives, agencies; organizations of the advertising departments. Rate structures, rate economics. Magazines, their role in advertising; types, functions, rates. Supplementary media. (3 cr; prereq 18, 57, and 79 or §...or 41, 57 and §) Winter
- 162f,w. Advertising: Radio and Television Media.** Contrasts and similarities of radio and television characteristics; interaction of sponsor, agency, station, network, and station representative; program and market selection; rate structure; audience analysis; creating and measuring impact of commercials; current and future developments. (3 cr; prereq 18, 79, or §) Mindak
- 163f,s. Advertising Media Analysis.** Relation of advertising media to advertising task; media characteristics; evaluation and use of media and market measurements and data; comparison of rates and relative economy of media; mechanics of media purchasing, scheduling, and appropriations; cases and problems. (3 cr; prereq sr, 18, 161, 162 and §...or 161, 162, BA 77 or §) Mindak
- 164w,s. Current Advertising Developments and Problems.** Creative, management, research, media, and technical developments in advertising; implications for advertising specialists. Discussion and analysis of specific problems and case studies to aid in the advertising-marketing process. Contributions of related fields of behavioral sciences, journalism, and communications. (3 cr; prereq 57, 79, 163 or §) Mindak
- 177s. Freedom of the Press and Communications Law.** Anglo-American concept of freedom of speech and press, its development under the Constitution of the United States, and present areas of tension. Statutes and administrative regulations affecting freedom of information, publishing, and broadcasting. (3 cr; prereq 15 cr in social sciences) Gerald
- 190s. Advanced Problems in Journalistic Writing.** Investigation and analysis of problems of advanced professional accomplishment in the fields of journalistic writing. The uses of literary and journalistic forms. Development of individual effectiveness in journalistic presentation. (3 cr; prereq grad, demonstration of acceptable writing achievement and §) Charnley

### *For Graduate Students Only*

- 200. Scope and Methods of Communications Research**
- 209. Seminar in History of Communications**
- 213. Seminar in Mass Communication Theory**
- 215, 216. Seminars in Communications Analysis**
- 221-222. Communication Agencies as Social Institutions**
- 224-225. Seminar in International News Communication and Comparative Foreign Journalism**
- 230. Seminar in Public Opinion and Propaganda**
- 264. Seminar in Advertising Research**
- 277-278-279. Government and Mass Communications**
- 290-291-292. Special Problems in Mass Communications**

## LATIN

See Classics

## LIBRARY SCHOOL (Lib)

FACULTY—David K. Berninghausen, *director*; Raymond H. Shove, Wesley Simonton, Frederick Wezeman, A. Patricia Zimmerman

**Major Advisers**—For college and university library work, Associate Professor Shove; for library work with children and young people, Assistant Professor Zimmerman; for special library work, Associate Professor Simonton; for public library work, Associate Professor Wezeman.

The Library School is a graduate, professional school. It offers five undergraduate courses in library science as electives or as a minor for an SLA undergraduate. Lib 50 and 62 have special general education values. Lib 153 also requires no prerequisite and is suggested.

The only terminal course of study designed to prepare students for career service in the field of librarianship is the Master's degree program offered by the Library School through the Graduate School. Admission prerequisites and requirements for the degree may be found in the *Bulletin of the Library School* and the *Bulletin of the Graduate School*.

A special 24-credit program leading to certification for school library work is also offered. Undergraduates in the College of Education may take this program as a minor.

SLA undergraduates who wish to prepare for school librarianship should register in the College of Education, since a teacher's certificate is required in addition to library science certification courses. Postgraduates who hold teachers certificates are also eligible for this certification program.

SLA offers undergraduate library science courses prerequisite to admission to the graduate program. Students planning to enter librarianship should take a 9- or 15-credit minor in library science. With the approval of a Library School faculty adviser, SLA students may register for these prerequisite courses as electives.

*Upper Division Courses*

Lib 53, 74, 171, and 172, which are for the school librarian certification program, are sometimes offered in rotation through the fall, winter, and spring quarters. Lib 177 is not offered regularly in the same quarter.

- 50f. **History of Libraries and Librarianship.** Social trends affecting libraries and their functions in modern society; librarianship as a profession. (3 cr) Shove
- 53. **School Library Management.** Primarily for students without previous experience in a school library. (3 cr; for College of Education students only) Zimmerman
- 55w. **Library Administration.** Introduction to principles of library administration, organization, and management. (3 cr) Berninghausen
- 62f. **Reference I.** General reference tools and other sources of information. Theory and practice of reference work. (3 cr) Wezeman, Berninghausen, Simonton
- 70f. **Selection of Library Materials.** Techniques, standards for selection of books, magazines, pamphlets, phonograph records, films, etc. (3 cr) Wezeman, Zimmerman, Simonton
- 74. **Library Materials in the Classroom.** (3 cr; for College of Education students only) Zimmerman
- 83f. **Cataloguing and Classification.** (3 cr) Simonton
- 131s. **Public Library Extension and Development.** Larger units of service, laws, finance, promotion; the state library agency. (3 cr; prereq 55) Wezeman
- 153s. **History of Books and Printing.** The alphabet; manuscript books; the printed book from earliest times to present. (3 cr) Shove
- 154w. **The Public Library.** Theories and principles of administration. (3 cr; prereq 55) Wezeman

- 155w. **The College and University Library.** Educational functions of the college and university library and the administrative organization to perform these functions. (3 cr; prereq 55) Shove
- 156w. **Special Libraries.** Procedures of newspaper, insurance, medical, technical, and other special libraries. (3 cr; prereq 55) Simonton
- 157w. **School Library Problems.** Service in large units, relationships with public libraries, planning library quarters, budgets, training for school librarianship. (3 cr; prereq 55) Zimmerman
- 160w. **Literature of the Social Sciences.** (3 cr; prereq 62) Shove
- 161f. **Literature of the Humanities.** (3 cr; prereq 62) Shove, Kingsley
- 162s. **Literature of the Natural Sciences.** (3 cr; prereq 62) Shove
- 165f. **Advanced Bibliography.** National and trade bibliographies, domestic and foreign, with attention to use of sellers' catalogues in book buying. (3 cr) Shove
- 166f. **Reference Work.** Special reference tools and government publications. (3 cr; prereq 62) Wezeman
- 168f,w. **Research Methods in Librarianship.** (3 cr; prereq #) Simonton
171. **Reading Guidance for Children.** (3 cr; prereq 70) Zimmerman
172. **Reading Guidance for Adolescents.** (3 cr; prereq 70) Zimmerman
- 173w. **Reading Guidance for Adults.** (3 cr; prereq 70) Wezeman
- 175s. **Publishers and Publishing.** The book trade, including methods of distribution. (3 cr) Shove
- 176s. **Communication Media and the Library.** (3 cr) Berninghausen
- 177s. **History of Children's Literature.** (3 cr) Zimmerman
- 181w. **Advanced Subject Cataloguing.** History, theory, and practice of classification and subject heading; the Library of Congress classification. (3 cr; prereq 83) Simonton
- 182s. **Advanced Descriptive Cataloguing.** Intensive study of rules of entry, including foreign cataloguing codes. The cataloguing and classification of nonbook materials, such as serials, maps, and music. Administrative problems in cataloguing. (3 cr; prereq 83) Simonton
- 185f,w,s. **Special Problems.** Individual study on library problems for advanced students in library science. (1-3 cr; prereq approval of director of Library School) Staff

## LINGUISTICS AND COMPARATIVE PHILOLOGY

Chairman—Donald C. Swanson

Major Adviser in SLA—Associate Professor Swanson.

Major Sequence in SLA—Clas 106-107, Anth 181, and at least 18 additional credits in the following courses chosen after consultation with adviser. All candidates are expected to have a fair knowledge of Latin.

### General Courses

- Clas 56f. **Elementary Linguistics.** (3 cr; prereq 1 yr foreign language study on college level or equiv or #) Swanson
- Spch 67. **Phonetics.** (3 cr) Fletcher
- Clas 106w-107s. **Introduction to the Study of Language.** (3 cr per qtr; prereq Clas 56 or #) Swanson
- Ling 151f-152w-153s. **Readings Course.** (1-3 cr per qtr; for majors only) Swanson and staff
- Anth 180. **Phonetics and Phonemics.** (3 cr) Spencer
- Anth 181. **Descriptive Linguistics.** (4 cr; prereq #; 3 lect and 2 lab hrs per wk) Spencer
- Anth 185. **Language and Culture.** (3 cr; prereq Anth 2A or 100 or Δ) Spencer

### Classics

(For details, see Classics departmental listing)

- Grk 73s. **Hellenistic Greek.** (3 cr; prereq Δ) D Swanson
- Grk 101. **Structure of Greek.** (3 cr; prereq 5 qtrs Greek and Clas 56) D Swanson

**Skt 128-129-130. Readings in Sanskrit.** (3 cr per qtr) D Swanson

**Lat 133s. Vulgar Latin.** (3 cr; open to advanced students of Latin or a Romance language with #)  
D Swanson

### English

(For details, see English departmental listing)

**Engl 100f. Old English.** (4 cr; prereq 5 cr in literature in English Department, exclusive of classics and A-B-C) Allen

**Engl 102w. Readings in Old English Prose and Verse.** (3 cr; prereq Engl 100) Allen

**Engl 103s. Beowulf.** (3 cr; prereq Engl 100) Brown

**Engl 165f,w. Introduction to Modern English.** (3 cr; prereq 5 cr in literature in English Department, exclusive of classics and A-B-C) Allen

**Engl 166s. Historical Backgrounds of Modern English.** (3 cr; prereq 5 cr in literature in English Department, exclusive of classics and A-B-C; offered 1962-63 and thereafter when feasible) Allen

**Engl 174s. American English.** (3 cr; prereq 6 cr in English literature, including language above A-B-C, or #) Allen

### *For Graduate Students Only*

**Engl 204. History of the English Language**

**Engl 205. Structure of Modern English**

**Engl 206. Studies in the English Language**

### Germanic Languages

(For details, see German departmental listing)

**Ger 110-111. The Middle High German Language.** (3 cr per qtr) C Wood

**Ger 112s. History of the German Language.** (3 cr) C Wood

**Ger 113f. Gothic.** (3 cr) C Wood

**Ger 114-115. Methods of Comparative Germanic Linguistics.** (3 cr per qtr) C Wood

**Ger 119-120-121. Old High German; Old Saxon.** (3 cr per qtr) C Wood

**Ger 157-158-159. Old Norse Language and Literature.** (3 cr per qtr) C Wood

### Romance Languages

(For details, see Romance Languages departmental listing)

**Fren 171-172-173. History of the French Language.** (3 cr per qtr) Brackney

**Span 107-108-109. Structure of Modern Spanish.** (3 cr per qtr) Narvaez

**Span 161-162-163. Hispano-Arabic Culture.** (2 cr per qtr) Irving

**Span 171-172-173. History of the Spanish Language.** (1 cr per qtr) Grismer

### *For Graduate Students Only*

**Fren 204-205-206. Readings in Old French Literature.** (2 cr per qtr) Brackney

**Fren 207-208-209. Old Provençal.** (2 cr per qtr) Brackney

**Span 241-242-243. Old Spanish Philology.** (2 cr per qtr) Grismer

**Span 244-245-246. Readings in Old Spanish.** (2 cr per qtr) Grismer



Slavic and Oriental Languages

(For details, see Slavic and Oriental Languages departmental listing)

ARABIC

Arab 51-52-53. Arabic Dialect Analysis. (3 cr per qtr) Irving

SLAVIC

Russ 125-126-127. History of the Russian Language. (3 cr per qtr)

Slav 113-114-115. Old Church Slavic (Old Bulgarian). (3 cr per qtr)

Slav 161-162-163. Comparative Balto-Slavic Grammar. (2 cr per qtr; offered 1961-62) Kiparsky

MARRIAGE

See Family Studies

MATHEMATICS (Math)

FACULTY—Robert H. Cameron, *chairman*; Warren S. Loud, *associate chairman*; Dov I. Avishalom, Glen E. Baxter, John A. Beekman, Elizabeth Carlson, Peter L. Crawley, Monroe D. Donsker, Erwin Engeler, Peter A. Fillmore, Harry Furstenberg, Adriano M. Garsia, Bernard R. Gelbaum, Jesus Gil de Lamadrid, Heinrich W. Guggenheimer, Laurence R. Harper, Jr., Benton N. Jamison, James T. Joichi, Bjarni Jonsson, Gerhard K. Kalisch, Samuel Kantorovitz, Frank B. Knight, Charles F. Koch, Charles A. McCarthy, Chester L. Miracle, Steven Orey, Ernest T. Parker, William E. Pruitt, Heydar Radjavi, John M. Slye, David A. Storvick, Lincoln H. Turner, John A. Williamson, James W. Yackel.

Major Advisers in SLA—Professors Cameron, Donsker, Gelbaum, Jonsson, Kalisch, Loud; Associate Professors Baxter, Carlson; Assistant Professors Engeler, Gil de Lamadrid, Harper, Slye, Storvick.

Major Sequence in SLA—Math 49, 53, 54, 55; 62 or 131A; plus at least 17 additional credits in Upper Division courses.

All students majoring in mathematics are urged to study at least one of these languages: French, German, Russian. Students who plan to pursue graduate study in mathematics should refer to the section on "Language Requirements" in the *Bulletin of the Graduate School*.

Major Advisers in the College of Education—Professors Kalisch, Loud; Associate Professor Carlson; Assistant Professor Storvick.

Requirements for a Teacher's Certificate (applicable only to students in the College of Education)—*Major recommendation*: Entrance credit in solid geometry or its equivalent; Math 49, 53, 54, 60, and 8 additional Upper Division credits. *Minor recommendation*: Entrance credit in solid geometry or its equivalent; Math 49, 53, 54, 60.

Math 20 and Phil 2 are recommended as electives, to be taken preferably in the freshman or sophomore year, in connection with either a major or minor recommendation.

Students interested in a major in the College of Education should consider the opportunity of obtaining simultaneously both the B.A. degree from the Arts College and the B.S. in Ed. degree from the College of Education. See page 173.

Prospective teachers who wish a combination program in mathematics and physical science should consult the *Bulletin of the College of Education*.

Placement Tests—During the orientation period every freshman entering SLA is given a placement test in algebra. Other students entering SLA for the first time and expecting to take mathematics should take the placement test before the beginning of the fall quarter at the time and place that is announced. Depending on the result

of the algebra placement test, a student is allowed to register for Math T or 10 or 15, or is required to take Math Y before taking further mathematics. In certain cases a student is not allowed to register for Math Y and is required to take a review course in elementary algebra before taking Math Y. It is important to review high school mathematics before taking the placement test. An unnecessarily low score can delay a student's progress in mathematics by 1 or 2 quarters.

Many students entering from high school have taken work at the level of College Algebra. A student who feels that he knows the material of Math 15, College Algebra, is encouraged to take a proficiency examination in Math 15 (see page 20 for the procedure). If he is successful, he may take Math 49 on entrance. Students who have had work in analytic geometry and calculus in high school should consult the department office with regard to their proper registration in mathematics.

**Honors Program**—Honors courses in college algebra and calculus, offered nearly every quarter, are listed in the *Class Schedule*. Students are admitted on the basis of high academic record or a qualifying examination. Trigonometry is required for the honors course in college algebra.

A more comprehensive honors program (covering several quarters) is under study. Students will be informed of this program when it is in effect.

**General Education**—For the student whose major interests are nonmathematical but who wishes some mathematics for purposes of general education, this department particularly recommends Math 15 and 49. The student with more adequate background might be interested in such courses as Math 60, 109, and 127-128-129.

### Lower Division Courses

**Yf,w,s.\*\* Higher Algebra.** Essentially the equivalent of the second year of high school algebra. Includes factoring, fractions, linear equations and systems in one or more unknowns, determinants of order 2 and 3, graphing, exponents, radicals, ratio, proportion, variation, quadratic equations. (3 cr; prereq 1 yr elementary algebra)

*Note: Math Y will become a no-credit special fee course beginning with fall quarter, 1963.*

**Tf,w,s.\*\* Trigonometry.** Analytic trigonometry emphasizing identities, equations, and properties of the functions; right and oblique triangles without logarithmic computation. (3 cr; open for credit if taken before 53, even to students with high school trigonometry; prereq plane geometry and either Y or high school higher algebra...¶10 allowed)

**5f,w,s. Foundations of Arithmetic.** Includes a logical and axiomatic basis of the rules for arithmetical operations with integers, rational numbers, and real irrational numbers as necessary background for teaching arithmetic in elementary school, with some attention to the history of the subject and its role in our culture and civilization. (3 cr; prereq 1 yr elementary algebra and 1 yr high school geometry or equiv, and enrollment as elementary education student, or  $\Delta$ )

**10f,w,s.\*\* College Algebra and Analytic Geometry.** A course for students requiring only some analytic geometry and college algebra without trigonometry, or whose background does not include logarithms. Students who plan to take several quarters of mathematics should take Math 15 if they qualify. Functions and graphs, quadratic equations, progressions, inequalities, complex numbers, theory of equations, permutations and combinations, probability, systems of equations, determinants, graphing of linear and quadratic equations, conics and standard position, logarithms. (5 cr; prereq Y or high school higher algebra)

**15f,w,s.\*\* College Algebra.** A standard college algebra course for students planning to take the sequence in analytic geometry and calculus. Functions and graphs, quadratic equations in 1 and 2 variables, progressions, complex numbers, inequalities, theory of equations, permutations and combinations, binomial theorem, probability, mathematical induction, determinants. (5 cr; prereq Y or high school higher algebra and T or high school trigonometry)

**20w,s. Mathematics of Investment.** Simple interest and simple discount, compound interest, annuities with simple data, extinction of debts by periodic installments, bonds, depreciation, perpetuities, capitalization, general annuity formulas. (5 cr; prereq 10 or 15)

\*\* Read the announcement about placement tests which precedes the section, Lower Division Courses.

21. **Introduction to the Mathematics of Life Insurance.** Actuarial science principles; personal insurance. (3 cr, §BA 113; prereq 20 or 40 or 49 or BA 53 or 153 or §; offered when feasible)
- 40f,w,s. **Introduction to Calculus.** A 1-quarter course designed for those who wish a brief introduction to calculus which includes some integration. Students planning to take further work should take Math 49. Functions and limits, differentiation of algebraic, trigonometric, exponential and logarithmic functions with applications to velocity and acceleration, maxima and minima, approximations by differentials. Integration with standard forms with applications to area, volume, simple differential equations. (5 cr; prereq 15 or 10 and T or high school trigonometry)

### Upper Division Courses

Math 53, 54, 55, 59, 60, 62, 107, 108 are open to Lower Division students who have an average grade of at least C in the prerequisite courses. Other Upper Division courses are open to sophomores under conditions explained on the first page of Section II.

- 49f,w,s-53f,w,s-54f,w,s. **Analytic Geometry and Calculus I, II, III.** A full-year course in the elements of analytic geometry and calculus. Plane analytic geometry including straight line, conic sections, parametric representations, polar co-ordinates, translation and rotation of axes. Introduction to solid analytic geometry, functions and limits, differentiation of algebraic, trigonometric, inverse trigonometric, exponential and logarithmic functions with applications to velocity and acceleration, rates, maxima and minima, curve tracing, indeterminate forms, approximations by differentials. Introduction to partial differentiation. Integration by standard forms with applications to area, volume, work, moments. Improper integrals. Infinite series. Taylor's theorem. Multiple integrals in 2 and 3 dimensions. (49 is Lower Division; 53 and 54 are Upper Division) (5 cr per qtr; prereq 15 or 10 and either T or high school trigonometry; may enter 53 from 40 if grade in 40 is A or B)
- 55f,w,s. **Intermediate Calculus.** Advanced topics in partial differentiation, total differentials, directional derivatives, maxima and minima of functions of several variables, applications of multiple integrals. Taylor's theorem for functions of several variables, elements of differential equations. (3 cr; prereq 54)
- 60f,s. **Synthetic Metric Geometry.** Euclidean geometry including ruler and compass constructions and theorems on the triangle and circle not studied in a high school course in plane geometry. (3 cr; prereq 40)
- 62f,w. **Introduction to the Theory of Equations.** Complex numbers, solution of algebraic equations, properties of polynomials; isolation of the real zeros of a real polynomial; determinants, matrices, and linear equations. (3 cr; prereq 53 or §53)
- 100A-B-C. **Foundations of Arithmetic, Algebra, and Geometry.** (3 cr per qtr; prereq 54 or §)
- 102-103. **Advanced Analytical Geometry.** (3 cr per qtr; prereq 55; offered when feasible)
- 106f,s. **Differential Equations.** Problem course, methods for solving ordinary differential equations of various types with the necessary theory for developing these methods. (3 cr; prereq 55)
- 107f,w-108w,s. **Advanced Calculus.** Introduction to analytic theory of limits and continuity; uniform convergence; partial derivatives; differentials; Taylor's theorem for several variables; relative and absolute extrema, Lagrange multipliers; transformations for 2-space and 3-space; basic theory of Riemann single and multiple integrals; line and surface integrals; introduction to vector analysis; theorems of Green and Stokes, divergence theorem; improper integrals; Beta and Gamma functions. (3 cr per qtr; prereq 55)
- 109s. **Theory of Numbers.** Elementary properties of integers; prime and composite numbers; Euclid's algorithm; congruences; the theorems of Fermat and Wilson; primitive roots; indices; Diophantine equations. (3 cr; prereq 54) Carlson
- 110f,w,s. **Tutorial Course in Advanced Mathematics.** Qualified students whose needs are not met by courses offered may make special arrangements for obtaining the content of other graduate courses regularly offered by the department. (3-6 cr; prereq 54)
- 111Aw-Bs. **The Development of the Number System.** Systematic construction of the real number system by extension from the natural numbers via rational numbers to irrational numbers; negative numbers; properties of the system; operations with numbers and laws governing the operations. (3 cr per qtr; prereq 54)
- 112f. **Elementary Set Theory.** Basic properties of operations on sets, cardinal numbers, simply ordered sets, well-ordered sets, ordinal numbers, axiom of choice, axiomatics. (3 cr; prereq 54) Engeler
- 112Af-Bw-Cs. **Mathematical Logic.** Propositional and predicate calculi, models for systems of logic, recursive functions, decision and completeness problems. (3 cr per qtr; prereq 55 or Phil 155 or §) Orey

- 115Af-Bw-Cs. Differential Geometry.** Curves in the plane and in space; Frenet formulas; foundations of calculus of variations. Theory of surfaces; fundamental forms; curves on surfaces. Surfaces of constant curvature; non-Euclidean geometry and trigonometry. Minimal surfaces. Deformations, introductions to the theory of continuous transformation groups;  $n$ -dimensional differential geometry; parallelism; affine connection, curvature. (3 cr per qtr; prereq 55) Guggenheimer
- 116Af-Bw-Cs. Modern Geometry.** (3 cr per qtr; prereq 131A...for 116B, ¶131A)
- 120. Group Representations.** Elementary theory of finite groups and of infinite abelian groups with some application to permutation and crystallographic groups; representation by matrices, characters. (3 cr; prereq 131A; offered when feasible)
- 121f-122w-123s. Mathematical Theory of Statistics.** Mathematical probability, distribution and sampling problems, theory of estimation including the method of maximum likelihood, tests of hypotheses including likelihood ratio tests, introduction to factorial design. (3 cr per qtr; prereq 55)
- 125. Theory of Geometrical Constructions.** Constructions with and without classical restrictions to rulers and compasses; famous geometrical problems of antiquity, with ancient and modern solutions; constructions by graded rulers, parallel rulers, squares, compasses alone, etc. (3 cr; prereq 40) Carlson
- 125Aw-Bs. Critical Reasoning in Mathematical Analysis.** Careful examination of the notions of limit, sequence, series, function, derivative and integral, designed to give students a more mature understanding of these concepts. Technique of developing accurate proofs, and roles of both intuition and logic in connection with these techniques. (3 cr per qtr; prereq 54)
- 127f-128w-129s. Mathematics of the Social and Biological Sciences.** Mathematical tools and concepts other than statistics useful in the behavioral sciences. Examples and problems taken from the fields concerned. Topics include matrices, functions of several variables, probability, difference equations, learning models, two-person games. (3 cr per qtr; prereq 53) Donsker
- 131Aw-Bs. Advanced Algebraic Theory.** Linear dependence of vectors; dimension; matrices; systems of linear equations; special matrices and canonical forms; characteristic values and vectors; diagonalization of quadratic and hermitian forms. Introduction to more abstract concepts of algebra by means of examples drawn from matrix calculus and polynomials; vector spaces and linear transformations; examples and elementary properties of groups, rings, and fields. (3 cr per qtr; prereq 54) Gil de Lamadrid
- 136f. Solid Analytic Geometry.** Algebraic treatment of planes and lines; direction cosines; systems of planes. Cylinders; surfaces of revolution. Quadric surfaces; tangent planes, ruled surfaces. Co-ordinate transformations, invariants. General equation of the second degree. Matrix methods used throughout. (3 cr; prereq 53 or ¶53)
- 137. Advanced Theory of Equations.** (3 cr; prereq 54, 62; offered when feasible)
- 140. Projective Geometry.** Geometric properties invariant under projective transformations; theorems of Desargues, Pascal, and Brianchon, and applications. Methods used in some quarters are mainly synthetic and in others mainly analytic. (3 cr; prereq 54; offered when feasible)
- 144f-145w-146s. Fourier Series and Orthogonal Functions.** General theory of orthonormal functions is developed and applied to Fourier, Legendre, Bessel, Hermite, and other series. Convergence and summability theorems are proved, and the Fourier integral is considered. (3 cr per qtr; prereq 54; offered when feasible)
- 157f-158w-159s. Methods of Applied Mathematics.** Integrated study of analytic tools commonly used in applications of mathematics, with many problems and an emphasis on developing the student's technique. Material will include topics from real and complex variables, ordinary and partial differential equations, asymptotic expansions, matrices, integral equations, calculus of variations, etc. (3 cr per qtr; prereq 108 or ITM 152 or §) Loud
- 170f-171w-172s. Introduction to Modern Algebra.** Definitions and elementary theory of groups, rings, fields, and vector spaces; properties of linear transformations and matrices in vector spaces over arbitrary fields; factorization in integral domains; polynomial domains; finite and infinite field extensions; real fields. (3 cr per qtr; prereq 131A) Jonsson or Kalisch
- 176. Intermediate Differential Equations.** Topics in differential equations not contained in a first course but not requiring a broad background of analysis. Emphasis on linear equations of second order of interest in physics. Normal form, adjoint equations, series solutions, equations of Fuchsian type. Hypergeometric, Bessel and Legendre equations. (3 cr; prereq 106; offered when feasible)
- 178Af-Bw-Cs. Introduction to Probability.** Largely based on W. Feller, *An Introduction to Probability Theory and Its Applications*, with emphasis on logical development and varied applications. Random walks, Markov chains, and discrete stochastic processes. (3 cr per qtr; prereq 108 or 123 or §) Baxter
- 181Aw-Bs. Topology of the Cartesian Plane.** Limit points, coverings, compactness, connectedness, arcs, simple closed curves, mappings, Peano continua, Jordan curve theorem. (3 cr per qtr; prereq 55) Slye

- 187s. **Non-Euclidean Geometry.** Foundations of Euclidean geometry, Euclid's fifth postulate and its implications. Hyperbolic plane geometry and trigonometry. Elliptic plane geometry and trigonometry. Consistency of non-Euclidean geometry. (3 cr; prereq 54) Carlson
- 187As. **Finite Planes and Orthogonal Latin Squares.** Basic properties of affine and projective planes; connection with orthogonal Latin squares; construction of mutually orthogonal Latin squares and disproof of Euler's conjecture; finite fields and Desarguesian planes; ternary rings; incidence matrices and the Bruck-Ryser theorem; collineation groups. (3 cr; prereq 131A or 100B or §) Parker

*For Graduate Students Only*

- 203-204-205. **Advanced Mathematical Statistics**
- 206-207-208. **Theory of Functions**
- 209A-B-C. **Theory of Finite Riemann Surfaces**
- 210A-B-C. **Foundations of Algebra**
- 211A-B-C. **Advanced Methods of Applied Mathematics**
- 212A-B-C. **Point Set Topology**
- 213A-B-C. **Topics in Point Set Topology**
214. **Topological Algebra**
- 239A-B-C. **The Fourier Transform**
244. **Introduction to Wiener's Integral in Function Space**
- 245A-B. **Introduction to Lebesgue Integrals**
- 246-247. **Integration in Function Space**
- 248-249-250. **Reading and Research**
- 252A-B-C. **Linear Spaces and Operator Theory**
- 258-259-260. **Theory of Probability**
- 271-272-273. **Theory of Ordinary Differential Equations**
- 284A-B-C. **Stochastic Processes**
- 290-291-292. **Banach Spaces**
- 293A-B-C. **Seminar in Stochastic Processes**

*Note*—Some of the courses listed in the *Bulletin of the Graduate School* are open to properly qualified juniors and seniors. For further information consult the associate chairman of the Department of Mathematics.

## MICROBIOLOGY (Micb)

(College of Medical Sciences)

*Chairman*—to be announced

**Major Advisers in SLA**—Drs. Watson, Lichstein, Schmidt, McLaren, Bradley, Verna.

**Major Sequence in SLA**—Micb 53, 116, 121 and 16 additional Upper Division credits in microbiology or approved related subjects.

**Prerequisites:** Math 10 and 40; 12 credits of college physics (these subjects may be taken concurrently with microbiology courses); 10 credits in biological science; 15 credits in inorganic chemistry and analytical chemistry, and 8 credits in organic chemistry; a foreign language is strongly recommended.

Modification of this sequence will be permitted upon petition approved by the major adviser and the assistant dean for the Upper Division.

### *Upper Division Courses*

Micb 53 is open to Lower Division students who have a grade of at least C in the prerequisite courses. Other Upper Division courses are open to sophomores under conditions explained on the first page of Section II.

**53f,w,s.<sup>oo</sup> General Bacteriology.** Lectures, demonstrations, and laboratory instruction in the morphology, physiology, taxonomy, and ecology of bacteria. The practical applications of fundamental principles are emphasized. (5 cr; prereq soph with C avg in prereq courses, or jr, 10 cr in chemistry and 4 cr in biological sciences or #) Schmidt, McLaren

*Note*—Micb 1, Elementary Bacteriology (Extension Division, winter quarter) is open to students of occupational therapy and dental hygiene by obtaining special permission from the Department of Microbiology.

**102w.<sup>oo</sup> Medical Bacteriology.** Pathogenic bacteria, especially in their relationship to disease; principles of infection and immunity; microbiological techniques for laboratory diagnosis with antibiotic determination. (4 cr; for students other than medical students; prereq 116) Watson, Brand and staff

**103s. Soil Microbiology.** Bacteria, fungi, and actinomycetes of the soil, with emphasis on the biochemical activities of the soil microflora. (4 cr; prereq 53, 8 cr in organic chemistry and #) Schmidt

**110w. Microbial Genetics.** Genetic mechanisms in the bacteria, bacteriophages, fungi, protozoa, and algae. Mutagenesis; selection; adaptation; cytoplasmic inheritance; patterns of genic recombination; fine structure of genetic material. (3 cr; prereq 53 or #; offered 1962-63 and alt yrs) Bradley

**111s. Advanced Laboratory.** Techniques employed in study of microbial genetics and mycology. Laboratory exercises illustrate recombination in bacteria and fungi, antibiosis, morphogenesis in bacteria and fungi, and other techniques. (3 cr; prereq 110 or 112 or #; offered 1962-63 and alt yrs) Bradley

**112w. General Mycology.** Physiology; genetics; development; ecology; evolution; taxonomy; economic importance of the yeasts, molds, actinomycetes, and other fungi. (3 cr; prereq 53 or #; offered 1961-62 and alt yrs) Bradley

**114s. Medical Mycology.** Pathogenic fungi and mycotic infections in man and animals; emphasis on diagnostic procedures. (3 cr; prereq 102; offered 1961-62 and alt yrs) Bradley, Krafchuk

**116w. Immunology.** Mechanisms of the interactions between host and parasite. Techniques and theories of serologic procedures, laws of hemolysis, quantitative relationship between antigen and antibody, opsonins, serums, vaccines, toxin, antitoxin, complement fixation, neutralization, precipitative and agglutinative reactions, blood grouping, atopy, anaphylaxis. (4 cr; prereq 53) Watson

**121f. Physiology of Bacteria.** Chemical and physical structure; staining; growth; influence of environment on growth; nutrition; enzymes; metabolism. (3 cr; required of all grad students in microbiology and open to others by #; prereq 53 [minimal grade of C] and 8 cr in organic chemistry or biochemistry) Lichstein

**122w. Physiology of Bacteria Laboratory.** Techniques employed in the study of bacterial physiology and metabolism. (3 cr; required of all grad students in microbiology and open to others by #; prereq 121) Lichstein

**123s. Bacterial Metabolism.** Advanced treatment of metabolism; enzymes; biological energy; fermentation; respiration; nitrogen metabolism. (3 cr; required of all grad students in microbiology and open to others by #; prereq 121, 122 or equiv and introductory biochemistry; offered 1961-62 and alt yrs) Lichstein

**124f. Principles of Virology and Animal Cell Culture.** Lectures on biology of animal cell cultures; nature of viruses and rickettsia; etiology, epidemiology, and laboratory diagnosis of viral and rickettsial infections. (3 cr; prereq 102 and 116 or 105 and 106) McLaren, Ross

**152f,w,s. Special Problems.** (Cr ar; prereq #) Staff

**153f,w,s.<sup>oo</sup> General Bacteriology.** Lectures, demonstrations, and laboratory exercises are employed for instruction in the morphology, physiology, taxonomy, and ecology of bacteria. Practical applications of fundamental principles are emphasized. (3 cr; prereq 10 cr in chemistry and 4 cr in biological sciences or #) Schmidt

## MILITARY SCIENCE (Mil)

*Chairman*—Lieutenant Colonel Robert J. Elliott

The program in military science, leading to a commission in the United States Army Reserve, is available for SLA students as well as for those in other colleges

<sup>oo</sup>Microscope required. Students may obtain use of microscope by purchasing \$3 microscope cards from the bursar.

of the University. Instruction encompasses military fundamentals common to all branches of the Army. The aim is to provide a basic military education and, in conjunction with other college curriculums, to develop individual characteristics and attributes of leadership essential to an officer. For information concerning the requirements and the opportunities of this program, consult the *Bulletin of Army, Navy and Air Force ROTC* of the University of Minnesota, or call at the Military Science office, 106 Armory.

SLA will accept credits from the basic and the advanced courses in military science to fulfill a minor toward the B.A. degree.

### Basic Courses

- 51f. **Military Science I.** Organization of the Army and ROTC; individual weapons and marksmanship. (1 cr; 3 hrs per wk; leadership laboratory at Armory is a concurrent requirement)
- 52w. **Military Science I.** A collateral nonmilitary academic subject within the scope of communications, psychology, science, or political institutions or development selected by the cadet and approved by the PMS.†† (No cr; 1 hr per wk; leadership laboratory at Armory is a concurrent requirement)
- 53s. **Military Science I.** U. S. Army and national security. (1 cr; 3 hrs per wk; leadership laboratory at Armory is a concurrent requirement)
- 54f. **Military Science II.** Military topography and graphics. (1 cr; 3 hrs per wk; leadership laboratory at Armory is a concurrent requirement)
- 55w. **Military Science II.** American military history. (1 cr [subject to upward revision]; 3 hrs per wk)
- 56s. **Military Science II.** Introduction to basic tactics. (1 cr; 3 hrs per wk; leadership laboratory at Armory is a concurrent requirement)

### Advanced Courses

- 151f-152w-153s. **Military Science III.** Principles of leadership; military teaching methods; organization, function, and missions of the arms and services; small unit tactics and communications; school of the soldier and exercise of command. (3 cr per qtr; 5 hrs per wk)
- 154f-155w-156s. **Military Science IV.** Operations, including command and staff; estimate of situation and combat orders, military intelligence, the military team, and training management; logistics, including supply and evacuation, troop movements, and motor transportation; military administration and personnel management, including military justice; service orientation, including the role of the United States in world affairs and the present world situation; leadership and officer indoctrination; school of the soldier and exercise of command. (3 cr per qtr; prereq 151-152-153; 5 hrs per wk)

## MUSIC (Mus)

FACULTY—Paul M. Oberg, *chairman*; Norman E. Abelson, Dominick J. Argento, Evelyn C. Barry, Frank Benciscutto, Norman Carol, Guy M. Duckworth, Paul Fetler, Heinrich R. Fleischer, Paul Freed, Ivar Glemming, George L. Houle, Thelma Hunter, Paul Knowles, Alfred T. Loeffler, Jr., Mary Malcolm, Marcella L. Oja, Gerald Prescott, Johannes Riedel, Roy A. Schuessler, Stanislaw Skrowaczewski, Bernhard D. Weiser.

**Major Advisers in SLA**—Professors Oberg, Schuessler, Riedel, Fetler; Associate Professors Malcolm, Fleischer, Duckworth, Weiser; Assistant Professors Abelson, Houle, Knowles, Argento.

The Music Department is a liberal arts college member of the National Association of Schools of Music. The requirements for graduation with degrees carrying credit for courses in music, as set forth in this bulletin, are in accordance with the published regulations of the N.A.S.M.

†† A list of approved subjects is available at the ROTC office and has been furnished to student advisers.

The department offers courses in applied music, theory, composition, and music history and literature to students wishing to obtain a broad cultural background as well as to those majoring in music.

**Music Scholarships**—Scholarships in varying amounts are available to students majoring in music. Musical and scholastic aptitude are important factors in making these grants. Tryouts are held in Scott Hall Auditorium during the spring quarter each year.

**Requirements for Music Majors**—Students majoring in music must fulfill the requirements of both the Lower and Upper Divisions. A total of 144 credits in courses other than applied music (piano, voice, trumpet, etc., Mus 11 through 27) must be obtained in order to be eligible for the bachelor of arts degree.

Music majors are required to participate either in Chorus or Orchestra or Concert Band or Chamber Singers or Instrumental Ensemble or Men's Glee Club or Women's Glee Club, or in a combination of any of these, for a minimum of 6 quarters.

Students electing Upper Division sequences A and B are required to play or sing an *Upper Division Qualifying Examination* before enrolling in Upper Division.

### Lower Division

#### Freshman year

Music Theory: Mus 1T-2T-3T, 3 credits per quarter

Applied Music: Mus 11 through 27, 2 or 4 credits per quarter

#### Sophomore year

Music Theory: Mus 4T-5T-6T, 4 credits per quarter

Applied Music: Mus 11 through 27, 2 or 4 credits per quarter

History of Music: Mus 34-35-36, 3 credits per quarter

### Upper Division

During junior and senior years a student must complete an academic minor (see page 10) and one of the following major sequences:

**A. Applied Music (Instrumental)**—Total of 36 credits in applied music (Lower and Upper Division credit), including a minimum of 6 credits in Mus 11, Piano, or Mus 11A-B-C, Class Piano (functional knowledge of the instrument or exemption by demonstrated ability). Senior recital required.

(Credits shown in parentheses)

Mus 76—Form and Analysis (3)

15 additional Upper Division credits in music

Mus 97-98-99—Counterpoint (6)

**B. Applied Music (Vocal)**—Total of 36 credits in applied music (Lower and Upper Division credit), including a minimum of 12 credits in Mus 11, Piano, or Mus 11A-B-C, Class Piano, or demonstrated ability to play simple accompaniments. Senior recital required.

(Credits shown in parentheses)

Mus 76—Form and Analysis (3)

15 additional Upper Division credits in music

Mus 115-116-117—Vocal Literature (6)

**C. History and Literature**—Total of 24 credits in applied music (Lower and Upper Division credit), including a minimum of 12 credits in Mus 11, Piano, or Mus 11A-B-C, Class Piano (functional knowledge of the instrument or exemption by demonstrated ability).



(Credits shown in parentheses)

- |                                      |  |
|--------------------------------------|--|
| Mus 76—Form and Analysis (3)         | A minimum of 21 credits from: Mus 104-105- |
| Mus 97-98-99—Counterpoint (6)        | 106, 107, 108, 109, 110, 124-125-126,      |
| Mus 121-122-123—Advanced Harmony (6) | 130, 130A, 131, 131A, 132, 132A, 133,      |
|                                      | 134-135-136, 144-145-146, 151-152, 154-    |
|                                      | 155-156, 164-165-166                       |

*D. Theory and/or Composition*—Total of 24 credits in applied music (Lower and Upper Division credit), including a minimum of 12 credits in Mus 11, Piano, or Mus 11A-B-C, Class Piano (functional knowledge of the instrument or exemption by demonstrated ability).

(Credits shown in parentheses)

- |                                      |  |
|--------------------------------------|--|
| Mus 76—Form and Analysis (3)         | Theory major: 15 elective Upper Division credits in music  |
| Mus 97-98-99—Counterpoint (6)        |  |
| Mus 121-122-123—Advanced Harmony (6) | Composition major: Mus 127-128-129—Composition (6) plus 9 elective Upper Division credits in music |
| Mus 141-142-143—Orchestration (6)    |  |

*E. Normal Piano*—Total of 30 credits in Mus 11, Piano (Lower and Upper Division credit). A public performance required.

(Credits shown in parentheses)

- |  |  |
|--|--|
| Mus 70-71-72—Normal Piano (6)          | Mus 97-98-99—Counterpoint (6)                |
| Mus 76—Form and Analysis (3)           | 9 additional Upper Division credits in music |
| Mus 80-81-82—Advanced Normal Piano (6) |  |

Modification of these sequences will be permitted upon petition approved by the major adviser and the assistant dean for the Upper Division.

For a special curriculum in music education see the *Bulletin of the College of Education*. For courses in music education which are open to SLA students, see page 115.

**Music Minors**—A departmental minor consists of 15 Upper Division credits in music worked out in consultation with the chairman of the department.

For an appreciation of and cultural background in music, Mus 1 (or 50), 51, 52, 31-32-33 are recommended. For those interested in performance (glee clubs, orchestra, chorus, band) elective credits granted for Mus 39 through 49 (open to students in all colleges; consent of instructor required). Students with some performing ability may receive credit in voice, piano, organ, all instruments, Mus 11 through 27; private instruction without credit for beginners.

### Lower Division Courses

- 1f,w,s. Introduction to Music.** Basic elements of music, such as notation and characteristics of musical tone, fundamental musical concepts of rhythm, melody, harmony, polyphony, form; demonstrated by recordings and performance of music of all types in Western civilization. (5 cr) Houle
- 1Tf,w-2Tw,s-3Tf,s. Music Theory.** Development of musicianship through both auditory and visual perception; participation in ear training, sight singing, keyboard drills. (3 cr per qtr; primarily for music majors and minors) Argento, Barry
- 2f-3w.1 Minneapolis Symphony Demonstration Rehearsals.** Practical guide to intelligent listening and better understanding of symphonic music through specially arranged rehearsals of the Minneapolis Symphony Orchestra. (1 cr per qtr)
- 4f,w,s. Fundamentals of Music.** Knowledge of the piano keyboard, major and minor scales, triads, elementary ear training, rhythmic dictation. (2 cr; prereq nonmusic major)
- 4Tf,w-5Tw,s-6Tf,s. Music Theory.** (Continuation of Mus 3T) Greater emphasis on harmonic analysis, part writing, and clef reading. (4 cr per qtr; prereq 3T) Malcolm
- 7Af-Bw-Cs. Ear Training.** Résumé of aural work included in Mus 1T-6T. (2 cr per qtr; primarily for music majors, transfer students deficient in aural aspects of theory) Malcolm

- 31f-32w-33s.† Music Literature. Various styles, forms, types of music, including symphony, opera, chamber music, solo pieces. 31: Baroque and classical periods. 32: Romantic period. 33: Romantic and modern. (2 cr per qtr; primarily for those not majoring in music) Ivory
- 34f-35w-36s. History of Music. Musical styles and forms from the 9th to 20th centuries with emphasis on their identification through listening practice. (3 cr per qtr; prereq 3T) Houle
- 39f,w,s.†\*\* Women's Glee Club. (1 cr per qtr; prereq #)
- 40f-41w-42s.† Orchestra. Performance of orchestral literature; three concerts annually; players from all colleges are invited to participate. (1 cr per qtr [music majors may earn total of 12 cr]; prereq #) Oberg
- 43f,w,s.††\*\* Chorus. Performances of major symphonic-choral works with the Minneapolis Symphony Orchestra, University Symphony Orchestra, and University Concert Band. Entrance by audition only. (3 cr upon completion of 3 qtrs; prereq #)
- 43Sf-44Sw-45Ss.†\*\* St. Paul Campus Chorus. Prepares for at least one public appearance each quarter as well as for special events connected with St. Paul Campus. (1 cr per qtr; prereq #) Abelson
- 46f-47w-48s.†\*\* Concert Band. Rehearsals and appearances cover standard band literature; several appearances each quarter. (1 cr per qtr; open to men and women of all colleges; prereq #) Benciscutto
- 49f,w,s.††\*\* Men's Glee Club. Rehearsals and performances cover standard men's glee club material as well as special arrangements. Group appears for on- and off-campus functions. (1 cr; open to students on both campuses; prereq #) Abelson

### Courses in Applied Music

A student may not register for a course in applied music *for credit* (Mus 11 through 27) until he has passed the required entrance examination. (Students may not take special examinations in applied music for work done elsewhere while in residence at the University.)

Courses numbered from 11 through 27 carry either 2 credits (maximum of 10 private half-hour lessons) or 4 credits (maximum of 10 private hour lessons) per quarter. The first 12 credits in one of these courses count as Lower Division, additional credits in the same course count as Upper Division. A maximum of 36 credits in applied music may count toward a baccalaureate degree.

All students taking applied music *for credit* are required to attend Music Hour, held weekly in Scott Hall Auditorium.

#### Applied Music Entrance Requirements for Music and Music Education Majors and Minors—

**Piano:** A student should be able to play (1) major and minor scales in a moderate tempo; (2) three pieces in different styles, such as (a) Bach invention or dance from one of the suites, (b) one of the less difficult sonatas by Haydn, Mozart, or Beethoven, and (c) one of the shorter pieces by a 19th- or 20th-century composer.

**Organ:** Same as for piano; sight reading of hymns.

**Voice:** Sing on pitch, with correct phrasing and musical intelligence, standard songs in good English (the simpler classics recommended). Demonstrate ability to read a simple song at sight and have a knowledge of the rudiments of music. A knowledge of piano is also recommended.

**Violin:** Major and minor scales, arpeggios; the simpler Kreutzer Etudes; a sonata by Handel, Haydn, Mozart, Schubert; a more modern work displaying special technique peculiar to the violin. A knowledge of piano is also recommended.

**Other orchestral instruments:** A student should be able to play, with good tone, phrasing, and style, two solo numbers of good musical quality. He will be examined

\*\* Students may receive credit for 2 years or 6 quarters of work.

in sight reading as well as in the playing of scales. A knowledge of piano is also recommended.

**Applied Music Entrance Requirements for Nonmusic Majors**—Students who wish to take applied music as an elective should be able to play or sing at least two pieces of medium difficulty.

Af,w,s. Piano. (No cr) Weiser, Hunter, Freed

Df,w,s. Voice. (No cr) Schuessler, Knowles

11Af-Bw-Cs. Piano: Class Lessons.†† Development of skills at the keyboard in harmonization, improvisation, sight reading, accompanying, repertoire, technique. (2 cr per qtr; prereq 1 [nonmusic majors], # [others] for 11A...11A for 11B...11B for 11C) Duckworth

11Ef,w,s. Piano. Elective for nonmusic majors. (2 cr; prereq entr exam) Weiser, Hunter, Freed

11Lf,w,s. Piano. Lower Division for music majors. (2 or 4 cr; prereq entr exam) Weiser, Hunter, Freed

11Uf,w,s. Piano. Upper Division for music majors. (2 or 4 cr; prereq placement test) Weiser, Hunter, Freed

12Cf,w,s. Voice: Class Lessons.†† (2 cr per qtr) Knowles

12Ef,w,s. Voice. Elective for nonmusic majors. (2 cr; prereq entr exam) Schuessler, Knowles, Abelson

12Lf,w,s. Voice. Lower Division for music majors. (2 or 4 cr; prereq entr exam) Schuessler, Knowles, Abelson

12Uf,w,s. Voice. Upper Division for music majors. (2 or 4 cr; prereq placement test) Schuessler, Knowles, Abelson

13Ef,w,s. Violin. Elective for nonmusic majors. (2 cr; prereq entr exam) Carol

13Lf,w,s. Violin. Lower Division for music majors. (2 or 4 cr; prereq entr exam) Carol

13Uf,w,s. Violin. Upper Division for music majors. (2 or 4 cr; prereq placement test) Carol

14Ef,w,s. Viola. Elective for nonmusic majors. (2 cr; prereq entr exam) Carol

14Lf,w,s. Viola. Lower Division for music majors. (2 or 4 cr; prereq entr exam) Carol

14Uf,w,s. Viola. Upper Division for music majors. (2 or 4 cr; prereq placement test) Carol

15Ef,w,s. Cello. Elective for nonmusic majors. (2 cr; prereq entr exam) Jamieson

15Lf,w,s. Cello. Lower Division for music majors. (2 or 4 cr; prereq entr exam) Jamieson

15Uf,w,s. Cello. Upper Division for music majors. (2 or 4 cr; prereq placement test) Jamieson

16Ef,w,s. Double Bass. Elective for nonmusic majors. (2 cr; prereq entr exam) Fitch

16Lf,w,s. Double Bass. Lower Division for music majors. (2 or 4 cr; prereq entr exam) Fitch

16Uf,w,s. Double Bass. Upper Division for music majors. (2 or 4 cr; prereq placement test) Fitch

17Ef,w,s. Flute. Elective for nonmusic majors. (2 cr; prereq entr exam) Opava, Niosi

17Lf,w,s. Flute. Lower Division for music majors. (2 or 4 cr; prereq entr exam) Opava, Niosi

17Uf,w,s. Flute. Upper Division for music majors. (2 or 4 cr; prereq placement test) Opava, Niosi

18Ef,w,s. Oboe. Elective for nonmusic majors. (2 cr; prereq entr exam) Angelucci

18Lf,w,s. Oboe. Lower Division for music majors. (2 or 4 cr; prereq entr exam) Angelucci

18Uf,w,s. Oboe. Upper Division for music majors. (2 or 4 cr; prereq placement test) Angelucci

19Ef,w,s. Clarinet or Saxophone. Elective for nonmusic majors. (2 cr; prereq entr exam) Fitch, Williams

19Lf,w,s. Clarinet or Saxophone. Lower Division for music majors. (2 or 4 cr; prereq entr exam) Fitch, Williams

19Uf,w,s. Clarinet or Saxophone. Upper Division for music majors. (2 or 4 cr; prereq placement test) Fitch, Williams

†† SLA major students must take individual rather than class lessons in their major instrument. Music education majors will take individual lessons in their major but may take class lessons in their minor instruments. No student may take class lessons for more than 6 credits in 12C and 27C.

- 20Ef,w,s. Bassoon. Elective for nonmusic majors. (2 cr; prereq entr exam) Santucci
- 20Lf,w,s. Bassoon. Lower Division for music majors. (2 or 4 cr; prereq entr exam) Santucci
- 20Uf,w,s. Bassoon. Upper Division for music majors. (2 or 4 cr; prereq placement test) Santucci
- 21Ef,w,s. Trumpet. Elective for nonmusic majors. (2 cr; prereq entr exam) Chenette
- 21Lf,w,s. Trumpet. Lower Division for music majors. (2 or 4 cr; prereq entr exam) Chenette
- 21Uf,w,s. Trumpet. Upper Division for music majors. (2 or 4 cr; prereq placement test) Chenette
- 22Ef,w,s. French Horn. Elective for nonmusic majors. (2 cr; prereq entr exam) Speyer
- 22Lf,w,s. French Horn. Lower Division for music majors. (2 or 4 cr; prereq entr exam) Speyer
- 22Uf,w,s. French Horn. Upper Division for music majors. (2 or 4 cr; prereq placement test) Speyer
- 23Ef,w,s. Trombone. Elective for nonmusic majors. (2 cr; prereq entr exam) Weinman
- 23Lf,w,s. Trombone. Lower Division for music majors. (2 or 4 cr; prereq entr exam) Weinman
- 23Uf,w,s. Trombone. Upper Division for music majors. (2 or 4 cr; prereq placement test) Weinman
- 24Ef,w,s. Tuba. Elective for nonmusic majors. (2 cr; prereq entr exam) Walton
- 24Lf,w,s. Tuba. Lower Division for music majors. (2 or 4 cr; prereq entr exam) Walton
- 24Uf,w,s. Tuba. Upper Division for music majors. (2 or 4 cr; prereq placement test) Walton
- 25Ef,w,s. Percussion. Elective for nonmusic majors. (2 cr; prereq entr exam) Dahlgren
- 25Lf,w,s. Percussion. Lower Division for music majors. (2 or 4 cr; prereq entr exam) Dahlgren
- 25Uf,w,s. Percussion. Upper Division for music majors. (2 or 4 cr; prereq placement test) Dahlgren
- 26Ef,w,s. Harp. Elective for nonmusic majors. (2 cr; prereq entr exam) Miller
- 26Lf,w,s. Harp. Lower Division for music majors. (2 or 4 cr; prereq entr exam) Miller
- 26Uf,w,s. Harp. Upper Division for music majors. (2 or 4 cr; prereq placement test) Miller
- 27Cf,w,s. Organ: Class Lessons.†† Elementary organ technique, hymn playing, simple organ literature. (2 cr per qtr; prereq #) Fleischer
- 27Ef,w,s. Organ. Elective for nonmusic majors. (2 cr; prereq entr exam) Fleischer
- 27Lf,w,s. Organ. Lower Division for music majors. (2 or 4 cr; prereq entr exam) Fleischer
- 27Uf,w,s. Organ. Upper Division for music majors. (2 or 4 cr; prereq placement test) Fleischer

For courses in Graduate Applied Music for both Arts College and College of Education majors, see the appropriate sections, M.A. and M.Ed., in the *Bulletin of the Graduate School*.

### Upper Division Courses

Upper Division courses are open to sophomores under conditions explained on the first page of Section II.

- 50f,w,s. Introduction to Music. Introduction to the music in the repertory of our culture. exploring selected forms and styles from the 16th through 20th centuries. Listening abilities are developed through aural analyses of musical textures, recognition of the articulation of phrases, periods, and sections leading to an understanding of the relationship of large units of musical form. These listening techniques, along with a discussion of aesthetic principles, are used to define musical styles. (5 cr; open to jr and sr nonmusic students) Houle
- 51w. History of Musical Styles I. Romanesque, Gothic, Renaissance, mannerists, and baroque. (2 cr; for nonmusic majors; prereq 1 or 50) Houle
- 52s. History of Musical Styles II. Classic, romantic, and modern. (2 cr; for nonmusic majors; prereq 1 or 50) Houle

†† SLA major students must take individual rather than class lessons in their major instrument. Music education majors will take individual lessons in their major but may take class lessons in their minor instruments. No student may take class lessons for more than 6 credits in 12C and 27C.

- 60f-61w-62s.† **Instrumental Ensemble.** Performance of chamber music of great composers; sonatas, trios, quartets, quintets, etc. (2 cr per qtr) Oberg
- 66f-67w-68s.† **Chamber Singers.** A small mixed vocal ensemble of select voices. Sacred and secular music from 16th-century to contemporary composers prepared for concert presentation. (2 cr per qtr [may receive cr for 2 yrs or 6 qtrs work]; prereq ‡)
- 70f-71w-72s. **Normal Piano.** With Mus 80-81-82, provides 2-year course for piano majors focused on human values and musical growth as goals for teaching piano. The social setting and tonality approach are used as the basis for evaluating procedures and materials for teaching creative keyboard skills, techniques, repertory. (2 cr per qtr; prereq 2 yrs piano) Duckworth
- 76f,w,s. **Form and Analysis.** Key, harmonic, and form analyses of important contrapuntal and homophonic music. (3 cr; prereq 6T)
- 80f-81w-82s. **Advanced Normal Piano.** (See Mus 70-71-72) Second year of piano instruction and beyond. (2 cr per qtr; prereq sr, 72) Duckworth
- 83su. **Piano Teachers Summer Workshop.** Discusses the place of music in the liberal education of the individual, with implications drawn for the setting and approach for piano instruction in the private studio. If the teacher registers for 4 credits, he attends a 2-hour period of lectures and demonstrations for each day of the 5-week summer term. If the teacher registers for 6 credits, he is given the opportunity to teach, with the guidance of the instructor, a group of 4 children for a 1-hour lesson twice each week. The lectures and demonstrations may be taken without credit. Credit is not available for both Mus 83 and the 70-80 sequence. (4-6 cr; prereq 2 yrs piano, 2 yrs theory) Duckworth
- 90f-91w-92s.† **Advanced Instrumental Ensemble.** Performance of more difficult chamber music looking toward public presentation. (2 cr per qtr; prereq sr, 62) Oberg
- 97f-98w-99s. **Counterpoint.** Strict, 16th-century and Bach-style counterpoint in 2 and 3 parts; writing of canons, motets, inventions, fugues. (2 cr per qtr; prereq 6T) Fetler
- 100f,w,s. **Advanced Applied Music.** Advanced literature in piano, voice, organ, and orchestral instruments. (2 or 4 cr; prereq entr exam) Staff
- 104f-105w-106s. **American Music.** From early colonial times to the present through reading and record listening. American Indian music, European folk music on this continent, origin and development of jazz and contemporary American music. (3 cr per qtr; prereq 36, or 9 cr in American history or American studies, ‡) Riedel
- 107f. **Georg Friedrich Handel: Life and Works.** Musical culture in middle and northern Germany during the 17th and 18th centuries. The oratorio in Italy, France, Germany, and England. G. F. Handel's work with emphasis on his oratorios. Handel and England. (3 cr; prereq 36 or ‡, sr and grad in music or music education; offered 1962-63 and alt yrs) Riedel
- 108f. **Heinrich Schütz: Life and Works.** Influenced by political events; Protestant hymn and psalm literature, its musical elaborations in his works; his importance in fields of madrigal and monody, sacred concerto and cantata, and passion; Schütz compared to Bach. (3 cr; prereq 6 cr in music history or history of art or German literature or political history to 1700, or ‡; offered 1962-63 and alt yrs) Riedel
- 109w. **Lasso and Palestrina.** The Council of Trent, its influence on writing and performance of sacred music of 16th century. Madrigal, mass, and motet writing as exemplified in their works; Lasso's cosmopolitan and Palestrina's *a cappella* styles of writing; *Palestrina Style* of 17th and 18th centuries; *Caecilianism* of 19th and 20th centuries. (3 cr; for majors in music, arts, history; prereq 6 cr in music history or Renaissance and baroque art, or political history to 1700, or general history of Western philosophy, or ‡; offered 1962-63 and alt yrs) Riedel
- 110f. **Music Bibliography.** General reference sources. Music bibliographical materials in English and other languages; bibliographical drills in music history, theory and composition, music education, applied music. (3 cr; prereq 1 of the following: 36, 62, 72, 99, or ‡) Riedel
111. **Organization and Guidance of Piano Classes.** Organization, goals, materials, techniques for handling piano classes in secondary schools. (3 cr; prereq ‡; offered when feasible)
- 112f-113w-114s.† **History of Vocal Art.** Significant schools of singing from 1600 to the present. (2 cr per qtr; prereq 18 cr in 12, or ‡) Schuessler
- 115f-116w-117s.† **Vocal Literature.** Preparation and performance of representative solo vocal works from major and minor composers. (2 cr per qtr; prereq 12 cr in 12, or ‡) Schuessler
- 118f-119w-120s.† **Piano Literature.** Keyboard literature suitable for piano performance from end of 16th century to present; its background and development. Performance illustrations by instructor, recordings. (2 cr per qtr; prereq 12 cr in 11, or ‡; offered 1962-63 and alt yrs) Weiser
- 121f-122w-123s. **Advanced Harmony.** Chromatic harmony through analysis of representative 19th- and 20th-century works. (2 cr per qtr; prereq 6T) Argento

- 124f-125w-126s. **History of Opera.** Opera as music and drama: production, styles, cultural background, from late 16th century to present—modern repertoire, broadcast by the Metropolitan Opera Company. (3 cr per qtr; prereq 9 cr in history of music or history of art or history of theater or European history from 1600, or #; offered 1962-63 and alt yrs) Argento
- 127f-128w-129s. **Composition.** Original work in various forms. (2 cr per qtr; prereq 99 and 123) Fetler
- 130f. **Symphonies of the Classical Era.** Through Mozart and Haydn: evolution of form and style in relation to contemporary thought and art through the French revolution. (3 cr; prereq 6 cr in music history or art history or political history since 1750 or English or German literature since 1750, or #; offered when feasible)
- 130Af. **Early Romantic Music.** 1800-1848 literary and musical influences; form and subjects of Beethoven; orchestral, chamber, piano music; opera; Lied, choral music. (3 cr; prereq 36 or #; offered 1962-63 and alt yrs) Riedel
- 131w. **Symphonies of Beethoven.** Evolution of Beethoven's symphonic form and style as a reflection of intellectual, political, and artistic currents of the Napoleonic era. (3 cr; prereq same as 130; offered when feasible)
- 131Aw. **Late Romantic Music.** 1848-1885. Neoclassicism, Brahms; Wagnerian music drama; nationalism in music of Russia, Bohemia, Scandinavia, Spain; mid-19th century French music. (3 cr; prereq 36 or #; offered 1962-63 and alt yrs) Riedel
- 132s. **Symphonies of the Romantic Era.** Schubert, Schumann, Mendelssohn, Berlioz, Liszt, Brahms, Franck, Dvorak, Tchaikowsky, Bruckner, Richard Strauss; their relation to the dominant romantic trends of the 19th century. (3 cr, prereq same as 130; offered when feasible)
- 132As. **Neoromantic Music.** 1885-1917. Music of Bruckner, Mahler, Sibelius, Strauss, Schönberg, Reger, Elgar, Puccini, Leoncavallo, Charpentier, Franz, Cornelius, Wolf; impressionism. (3 cr; prereq 36 or #; offered 1962-63 and alt yrs) Riedel
- 133s. **Baroque Performance Practices.** Ornamentation, phrasing, articulation, and improvisation in the music of the period 1550-1759. A study of music instruction books of this era leading to analysis and performance of baroque music in baroque style. (3 cr; prereq sr and grad, 6T, 36, or #, and ability to perform with some facility; offered when feasible) Houle
- 134f-135w-136s. **History of Church Music.** Trends. Relationship of music to various theologies and liturgies. (3 cr per qtr; prereq 36 or #) Riedel
- 137f-138w-139s. **Keyboard Harmony.** Practical ear training as applied to the piano; chorales are transposed into all keys in four parts and expanded chords by melodic and harmonic analysis; modulation. (1 cr per qtr; prereq 6T) Argento
- 140w. **Realization and Interpretation of Choral Masterpieces.** Musical and vocal techniques necessary for presentation of great choral composition from the Renaissance to the 20th century. (3 cr; prereq sr and grad, 6T or #; offered when feasible)
- 141f-142w-143s. **Orchestration.** Scoring instruments of the orchestra for ensemble combinations and full orchestra. (2 cr per qtr; prereq 6T) Argento
- 144f-145w-146s. **Bach Through Beethoven.** Forms, techniques, styles of the late baroque and classical periods: Bach, Handel, Gluck, Mozart, Haydn, Beethoven. (3 cr per qtr; prereq 36; offered when feasible) Houle
- 147f, 148w, 149s. **Opera Workshop.** The student is given the opportunity to prepare and perform operatic roles both standard and contemporary. A union of musical and dramatic interpretation is emphasized and the student, in addition to his ensemble work, is given scheduled private instruction. All projects and roles will be sung in the English language. (2 cr per qtr; prereq sr and grad, ability to satisfactorily sing an aria) Knowles, Abelson, Argento
- 151w-152s. **Introduction to Musicology.** Scope, aims, methods, and resources of research in musicology, including fields of acoustics, psychology, sociology, and theory. (3 cr per qtr; prereq 110, or #; offered 1961-62 and alt yrs) Riedel
- 154f-155w-156s. **Music in the Middle Ages and Renaissance.** Monophonic music from the period of Gregorian chant to English madrigal school. (3 cr per qtr; prereq 36; offered 1961-62 and alt yrs) Riedel
- 157f-158w-159s.† **German Lieder.** Selected songs with regard to interpretation and style. 157: Schubert, Mozart, Beethoven. 158: Schumann, Brahms, Franz. 159: Wold, Strauss, Mahler. (2 cr per qtr; prereq 18 cr in 12 or 11, Ger 2, or #)
- 161w-162s. **Band Arranging.** Scoring for band instruments; creative arrangements for marching or concert bands. (3 cr per qtr; prereq 6T, 143 or MuEd 65 or #; offered 1961-62 and alt yrs) Bencriscutto
- 164f-165w-166s. **Music in the Baroque Era.** In Italy, Netherlands, Germany, Austria, France, Spain. (3 cr per qtr; prereq 36; offered 1962-63 and alt yrs) Houle

- 175w. **Training in Advanced Musicianship.** Sight singing and dictation of melodic, harmonic, rhythmic, 2- and 3-part contrapuntal materials; score reading, both vocal and instrumental; training in tonal memory; aspects of conducting. (3 cr; prereq 6T) Fetler
- 177s. **Analysis of Contemporary Music.** Twentieth-century styles and techniques including works of Bartok, Hindemith, Stravinsky, Schönberg. (3 cr; prereq 6T) Fetler
- 197f-198w-199s. **Advanced Counterpoint.** Bach's *Art of the Fugue*; practice in technique of writing 3- and 4-voice fugues; contrapuntal devices and problems; analysis of polyphonic examples of various periods. (2 cr per qtr; prereq 99) Fetler

*For Graduate Students Only*

- 200-201-202. **Basis of Musical Expression**
203. **Notation of Polyphonic Music**
204. **Graduate Applied Music**
- 209-210-211. **Advanced Topics**
212. **Special Problems**
215. **Advanced Conducting**
- 227-228-229. **Seminar in Composition and Orchestration**
- 270-271-272. **Organization, Guidance of Piano Classes**

**MUSIC EDUCATION (MuEd)**

(College of Education)

The following courses in music education are regularly open to SLA students:

- 63w. **Conducting I.** Basic elements of baton technique; styles of beats, types of arcs, preparatory beats, patterns, other general ideas in starting the young conductor. (2 cr; prereq 6 or #)
- 65f,w. **Instrumentation.** Orchestra and band instruments in combination; revision of materials suitable for school use; discussion of capabilities of school performers on the various instruments. (3 cr; prereq Mus 6T) Ivory

**NATURAL SCIENCE**

See Interdisciplinary Programs

**NAVAL SCIENCE (Nav)**

Chairman—Captain Cary H. Hall, USN

The course in naval science is designed to give those students enrolled in the Naval ROTC program a background in naval subjects to prepare them upon graduation to receive a commission in the Navy, Naval Reserve, Marine Corps, or Marine Corps Reserve. This course is, however, available to any student in SLA as well as to those in other colleges of the University. For information concerning the requirements and the opportunities in the NROTC program consult the *Bulletin of Army-Navy-Air Force ROTC* or call at the Naval Science office, 203 Armory.

SLA will accept credits from junior and senior courses in naval science to fulfill a minor toward the B.A. degree.

*Lower Division Courses*

(All NROTC Students)

**1ST YEAR**

- 11f. **Naval Orientation.** Naval customs. The organization for national security. Naval leadership. Forms of modern naval warfare. (3 cr)
- 12w-13s. **Sea Power.** Survey of sea power's influence on history from ancient times to present. (3 cr per qtr)

**2ND YEAR**

- 21f. Naval ROTC students enroll in appropriate psychology course (Psy 1 recommended) in lieu of the naval science lecture course. Students attend 1 hour per week laboratory period with NROTC instructor.
- 22w. **Naval Weapons.** The objectives of this course are to give the student an understanding of the underlying reasons and circumstances under which the family of naval weapons has been developed; to bring into focus the impact of these developments on naval warfare; to consider the influence of weapons on national policy and conversely those considerations of national policy that govern and influence the development of weapons; to point out the integration of the family of naval weapons into modern effective naval weapons systems; and to examine some possible courses of future development of naval weapons systems. (3 cr)
- 23s. **Naval Weapons.** The objectives of this course are to examine the components of naval weapons, including the applications of scientific principles involved, and to consider some of the basic features of space technology. (3 cr)

*Upper Division Courses***I. LINE SEQUENCE****3RD YEAR**

- 51f. **Naval Engineering.** Ship stability and shipboard propulsion. Principles and theory of operation of the ship's engineering plant and associated equipment. Effect of propulsion and ship design on naval affairs. (3 cr)
- 52w. **Naval Engineering: Introduction to Navigation.** Types and theory of internal combustion engines and shipborne nuclear propulsion plants. Dead reckoning, piloting, and electronic navigation. (3 cr)
- 53s. **Celestial Navigation.** Theory and practical application of navigating using the stars, sun, moon, and planets. (3 cr)

**4TH YEAR**

- 61f. **Naval Operations.** Elements of shipboard operations: relative motion, tactical communications, rules of the nautical road and naval maneuvering. (3 cr)
- 62w. **Naval Operations: Leadership.** Fleet communications and meteorology. Principles of naval leadership and management. (3 cr)
- 63s. **Leadership.** Principles of naval leadership and functions of the Uniform Code of Military Justice. Naval administration. (3 cr)

**II. SUPPLY CORPS SEQUENCE****3RD YEAR**

- 57f. **Supply Management I.** An introduction to Navy supply management. Case studies and problems in organization, budgets, and inventory management. (3 cr)
- 58w. **Supply Management II.** Series of problems in financial management and accounting, allowance lists and the procurement of naval material. (3 cr)
- 59s. **Supply Management III.** Series of problems in management of material in a shipboard supply department, security, inventories, and supply support. (3 cr)

**4TH YEAR**

- 63s. **Leadership.** (See 4th year of Line Sequence)
- 67f. **Clothing and Small Stores.** Ship's stores afloat introduction. Organization and operation of clothing stores and ship's stores afloat. Problems in clothing and small stores. (3 cr)
- 68w. **Ship's Stores Afloat: Leadership.** Operation and management of service activities inventories, balance sheets, and operating statements. Problems in ship's stores afloat. Principles of naval leadership and group management. (3 cr)

**III. MARINE CORPS SEQUENCE****3RD YEAR**

- 54f. **Evolution of the Art of War I.** Evolution of warfare from earliest recorded times up to and including the Mexican War. (3 cr)



- 55w. **Evolution of the Art of War II.** Continuation of the evolution of the art of war, to include Civil War campaigns, World Wars I and II, plus a consideration of U.S. military and foreign policy. (3 cr)
- 56s. **Modern Basic Strategy and Tactics.** The theoretical principles behind modern strategy and tactics. (3 cr)

4TH YEAR

- 64f. **Amphibious Warfare I.** Evolution of current amphibious warfare techniques and doctrine commencing with Gallipoli and up to the Korean conflict. (3 cr)
- 65w. **Amphibious Warfare II.** Introduction to doctrinal techniques and present concepts to include planning, embarkation, rehearsal, support, and logistics. (3 cr)
- 66s. **Leadership.** Functioning of the Uniform Code of Military Justice. Service leadership as pertinent to the Marine Corps. (3 cr)

NORWEGIAN

See Scandinavian

ORIENTAL

See Slavic and Oriental Languages

PERSONAL ORIENTATION

See Interdisciplinary Programs

PHILOSOPHY (Phil)

FACULTY—D. Burnham Terrell, *chairman*; Harry M. Bracken, May Brodbeck, Herbert Feigl, Homer E. Mason, Gareth Matthews, Grover E. Maxwell, Karl H. Potter, Francis V. Raab

**Major Advisers in SLA**—Professors Feigl, Brodbeck; Associate Professors Maxwell, Raab, Terrell; Assistant Professors Allen, Mason, Potter.

**Major Sequence in SLA**—Two courses from Phil 50-51-52, 1 of which shall be 52, and others to make a total of at least 30 credits in Upper Division philosophy courses including at least 12 credits in courses numbered above 100.

Prerequisite for major sequence, Phil 1 and 2. Phil 1A and 2A will not be accepted for this requirement.

Although there is no language requirement for the undergraduate major in philosophy, attention is called to the language requirements for the M.A. (1 foreign language) and Ph.D. (2 foreign languages, of which 1 shall be German) degrees in philosophy at this University. Students who plan graduate work in philosophy are urged to complete at least a substantial part of these requirements before graduation.

Phil 1 and 3 are introductory. They may be taken singly or in any order. The sections of 1, 2, and 3 are scheduled so that one may be taken at almost any hour and so that, if another of the courses is elected, it may usually be taken at the same hour in the following quarter.

**Notice for Nonmajors Concerning General Education Courses**—Since almost all courses in this department are suited to general education, each student is advised to choose according to his interest. In the Lower Division, we particularly emphasize Phil 2 (Logic), and in the Upper Division the whole or part of the sequence Phil 50-51-52 (History of Western Philosophy). Among interdepartmental courses, Phil 10 (Science and Religion), Phil 11 (World Religions), and Phil 81-82 (Science and Civilization) are recommended.

Students intending to enter theological seminaries or other institutions of training in religious work should note the special pretheological curriculum which is indicated in this bulletin (page 161).

### *Lower Division Courses*

- 1f,w,s. **Problems of Philosophy.** Introduction; main fields of investigation; permanent problems; principal methods and schools of philosophy; historical and contemporary views. (5 cr; prereq \*\*\*) Staff
- 2f,w,s. **Logic.** Difference between logical and fallacious reasoning; functions and uses of language; rules of good definition and sound argument. (5 cr) Staff
- 3f,w,s. **Ethics.** Examination of the problems which arise when human beings attempt to think systematically about conduct and values (are there absolute standards?), problem of free will, and survey of historical views about the right and the good. (5 cr; prereq \*\*) Staff
10. **Science and Religion.** Inquiry into nature of science and religion as currently interpreted, with an attempt to find grounds of conflict and/or reconciliation. (2 cr; prereq soph)
11. **World Religions.** Systematic study of five living world religions: Hinduism, Buddhism, Islam, Judaism, and Christianity. Readings from original scriptures and classical interpretations. Emphasis upon the major philosophical and ethical concepts of each religion. (5 cr) Staff
40. **Logic of Scientific Reasoning.** Introduction to principles of scientific method; definition and classification; observation, measurement, experiment; elementary statistical concepts; hypotheses, theories, evidence, and confirmation; the nature and limits of the scientific enterprise. (3 cr; prereq 2) Maxwell

### *Upper Division Courses*

Upper Division courses are open to sophomores under conditions explained on the first page of Section II.

Attention is called to Ortl 75-76-77 (Asian Civilizations) listed under Slavic and Oriental Languages.

- 50f-51w-52s.† **General History of Western Philosophy.** Survey of major developments in Western philosophic thought from its beginnings among the Greeks to middle of 19th century. 50: Greek philosophy; Socrates, Plato, Aristotle. 51: Stoicism, Epicureanism, and Medieval Christian Synthesis. 52: Modern philosophy from Descartes to Hegel; impact of science; backgrounds of contemporary philosophical problems. (5 cr per qtr) Staff
- 81f-82w.† **Science and Civilization.** An examination of the development of natural science and the scientific point of view within the history of civilization, and of the human and social implications of science in the contemporary world. (3 cr per qtr; primarily a sr integrative course; prereq jr with # or sr)
- 101f. **Principles of Philosophy.** Topics include knowledge, meaning, truth, reality, mind, and nature, human values, and action. (4 cr; prereq sr or grad who have not had 1) Feigl, Brodbeck, Maxwell
- 103w. **Eighteenth-Century Philosophy.** Philosophic background of 18th Century Enlightenment; rationalist and empiricist currents; deism; optimism; great chain of being. Readings from works of Locke, Hume, Voltaire, Diderot, Pope, and others. (3 cr; for history and literature students as well as philosophy majors; offered when feasible)
- 104s. **Nineteenth-Century Thought.** Main currents in European philosophy; British and French philosophical psychology and social philosophy. German thought: Hegel, Marx, Schopenhauer, Nietzsche. (3 cr; prereq 52 or equiv, #) Staff
- 105f. **Introduction to American Philosophy: Puritanism to Pragmatism.** Puritanism, the Revolutionary period, transcendentalism, and evolutionism. Among philosophers discussed: Edwards, Paine, Emerson, Peirce. (3 cr; especially for students of American history and literature) Potter
- 106w. **American Philosophy from William James.** (Continuation of 105) Among philosophers discussed: James, Dewey, Santayana, Blanshard. (3 cr; prereq 105 or #; offered when feasible) Potter

\*\* Phil 2 is open to freshmen. Phil 1 and 3 are open to third-quarter freshmen.

- 107w. **Philosophy in Modern Literature.** Survey of basic philosophical ideas in modern civilization as they are expressed in major works of literature. (3 cr; prereq major or minor in philosophy or literature, or #; offered when feasible) Terrell
- 108w. **Political and Social Ethics.** Ethical principles, theoretical and practical, at the basis of the social order. (3 cr; prereq 3, or #; offered when feasible) Raab
- 109f. **History of Ethics.** Most significant contributions to development of ethical theory in Western philosophy, with emphasis on British writers of modern period (17th-19th centuries). (3 cr; prereq 3, 1 qtr history of philosophy, or #) Terrell
- 112f-113w. **Plato.** Philosophy of Plato based on analysis of major dialogues. (3 cr per qtr; prereq 50 or #) Allen
- 114s. **Aristotle.** Philosophy of Aristotle based on analysis of selected passages from his major works. Particular attention given to his relationship to Plato. Survey made of Aristotelian tradition in Western philosophy. (3 cr; prereq 1 course from 50-51-52, or #) Allen
115. **Greek Philosophy After Aristotle.** A survey of the development of Greek philosophy after Aristotle, including such topics as Stoicism and Epicureanism, developments in logic, Neoplatonism, and skepticism. (3 cr; prereq 50; offered when feasible)
- 118w. **Readings in Medieval Philosophy.** Analysis of selected works of principal medieval philosophers. (3 cr; prereq 50, 51 or #; offered when feasible) Staff
- 120f. **Rationalism.** Philosophies of Descartes, Spinoza, and Leibniz. (3 cr; prereq 1 course from 50-51-52 or #; offered 1961-62 and alt yrs)
121. **Descartes.** Analysis of philosophical works of Descartes. (2 cr; prereq 1 course from 50-51-52 or #; offered 1963-64 and every 3rd yr)
- 122w. **Spinoza.** Philosophy of Spinoza based primarily on analysis of his *Ethics*. (2 cr; prereq 121 or #; offered when feasible) Staff
123. **Leibniz.** Philosophy of Leibniz based on analysis of selected philosophical writings. (2 cr; prereq 121 or #; offered 1963-64 and every 3rd yr)
- 130f. **Locke and Berkeley.** Analysis of principal epistemological works of Locke and Berkeley with emphasis upon their sources and influence. (3 cr; prereq 52 or #; offered 1961-62 and alt yrs) Terrell
131. **Hume.** Detailed study of Hume's *Treatise* and *Inquiry*. (3 cr; prereq 52 or #; offered 1962-63 and alt yrs) Terrell
- 134s. **Kant.** Philosophy of Kant based on analysis of selected passages from his major works. (3 cr; prereq 52 or #) Mason
- 137w. **Kierkegaard and Scandinavian Philosophy.** Philosophical tradition in the Scandinavian countries, with special reference to Kierkegaard and his significance. (3 cr; prereq 1 course from 50-51-52 or #) Mason
- 138w. **Contemporary Existentialism.** Existentialist philosophers since Kierkegaard, especially in France and Germany (esp. Heidegger, Sartre, Jaspers, Marcel). (3 cr; prereq 52 or 137 or #) Mason
- 140w. **Contemporary Philosophy.** Current systematic and critical philosophies, especially idealism, naturalism, realism, pragmatism, positivism as represented by their principal exponents. (3 cr; prereq 52 or #) Raab
- 150s. **Ethical Theory.** Distinguishing characteristics of a moral judgment; application of moral judgments to motives, acts, and persons; moral freedom and responsibility; moral relativity, skepticism, and the justification of moral standards; examination of representative systems. (3 cr; prereq 3, or #) Raab
- 151w. **Principles of Aesthetics.** Nature of aesthetic experience; standards of aesthetic evaluation; beauty in art and beauty in nature; status of subject matter in the arts; relation of form and content; concepts of representation, expression, style, meaning, and truth in the arts; use of symbols in art; relation of the arts to knowledge, and to society; relation of aesthetics to ethics. (3 cr; prereq #) Potter
- 154f. **Elements of Symbolic Logic.** Systematic introduction to modern logic. Topics include dimensions of language; calculus of propositions, classes, and relations; applications to foundations of mathematics. (4 cr; prereq 2 or #) Brodbeck
- 155w. **Intermediate Symbolic Logic.** Axiomatic development of logic; properties of deductive systems; modal and many-valued logics; applications to philosophical problems. (3 cr; prereq 154; offered 1962-63 and alt yrs) Brodbeck
- 157s. **Metaphysics.** Some recent attempts to discover general principles characteristic of the universe. (4 cr; prereq 1 course from 50-51-52, or #) Brodbeck

- 158w. Theory of Knowledge.** Analysis of the logical structure and experiential roots of knowledge. Topics include meaning, validity, truth, reason and experience, induction, criteria of objectivity, and reality. (4 cr; prereq 2 or #) Feigl
- 160f. Philosophy of Science.** Provides a clear understanding of meaning, methods, and implications of modern science through examination of basic concepts, presuppositions, and procedures. Topics include description, explanation, prediction, experimentation; space, time, number, matter, energy; causality, probability, statistics; organic life, evolution, mind. (4 cr; prereq 2 or #) Feigl
- 164f. The Logic of the Social Sciences I.** Philosophical examination of foundations of behavior sciences in general; their concepts, laws and theories; concrete illustrations from these sciences; problems of value and objectivity; logical nature of social philosophies and ideologies; role of social scientist in a democratic society. (3 cr; prereq 15 cr in social science, psychology, education, history, or philosophy, or #) Brodbeck
- 165s. The Logic of the Social Sciences II.** A closer and more specific study of items introduced in preceding course, with greater attention to logical methods and problems peculiar to each of the specialized social sciences. (3 cr; prereq 164) Brodbeck
- 167f. Philosophy of History.** Idealistic, theological, and economic interpretations of history, with particular reference to concepts of progress, continuity, pluralism, etc., and to philosophical aspects of historical methods. (3 cr; prereq 6 cr in philosophy or 10 cr in history) Mason
- 171f. Philosophies of India I.** The basic concepts of the Hindu, Buddhist, and Jain philosophies of life, as found in ancient and modern sources. Introduction to the Indian theory of philosophical argumentation and inference. (3 cr; prereq 5 cr in philosophy, 3 cr in courses pertaining to India or #) Potter
- 172w. Philosophies of India II.** Introduction to the problems of systematic inquiry in India, with special attention to the analyses of causation, freedom and knowledge in Buddhism, Jainism, Nyaya-Vaisesika, Purva-Mimamsa, Samkhya, and the various Vedantas. (3 cr; prereq 171 or #) Potter
- 180f. History of Religions.** Survey of some phases of primitive religions and of the history, literature, and chief teachings of the more highly developed faiths. (3 cr; prereq 6 cr)
- 181w. Psychology of Religion.** Current interpretations of religious experience and behavior, according to various psychologies. (3 cr; prereq 6 cr) Mason
- 182s. Philosophy of Religion.** Discussion of ground and sanctions of religion, according to various philosophies. (3 cr; prereq 6 cr) Matthews
- 190f-191w-192s.† Seminar in Philosophy.** Topics to be arranged according to students' interests. (3 cr per qtr; prereq sr, 9 cr, or #) Staff
- 193f-194w-195s.† Seminar in the History and Philosophy of Theology.** (3 cr per qtr; prereq sr or #)

*For Graduate Students Only*

- 206-207. Seminar in Comparative Philosophy**
- 210-211-212-213. Seminar in Moral Philosophy**
- 215. Seminar in Aesthetics**
- 216. Seminar in Philosophy of Criticism**
- 220-221-222. Seminar in Philosophical Analysis**
- 223-224-225-226. Seminar in Epistemology**
- 230-231-232. History of Philosophy**
- 233-234-235. Seminar in Philosophy of Religion**
- 236-237-238. Seminar in the History of the Philosophy of Religion**
- 241-242-243. Seminar: Philosophy of the Physical Sciences**
- 244-245-246. Seminar: Philosophy of Psychology**
- 247-248-249. Seminar: Logic of the Exact Sciences**
- 250-251-252. Seminar: Philosophy of the Social Sciences**
- 260-261-262-263. Seminar in Metaphysics**
- 268-269-270. Seminar: Studies in Aesthetics**

**PHYSICAL EDUCATION FOR MEN (PEM)**

(Department of Physical Education and Athletics)

*Chairman*—Richard J. Donnelly

A towel and locker fee of \$2.50 per quarter is charged all students using physical education facilities for activity. Uniforms for class work or recreational activity may be rented for \$2 per quarter.

The following courses in physical education for men are open, with a maximum of 6 credits, to SLA students. Students planning to enter the College of Education later are held to a requirement of 3 credits.

**1Af-Bw-Cs. Sports Education.** Orientation in a variety of recreational sports. Objective is to provide instruction and competition in those sports in which men may participate now and in future years as a means of obtaining recreation, regular exercise, and social intercourse. Student must furnish his own equipment for golf and skating. (1 cr per qtr)

**1Af.** Badminton, Bowling,\*\* Golf, Handball, Paddleball, Squash, Touchball, Weight Lifting  
Swimming, Beginning (for non-swimmers only)  
Tennis, Beginning  
Adapted Activities. (Prereq #)

**1Bw.** Badminton, Bowling,\*\* Golf (beginning), Handball, Paddleball, Skating, Weight Lifting

Swimming, Beginning  
Tennis, Beginning  
Adapted Activities. (Pereq #)

**1Cs.** Bowling,\*\* Golf, Handball, Squash, Tennis (Beginning), Weight Lifting  
Swimming, Beginning  
Adapted Activities. (Prereq #)

**2Af-Bw-Cs. Sports Education.** Offers an opportunity to develop proficiency in an elected recreational sport in which student has had previous experience. Student must furnish his own equipment for golf and skating. (1 cr per qtr)

**2Af.** Archery  
Ballroom Dancing (coeducational)  
Body Building  
Golf, Advanced  
Gymnastics  
Handball and Squash  
Square and Folk Dancing (coeducational)  
Swimming, Intermediate. (Prereq ability to swim 50 yds)  
Swimming, Advanced. (Prereq ability to swim 100 yds)  
Touch Football, Volleyball  
Weight Lifting

**2Bw.** Badminton  
Ballroom Dancing (coeducational)  
Basketball  
Body Building  
Gymnastics  
Life Saving. (Prereq ability to swim 100 yds)  
Skating

Square and Folk Dancing (coeducational)  
Squash and Handball  
Swimming, Intermediate. (Prereq ability to swim 50 yds)  
Tennis, Beginning  
Volleyball  
Weight Lifting

**2Cs.** Archery  
Ballroom Dancing (coeducational)  
Body Building  
Golf  
Gymnastics  
Life Saving. (Prereq ability to swim 100 yds)  
Paddleball, Horseshoes  
Softball, Volleyball  
Square and Folk Dancing (coeducational)  
Swimming, Intermediate  
Tennis, Beginning and Intermediate  
Weight Lifting

**PHYSICAL EDUCATION FOR WOMEN (PEW)**

(College of Education)

*Chairman*—Gertrude M. Baker

The following courses in physical education for women are open, with elective credit up to 6 credits, to SLA students. Students planning to enter the College of Education or School of Nursing later are held to a requirement of 5 credits in activity courses. After this credit requirement has been met, a choice may be made of "additional elective" courses listed on page 123.

\*\* The bowling alleys will charge students the regular cost per game.

A physical education fee of \$3.25 per quarter is charged for all activity courses (A, B, C). In addition, a \$3.25 fee is charged for the following numbered courses: 54, 87, 88, 89. Maximum fee per student, \$6.50 per quarter.

Students should register for classes in 210 Johnston Hall during the regular college registration period. Students should check the *Class Schedule* to be sure their activity rating is suitable for the class in which they registered. For special permission to take two courses in physical education, see Miss Tenney, 106 Norris Gymnasium.

All classes meet in Norris Gymnasium for the first meeting. A student forfeits her place in class if she is absent the first day the class meets unless she has notified the office at 101 Norris Gymnasium (Ext. 6175) that she is unable to attend. If a class is closed when a student registers, she should report to the first class meeting for possible cancellations.

### Fall Quarter (A)

#### Aquatics

Swimming, Beginning  
Swimming, Advanced Beginning  
Swimming, Intermediate  
Swimming, Advanced  
American Red Cross Senior Life Saving

#### Individual and Dual Sports

Archery, Beginning  
Badminton, Beginning  
Bowling, Beginning  
Fencing, Beginning  
Riflemarksmanship  
Skating, Beginning and Figure  
Social Games and Mixers

#### Posture and Individualized Exercise

Conditioning Exercises  
Posture and Individual Exercise  
Tumbling and Trampoline

#### Rhythms

Ballroom Dance, Beginning  
Folk and Square Dance  
Modern Dance, Beginning  
Tap Dance

#### Team Sports

Volleyball  
Field Hockey

### Winter Quarter (B)

#### Aquatics

Swimming, Beginning  
Swimming, Advanced Beginning  
Swimming, Intermediate-Advanced  
American Red Cross Senior Life Saving  
American Red Cross Water Safety Instructors Course

#### Individual and Dual Sports

Archery, Beginning  
Badminton, Beginning  
Badminton, Intermediate  
Bowling, Beginning  
Fencing, Beginning  
Riflemarksmanship  
Skating, Beginning and Figure

Social Games and Mixers  
Tennis, Beginning

#### Posture and Individualized Exercise

Conditioning Exercises  
Posture and Individual Exercise  
Tumbling and Trampoline

#### Rhythms

Ballroom Dance, Beginning  
Folk and Square Dance  
Modern Dance, Beginning  
Modern Dance, Intermediate

#### Team Sports

Basketball  
Volleyball

### Spring Quarter (C)

#### Aquatics

Swimming, Beginning  
Swimming, Advanced Beginning  
Swimming, Intermediate  
Swimming, Advanced and Diving  
Swimming, Synchronized  
American Red Cross Senior Life Saving  
American Red Cross Water Safety Instructors Course

#### Individual and Dual Sports

Archery, Beginning-Intermediate  
Fencing, Beginning  
Golf, Beginning  
Golf, Intermediate  
Golf, Advanced  
Riding, Beginning  
Social Games and Mixers  
Tennis, Beginning  
Tennis, Intermediate-Advanced

**Posture and Individualized Exercise**  
 Conditioning Exercises  
 Posture and Individual Exercise

Modern Dance, Beginning  
 Modern Dance, Intermediate-Advanced

**Rhythms**  
 Ballroom Dance, Beginning  
 Folk and Square Dance

**Team Sports**  
 Softball

**Additional Elective Courses**—These courses may not be used to meet a college requirement in physical education:

25f,w,s. **American Red Cross First Aid (Standard Course).** (2 cr)

54f,s. **Camp Leadership.** (3 cr)

80s. **History and Trends in Dance.** (3 cr; prereq #)

87f. **Dance Composition.** (2 cr; prereq #)

88w. **Advanced Dance Composition.** (2 cr; prereq #)

89s. **Dance Production.** (3 cr; prereq #)

## PHYSICS (Phys) (Institute of Technology)

*Chairman*—Professor Alfred O. C. Nier

**Major Advisers in SLA**—Professors Bolsterli, Hill, and Wall

**Major Sequence in SLA**—Phys 50, 50A, 100-102-104; 107-109-111 or 108-110-112; plus 9 additional credits of which at least 3 must be in laboratory courses.

**Major Adviser in the College of Education**—Professor Buchta.

For the specialized curriculums in natural science and physical science, see the *Bulletin of the College of Education*.

Prerequisites for any course in physics may be waived if a petition for registration in the course is granted by the School of Physics. Students who have any credit in one of the sequences 1-2-3 (combined with 1A, 2A, 3A), 4-5-6, 7-8-9, 11-12-13 will not receive credit for the corresponding course in another sequence.

### Lower Division Courses

**1f,w-2w-3s. Introduction to Physical Science.** Demonstration lectures on the principles of physics and the physical phenomena underlying these principles. Designed for those who wish a general cultural introduction to physics but do not plan to major in that subject. (3 cr per qtr; prereq high school algebra and plane geometry for 1, 1 for 2 and 3; this course taken without 1A-2A-3A does not satisfy any of lab science requirements for entrance to Upper Division; 3 lect hrs per wk)

**1Af,w-2Aw-3As. Introduction to Physical Science Laboratory.** Laboratory course given in conjunction with Phys 1-2-3. (1 cr per qtr; prereq 3 or §3; combination of 1-2-3 with 1A-2A-3A may be used to fulfill lab science group requirement; 2 lab hrs per wk)

**4f-5w-6s. General Physics.** (Primarily for premedical students) 4: Mechanics. 5: Heat and electricity. 6: Sound and light. Laboratory work is an integral part of course. (5 cr per qtr; prereq Math 40 or §Math 40; 4 lect, 1 quiz, 2 lab hrs per wk)

**7f-8w-9s. General Physics.** (Primarily for students majoring in physics, mathematics, or chemistry) Mechanics, heat, electricity, sound, and light. Laboratory work is an integral part of course. (5 cr per qtr; prereq §ITM 13A or §Math 40 for 7, §ITM 24A or §Math 53 for 8, §ITM 25A or §Math 54 for 9; 4 lect, 1 quiz, 2 lab hrs per wk)

**11f,w-12w,s-13f,s. General Physics.** (Primarily for students in the Institute of Technology) Mechanics, heat, electricity, sound, and light. Laboratory work is an integral part of course. (5 cr per qtr; prereq §ITM 11 or §Math T for 11, §ITM 12 or §Math 10 for 12, §ITM 13A or §Math 40 for 13; 4 lect, 1 quiz, 1 rec, 2 lab hrs per wk for 11...4 lect, 1 quiz, 2 lab hrs per wk for 12 and 13)

- 14f,w. Intermediate General Physics. Mechanics, electromagnetism, thermodynamics. (4 cr; prereq 13 and ¶ITM 24A or ¶Math 53; 4 lect, 1 quiz hr per wk)
- 14Af,w. Physics Laboratory. Parallel to Phys 14. (1 cr; prereq 14 or ¶14; 2 lab hrs per wk)
- 14Hf. Honors Course: Intermediate General Physics. Mechanics, electromagnetism, thermodynamics. (4 cr; prereq 13 and ¶ITM 24A or ¶Math 53,  $\Delta$ ; 4 lect, 1 quiz hr per wk)
- 15Hf. Honors Course: Physics Laboratory. Parallel to Phys 14H. (1 cr; prereq 14H or ¶14H,  $\Delta$ ; 3 lab hrs per wk)

### Upper Division Courses

Upper Division credit is allowed for Phys 8 and 9 to students not majoring in chemistry, mathematics, or physics.

- 50w,s. Intermediate General Physics. Elementary kinetic theory, charged particle dynamics, special relativity, electromagnetic radiation, elementary atomic physics. (4 cr; prereq 6 or 9 or 14, ¶ITM 25A or ¶Math 54; 4 lect, 1 quiz hr per wk)
- 50Aw,s. Physics Laboratory. Parallel to Phys 50. (1 cr; prereq 50 or ¶50; 2 lab hrs per wk)
- 50Hw. Honors Course: Intermediate General Physics. Elementary kinetic theory, charged particle dynamics, special relativity, electromagnetic radiation, elementary atomic physics. (4 cr; prereq 6 or 9 or 14, ¶ITM 25A or ¶Math 54,  $\Delta$ ; 4 lect, 1 quiz hr per wk)
- 51s. Intermediate General Physics. Elementary nuclear physics, wave motion, wave phenomena. (4 cr; prereq 50 and ¶ITM 26A or ¶Math 55; 4 lect, 1 quiz hr per wk)
- 51As. Physics Laboratory. Parallel to Phys 51. (1 cr; prereq 51 or ¶51; 2 lab hrs per wk)
- 51Hs. Honors Course: Intermediate General Physics. Elementary nuclear physics, wave motion, wave phenomena. (4 cr; prereq 50 and ¶ITM 26A or ¶Math 55,  $\Delta$ ; 4 lect, 1 quiz hr per wk)
- 52Hw. Honors Course: Physics Laboratory. Parallel to Phys 50H. (1 cr; prereq 50H or ¶50H,  $\Delta$ ; 3 lab hrs per wk)
- 53Hs. Honors Course: Physics Laboratory. Parallel to Phys 51H. (1 cr; prereq 51H or ¶51H,  $\Delta$ ; 3 lab hrs per wk)
- 100f-102w-104s. Mechanics, Electricity, and Magnetism. Theoretical course in mechanics, electricity, and magnetism designed to prepare students for advanced work. (4 cr per qtr; prereq 3rd yr, 9 or 14, ITM 26A or Math 55, 59 or Math 55, 106 for 100...100 or MM 29 for 102...102 for 104; 4 lect hrs per wk)
- 107f-109w-111s. Atomic and Nuclear Physics. Emphasis on an interpretation of experimental phenomena. Topics include special relativity, the nuclear atom, atomic and molecular structure and spectra, quanta and atoms, wave mechanics, nuclear physics, modern developments in classical physics, astrophysics, particle physics. (3 cr per qtr; prereq 9 or 14, ITM 26A or Math 55, 59 or Math 55, 106,  $\$$  if taken out of sequence; 3 lect hrs per wk)
- 108f-110w-112s. Principles of Modern Physics. An analytical course developing elementary quantum mechanics from its historical background with applications to atomic and nuclear physics. Topics include special relativity, origin of quantum theory, electrons and quanta, atomic structure, particles and waves, the theory of quantum mechanics, one-electron atoms, exclusion principle, multi-electron atoms, X rays, scattering and nuclear physics. (3 cr per qtr; prereq 50, ITM 153 or Math 108; 3 lect hrs per wk)
- 114f,w,s-116f,w,s-118f,w,s.† Elementary Physical Investigation. Problems, either experimental or theoretical, in which student has special interest. Written report required. (3 cr per qtr; prereq 3rd yr or above and  $\Delta$ )
- 120f. Atomic Physics. Laboratory course in techniques and methods used in physics research laboratories. Vacuum gauges and systems, properties of charged particles, X-ray diffraction, ionization of gases, mass spectroscopy, photoelectricity, secondary electron emission. (3 cr; prereq 50 or ¶107 or ¶108,  $\$$ ; 8 hrs per wk)
- 121w. Experimental Nuclear Physics I. Laboratory course not requiring extensive knowledge of electronic circuits. Natural radioactivity, cloud chambers, ionization chambers, properties of nuclear radiations, alpha, beta and gamma rays, neutrons, shielding, artificial radioactivity, photographic techniques, health protection. (3 cr; prereq 50 or 107 or 108,  $\$$ ; 8 hrs per wk)
- 122s. Experimental Nuclear Physics II. Laboratory. Techniques requiring knowledge of electronic circuits. Geiger, proportional, scintillation, and coincidence counters, cosmic rays, nuclear resonance phenomena, health monitoring instruments. (3 cr; prereq 50 or 107 or 108,  $\$$ ; 8 hrs per wk)
- 123f-124w-125s. Thermodynamics, Statistical Mechanics, and Theories of the Structure of Matter. Analytical course in principles of thermodynamics and introductory statistical mechanics. Laws



- of thermodynamics, thermodynamic potential functions, equations of state, phase transitions; transport phenomena, ensembles of identical systems, classical and quantum statistics; thermal, electric, and magnetic properties of matter. (3 cr per qtr; prereq 50 and ITM 152 or equiv for 123, 123 for 124, 124 for 125 or #; 3 lect hrs per wk)
- 126f-127w-128s. Elementary Solid State Physics.** Introduction to physics of bulk matter. Structure and types of solids; ionic, molecular, and metallic solids; thermal, electrical, and magnetic behavior of matter; theory of conduction in metals and semiconductors; crystal imperfections and their effects. (3 cr per qtr; prereq 50 and ¶ITM 26A or ¶Math 59)
- 131f. Geometrical Optics.** Fundamentals of ray optics and a study of its applications to optical instruments and their components. (3 cr; prereq 3rd yr, 15 cr in physics, ITM 25A or Math 54; 3 lect hrs per wk)
- 133s. Physical Optics.** Wave theory of interference, diffraction, polarization, and double refraction, with a study of their applications. (3 cr; prereq 3rd yr, 15 cr in physics, ITM 25A or Math 54; 3 lect hrs per wk)
- 133As. Physical Optics Laboratory.** Parallel to Phys 133. (1 cr; prereq ¶133; 3 lab hrs per wk; optional course)
- 134f,w. Experimental Optics.** Laboratory. Work in spectrometry, optics of compound lenses, photometry, absorption, interferometry and polarized light. (3 cr; prereq 3rd yr, 15 cr in physics, ITM 25A or Math 54; 1 lect and 5 lab hrs per wk)
- 136w,s. Spectrum Analysis.** Laboratory work dealing with the measurement of wave lengths, intensities, and absorption coefficients in the infrared, visible, and ultraviolet regions of the spectrum. (3 cr; prereq 3rd yr, 15 cr in physics, ITM 25A or Math 54; 1 lect and 5 lab hrs per wk)
- 144f. Electrical Measurements.** An experimental course covering ballistic and current galvanometers, magnetic flux measurements, potentiometer methods, D.C. bridges and audiofrequency A.C. bridges. (4 cr; prereq 9 or 14 and ITM 25A or Math 54; 3 lect and one 3-hr lab per wk)
- 146w. Physics of Vacuum Tubes and Associated Circuits.** Thermionics and vacuum tube circuits, with emphasis on applications to physics research. (4 cr; prereq 144 or #; 3 lect and one 3-hr lab per wk)
- 148s. Application of Electronic Circuits.** Lecture and laboratory work on amplifiers, computing circuits, servomechanisms, regulating circuits, and other devices employed in physics research. (4 cr; prereq 146 or #; 3 lect and one 3-hr lab per wk)
- Zool 155f, 156w, 157s.† Biophysics.** (3 cr per qtr; prereq 28 cr distributed between physics and biology and #...physical chemistry and general physiology recommended)
- 165f. Introduction to Physics of the Atmosphere.** Review of the laws of radiative transfer. The thermal structure of the atmosphere as determined by radiation. Hydrostatics and thermodynamics of the atmosphere, stability, and convection. Basic relations between pressure, temperature, and wind and the mean state of the atmosphere. A selection from topics of current interest: atmospheric electricity, mechanism of cloud formation and precipitation, ozone and the energy budget, and circulation of the upper stratosphere. (3 cr; prereq 50 and ITM 26A or Math 55, 59 or Math 55, 106)
- 166w. Meteorology I.** Basic meteorological hydrodynamics. The quantitative description of the flow processes of large scale weather systems. (3 cr; prereq 165 or #)
- 167s. Meteorology II.** Introduction to theoretical meteorology. Critical examination of the equations of motion. The mathematical models and methods used to describe the large-scale motions of the atmosphere. The transformation of energy in large-scale weather systems. (3 cr; prereq 166, vector analysis or #)
- 171f-172w-173s. Theoretical Physics.** Classical theories of physics including as major topics analytical dynamics, electromagnetism, and the relativistic formulation of these theories. Intended to serve both as a termination course in classical physics and as a preparation course for more advanced courses in mathematical physics and quantum mechanics. (3 cr per qtr; prereq 104, ITM 153 or Math 108 or equiv; 3 lect hrs per wk)
- 181f-183w-185s. Atomistics and Elementary Quantum Mechanics.** A unified course on the structure of matter and electromagnetic radiation in the light of modern experimental and theoretical work. The topics considered are fundamental particles; atomic, molecular, and nuclear structure; solid state; elementary quantum mechanics. (3 cr per qtr; prereq 111 or 112 or #; 3 lect hrs per wk)

*For Graduate Students Only*

201-202-203. Dynamics of Fluid Motion

204-205-206. Statistical Thermodynamics

- 207-208-209. **Electrodynamics, Theoretical Optics, and the Theory of Relativity**
- 210-211-212. **Quantum Mechanics**
- 213-214-215.† **Seminar in Contemporary Experimental Physics**
- 216-217-218.† **Seminar in Contemporary Theoretical Physics**
- 222-223-224. **Principles of Mathematical Physics**
- 225-226-227. **Advanced Quantum Theory**
- 228-229-230. **Nuclear Physics**
- 231-232-233. **Theory of Atomic and Molecular Structure**
- 237-238-239.† **Seminar in Radiofrequency Spectroscopy**
- 240-241-242.† **Seminar in Solid State and Low Temperature Physics**
- 246-247-248. **Cosmic Rays**
- 249-250-251. **Solid State Physics**
- 252-253-254.† **Seminar in Nuclear Physics**
- 255-256-257.† **Seminar in Mass Spectroscopy**
- 258-259-260.† **Seminar in Cosmic Rays**
- 261-262-263. **Mathematical Foundations of Quantum Mechanics**
- 264-265-266. **Elementary Particle Physics**
- 267-268-269. **Atmospheric Physics**
- 270-271-272. **Special Topics in Nuclear Theory**
- 273-274-275. **Plasma Physics**
- 301-302-303. **Research in Physics**

### Geophysics (GPhy)

(School of Mines and Metallurgy)

- 90f-91w-92s-93su. **Industrial Employment.** (Cr ar; prereq Δ)
- 108w. **Introduction to Earth Geophysics.** Physics of the earth; evidence and data on origin, age, size and shape, internal constitution, thermal history, gravity and magnetic fields. (3 cr; prereq Phys 9 or 14, Geol 2) Thiel
- 109f. **Introduction to Earthquake Seismology.** Physics and geology of earthquakes; causes, effects, distribution, seismic waves. (3 cr; prereq Geol 125 or #) Mooney
- 110s. **Introduction to Exploration Geophysics.** Principles of exploration by gravity, magnetic, seismic, and electrical measurements. (3 cr; prereq Phys 9 or 14, Geol 2) Mooney
- 125s. **Principles of Gravity and Magnetic Exploration.** Instrumentation, surveying techniques, reduction of data, interpretation, case histories. (3 cr; prereq Phys 9 or 14, Geol 1, ITM 25A) Thiel
- 126w. **Principles of Seismic Exploration.** Reflection and refraction seismology; theory, interpretation, instruments. (3 cr; prereq Phys 9 or 14, ITM 25A, Geol 2) Mooney
- 127f. **Principles of Electrical Exploration.** Resistivity, electromagnetic, and other methods; theory, interpretation, instruments. (2 cr; prereq Phys 9 or 14, ITM 25A, Geol 2) Mooney
- 135f-136w-137s-138su. **Research Problem in Geophysics.** (Cr ar; #) Mooney, Thiel
- 175s. **Gravity and Geodesy.** Gravity potential theory and measurements, reference ellipsoids and gravity formulas, gravity anomalies, earth tides, isostasy, geoid and deflections of the vertical, world geodetic system, satellite geodesy. (3 cr; prereq Phys 14, ITM 25A) Thiel
- 176w. **Geomagnetism.** Main field and secular variation, dynamo theory, magnetic storms, aurora, ionospheric physics, rock magnetism, polar wandering. (3 cr; prereq Phys 14, ITM 25A) Thiel
- 178f. **Physical Oceanography.** Physical properties of sea water, oceanographic surveys, water masses and ocean currents, wind currents and waves, tides. (3 cr; prereq Phys 14, ITM 25A; offered alt yrs) Thiel
- 179f. **Glaciology.** Physical properties of snow and ice, growth and deformation of ice crystals, densification, mechanics of glacier flow, temperature distribution in glaciers and ice sheets,

application of geophysical techniques, Greenland and Antarctic ice sheets. (3 cr; prereq Phys 14, ITM 25A; offered alt yrs) Thiel

### For Graduate Students Only

232w-233s. Theoretical Seismology

250. Geotectonics Seminar

251-252-253. Geophysics Seminar

These courses are part of a 5-year curriculum offered in the Institute of Technology. For further information consult the *Bulletin of the Institute of Technology*. The courses may be taken for credit by SLA students.

## PHYSIOLOGY (Phsl)

(College of Medical Sciences)

Chairman—Maurice B. Visscher

Major Advisers in SLA—Associate Professors Grim, Johnson.

Major Sequence in SLA—Phsl 55-56; 20 credits in approved Upper Division courses in related fields.

Modification of this sequence will be permitted upon petition approved by the major adviser and the assistant dean for the Upper Division.

### Lower Division Courses

4f,s. Human Physiology. (4 cr [will not count for cr for admission to Medical School except by permission of the dean of the College of Medical Sciences]; prereq 1 qtr zoology, 1 qtr chemistry)

### Upper Division Courses

51w. Human Physiology. Lectures, laboratory, and conferences. (6 cr; primarily for nursing and physical therapy students; prereq 1 yr chemistry, zoology)

55f-56w. Principles of Physiology. A beginning course in physiology emphasizing physical and chemical foundations and utilizing a quantitative approach. Lectures, demonstrations, and readings. (5 cr per qtr; prereq 1 yr general college chemistry, 1 yr college physics, mathematics through integral calculus)

60w. Human Physiology. Lectures, conferences, and laboratory. (6 cr; primarily for medical technology and pharmacy students; prereq college course in organic chemistry, zoology, and physics)

101w. Human Physiology. (10 cr; primarily for dentistry students; prereq courses in physiological chemistry and human or mammalian anatomy) Visscher and staff

106s. Human Physiology. Primary for medical and graduate students. (7 cr [4 cr without lab]; prereq courses in zoology, organic chemistry, and neuroanatomy) Visscher and staff

107f. Human Physiology. Continuation of 106. (8 cr [5 cr without lab]; credit given independently for 106 and 107; prereq same as for 106) Visscher and staff

## POLITICAL SCIENCE (Pol)

FACULTY—Charles H. McLaughlin, *chairman*; Charles H. Backstrom, Harold W. Chase, William H. Flanigan, Robert T. Holt, Walter W. Klein, Werner Levi, Benjamin E. Lippincott, Lennox A. Mills, Orville C. Peterson, Lloyd M. Short, Mulford Q. Sibley, Francis J. Sorauf, Jr., John E. Turner, George A. Warp.

Major Advisers in SLA—Professors Chase, Levi, Lippincott, McLaughlin, Mills, Short, Sibley, Turner, Warp; Associate Professor Holt; Assistant Professors Backstrom, Sorauf.

**Preparation for a Major Sequence**—14 or 15 credits, including Pol 1-2 (6 credits) or 5 (5 credits), and A-B (6 credits), and 3 credits selected from 3 (3 credits), C (3 credits), and 25 (3 credits); plus history (Hist 1-2-3 or 4-5-6 or 20-21-22), or economics (Econ 1-2 and BA 5), or sociology (Soc 1, 2 and 45). In addition Phil 2 and Psy 1-2 are recommended.

**Major Sequence**—The foregoing preparatory work is designed to provide a general knowledge of (1) the systems of government of the United States and of major European states, and (2) the principal terms and concepts of political science. To this knowledge the major sequence should add (3) a knowledge of the works of a number of great contributors to political ideas; (4) fairly exact and thorough knowledge of some extensive part of three of the following fields of political science: (a) American government—including politics, administration, public law, and local government (Pol 51-52-53, 80, 81, and those numbered from 100 to 139); (b) comparative government (Pol 60-61 and those from 140 to 159); (c) political theory (Pol 160-166); (d) international relations (Pol 85 and 171-199); and (e) political behavior (Pol 167-168-169). In addition the student must show ability to study independently and write a satisfactory term paper in at least 1 of the 3 chosen fields (see Pol 95).

To these ends the major student will be required to obtain 30 credits in Upper Division courses in political science. He will elect to concentrate in 1 of his 3 selected fields and will take courses totaling at least 15 credits in that field. He will obtain at least 9 credits in his second and at least 6 credits in his third selected field. The major and minor work should constitute an integrated plan of study.

**Majors in International Relations (Foreign Service Training, Area Studies)**—Special programs in international relations and foreign areas will be arranged for students of good standing who desire a general introduction to these fields. Courses are drawn from political science, economics, history, geography, and related departments. Those intending to take the examinations for the United States Foreign Service are advised to follow such a program and to prepare themselves adequately in modern foreign languages. See page 88 in this bulletin and the special bulletin, *Programs in International Relations and Area Studies*; consult Mr. Levi, Mr. McLaughlin, Mr. Mills, Mr. Turner, or Mr. Holt.

**Special Readings and Honors Courses**—Students of high ability who wish to specialize or to study for graduation honors are advised to take Pol 91-92-93. This course may be elected for independent work in any of the five fields noted above.

**Major Adviser in the College of Education**—Professor Warp.

**Requirements for a Teacher's Certificate** (applicable only to students in the College of Education)—*Major recommendation*: At least 36 credits in political science including Pol 1-2-3, A-B, 25, and at least 18 credits in Upper Division courses.

In lieu of a teaching minor, students will be required to take at least 48 credits in other social science departments. For further information see *Bulletin of the College of Education*.

**Note for Graduate Students**—Courses in political science numbered from 100-199 may be taken by graduate students for full credit, subject to the requirement of additional work over and above that assigned to undergraduates, or they may be taken by graduate students for reduced credit.

**General Education**—Except for Pol 27, all of the Lower Division courses offered by this department are suited to the needs of students who wish to include some political science in their study program. Pol 80 and 81 are specifically offered for nonmajors. Most of the Upper Division courses in this department also are appropriately considered as general education courses and are, in fact, elected by large numbers of students who are not majors or minors in political science.

*Lower Division Courses*

- 1f,w-2w,s†-3s.** **American Government and Politics.** Analysis of principles, organization, procedures, and functions of government in the United States—national, state, and local. Attention will be given throughout to current issues. (3 cr per qtr) Staff ar (1f-2w, 3s); Backstrom (1w-2s)
- 5f,w,s.** **American Government and Politics.** Covers most of Pol 1-2; 5 may be substituted for 1-2 whenever 1-2 is required. (5 cr, §1-2)
- 7w, 8s.** **Tutorial: American Government and Politics.** Intensive work in selected topics drawn from the subject matter of Pol 1-2-3. (3 cr per qtr; prereq 1 or 2 or 5 with grade of B or better)
- Af,w-Bw,s-Cs.** **The State in the Modern World.** Examination of principles, structure, and operation of modern state. Emphasis on nation state; historical development; democratic government (United States, Great Britain); totalitarian government (Nazi Germany, Soviet Russia); conflict between states. (3 cr per qtr; C may be taken concurrently with B) Lippincott (Af-Bw-Cs) Sorauf (Aw-Bs)
- Dw, Es.** **Tutorial: The State in the Modern World.** Intensive work in selected topics drawn from the subject matter of Pol A-B-C. (3 cr per qtr; prereq A or B, with grade of B or better)
- 25f,s.** **World Politics.** Introduction to contemporary international relations; policies of the great powers; nationalism; internationalism. (3 cr) Mills
- 26w.** **American Foreign Policy.** An introduction to the institutions and processes which determine American foreign policy. Traditional and postwar foreign policies. (3 cr) Holt
- 27s.** **Analysis of International Relations.** Methods of systematic analysis of the problems of international relations and the factors affecting them. Theoretical positions. (3 cr; prereq 25 or 26 or #) Holt

*Upper Division Courses*

Upper Division courses in this department are open to Lower Division students who have an average grade of C in the prerequisite courses. Courses which carry graduate credit may not be taken earlier than the third quarter of the student's sophomore year.

- 51f-52wf-53s.** **Field Work in Government and Politics.** Field study of political organization, leadership, and activities in the local community; performance of typical operations in government such as preparing and presenting reports, drafting bills, formulating budgets, conducting meetings and elections. (3 cr per qtr; regis limited to Minnesota residents; prereq 2 or 5; 51-52 offered 1962-63 and alt yrs, 53 offered when feasible) Backstrom
- 60f-61w,†** **Introduction to Legal Systems.** Elementary survey, primarily for social science students, of principal legal systems of the Western world. Emphasis upon organization, procedures, methods of growth, relation to political and economic systems, basic juristic conceptions, rather than upon substantive rules of law. The latter are drawn in when needed for illustration. 60: Roman law and European derivatives. 61: Anglo-American law. (3 cr per qtr; prereq jr or #; offered 1962-63 and alt yrs) McLaughlin
- 80f.** **National Government in the United States.** Special reference to current problems and developments. (3 cr; not open to soph or students who have had 2 or 5)
- 81w.** **State Government and Politics.** Analysis of state constitutions; legislative, executive, and judicial organization and procedures; political parties, political interest groups and elections; state-local government relations; personnel, finance, and major functions. (3 cr; not open to soph or students who have had 2 or 5; offered 1961-62 and alt yrs) Backstrom
- 85w.** **Problems of World Politics.** (3 cr) Mills
- 91Hf-92Hw-93Hs.** **Honors Work in Selected Fields.** (Cr ar; prereq 18 cr; consult major advisers)
- 95f,w,s.** **Major Paper.** (No cr; required of all majors; consult major advisers)
- 101f.** **Principles of American Constitution I.** Nature of constitutions, judicial review, national-state and interstate relations. (3 cr; prereq 2 or equiv) Chase
- 102w.** **Principles of American Constitution II.** Organization and powers of the national government. (3 cr; prereq 101 or equiv) Chase
- 103s.** **Principles of the American Constitution III.** Constitutional rights, due process and equal protection of the law. (3 cr; prereq 101 or 102 or equiv) Chase
- 108w.** **Legislative Organization and Procedure.** Congress and the state legislatures at work. (3 cr; prereq 2 or 5 or #) Short
- 116f.** **Local Government.** Theory, history, units, metropolitan areas, legal basis. (3 cr; prereq 2 or 5 or #) Backstrom

- 117w. **Local Government.** Politics, structures, finances. (3 cr; prereq 2 or 5 or #) Backstrom
- 118s. **Local Government.** Functions, administration. (3 cr; offered when feasible) Backstrom
- 119As. **Rural Local Government.** Historical and legal foundations, units of government, organization and administration, functions, finance, politics and elections, problems and prospects of rural local government. (3 cr; offered on StP Campus and intended primarily for prospective rural teachers, extension workers, and students in College of AFHE; prereq 2 or 5 or #; offered 1961-62 and alt yrs) Backstrom
- 120f. **Municipal Functions.** Line activities of municipal government: law enforcement, traffic, fire, health and hospitals, welfare, parks and recreation, education and libraries, public works, public utilities, planning, housing, urban renewal. (3 cr; prereq 2 or 5 or #) Peterson
- 121w. **Municipal Administration.** Basic administrative relationships in municipal government, personnel and financial administration, purchasing and contracting, legal service, administrative planning and research, reporting. (3 cr; prereq 2 or 5 or #) Peterson
- 122s. **Municipal Problems.** Intensive study of selected municipal problems, individual conferences, term paper. (3 cr; prereq 120 or 121 or #; 1 hr per wk) Peterson
- 123f. **Planning.** (Same as Arch 104, Econ 110, and Soc 106) Social, economic, political, geographic, and technical phases of modern city planning. (3 cr; prereq sr) Borchert, Heller, Peterson, Rose, Vivrett, Warp
- 124f. **Recent Social Legislation.** Federal, state, and local problems in field of public assistance and social security, with particular emphasis on major programs of Social Security Act, health insurance, and housing. (3 cr; prereq 2 or 5 or #) Warp
- 126w. **Government and the Economic Order I.** Survey of relation of government to all of the major areas of the economy; policy-making and policy decisions are emphasized. (3 cr; prereq 2 or 5 or #) Warp
- 127s. **Government and the Economic Order II.** Administrative development of regulatory programs; tools and techniques of administration; problems of organization, interest groups, and safeguards. (3 cr; prereq 2 or 5 or #) Warp
- 131f. **Public Administration.** Organization and areas, administrative responsibility. (3 cr; prereq 2 or 5 or #) Short
- 132w. **Public Administration.** Personnel administration. (3 cr; prereq 131 or #) Short
- 133s. **Public Administration.** Financial administration. (3 cr; prereq 131 or #) Short
135. **Problems of Public Planning.** (3 cr; prereq 2 or 5 or #; offered when feasible)
- 137f. **American Political Parties.** Role and functions of the party in American government; party composition and organization; process of nomination and policy formulation; regulation of party organization and activities. (3 cr; prereq 2 or 5 or #)
- 138s. **American Political Campaigns and Elections.** Examination of national, state, and local campaigns and elections, including field work in local political parties and election campaigns. (3 cr; prereq 2 or 5 or #) Backstrom
- 141f-142w. **European Government and Politics.** Britain, France, Germany, and Italy. Political institutions in their social setting; problems of power and responsibility, governmental stability; political decision-making, government, and the economic order. (3 cr per qtr; prereq B or 12 cr in social science or #) Turner, Holt
- 143s. **Government and Politics of the Soviet Union.** An analysis that seeks to explain rise of Bolshevism; sources and nature of its ideology; history of communist regime; institutional character; organization of power; role of the party; foreign, economic, and cultural policies; significance for Western civilization. (3 cr; prereq B, or 12 cr in social science or #) Turner, Holt
- 145f. **Government and Politics of the Scandinavian Countries.** (3 cr; prereq 6 cr or 12 cr in social science)
- 146w. **Social Legislation and Social Institutions in the Scandinavian Countries.** (3 cr; prereq 2, or 5 or Soc 1)
- 149f. **Government and Politics of the British Empire—India and the Tropical Colonies.** (3 cr; offered 1962-63 and alt yrs) Mills
- 150w. **Government and Politics of the British Empire—Development of Dominion Status.** (3 cr; offered 1962-63 and alt yrs) Mills
- 151s. **British Problems of Closer Union.** Problems of unity within British Dominions; regional unions with adjacent states. (3 cr; prereq 149 and 150 with grade of C+ or better, or #; offered when feasible) Mills

- 153f. **Japanese Government and Politics.** Constitutional and political development in Japan; political ideas, government, political parties, and problems. (3 cr; offered 1962-63 and alt yrs) Turner
- 154w. **Chinese Government and Politics.** Constitutional and political development in China; political ideas, government, political parties, and problems. (3 cr; offered 1962-63 and alt yrs) Turner
- 155f. **Latin-American Government.** An analysis of the factors, such as colonial institutions, the economy, the social structure which condition the constitutional and political organization of Latin America; the governmental system of Argentina. (3 cr; prereq 2 or 5 or #) Klein
- 156w. **Latin-American Government and Inter-American Relations.** An analysis of the governmental systems of Brazil, Mexico, Chile, Peru, and Uruguay; the historical development of the inter-American system; the Organization of American States. (3 cr; prereq 155 or #) Klein
- 157s. **Topics in Latin-American Government.** Contemporary constitutional and political developments in selected Latin-American republics, and their relationship to the entire area. (3 cr; prereq 155 or 156 or #)
- 158w-159s. **Comparative Governmental Systems: Principles and Problems.** Application of the comparative method to study of politics with references to Western and non-Western institutions; organization of political power in the 20th-century state; parties and pressure groups; voting behavior; representation and legislation; policy-making; bureaucracy; socio-economic bases of government. (3 cr per qtr; prereq 6 cr in any Upper Division comparative government course or #) Turner, Holt
- 160f. **American Political Thought.** From colonial times to present: Puritanism; constitution; utopianism; Calhoun; history of anarchist, socialist, populist, and syndicalist thought; social Darwinism; conservatism; political thought in law and literature. (3 cr; prereq B or 9 cr in social science or #) Sibley
- 161w. **Problems of Democracy.** Analysis of postulates and implications; moral foundations; democratic theory and the economic order; liberty and authority; equality; representation; spiritual order; democracy and practical politics; critics of democracy. (3 cr; prereq B or 9 cr in social science or #) Sibley
- 162s. **Recent Political Thought.** Main currents from Marx to present; Marx, Marxism, and their critics; non-Marxist socialism; syndicalism; anarchism; Catholic and Protestant theories; conservatism; pacifism; political thought in law and literature. (3 cr; prereq B or 9 cr in social science or #) Sibley
- 163s. **Political Theory and Utopia.** Selected great utopias from the viewpoint of the political theorist; the idea of planning in ideal states; the achievement of utopia; stability and change in the great utopias; the problem of authority and law; anarchist, socialist, and conservative utopias; utopia and totalitarian ideology; utopia and democratic ideology. (3 cr; prereq B or 9 cr in social science or #; offered when feasible) Sibley, R Swanson
- 164f. **Development of Political Thought: Ancient.** Hebrew ideas, Moses to second Isaiah; classical Greek thought; Plato and Aristotle; primitive natural law; Cynics and Stoics; theory in Roman Republic and Empire; first-century Christianity. (3 cr; prereq B or 9 cr in social science or #) Sibley
- 165w. **Development of Political Thought: The Middle Ages.** Early Christianity and the Church Fathers; moral theory and political theory; Empire and Church in ideology; Roman and canon law; theory of persecution; St. Thomas; 14th- and 15th-century conceptions; economics and politics. (3 cr; prereq B or 9 cr in social science or #) Sibley
- 166s. **Development of Political Thought: Early Modern.** Machiavelli: the idea of sovereignty; Protestant conceptions; English Civil War; Hobbes, Spinoza, Locke, the idea of progress; Godwin, Burke, Rousseau, rise of romanticism; German idealism. (3 cr; prereq B, or 9 cr in social science or #) Sibley
- 167f-168w-169s. **Political Behavior.** Role of personality and leadership; functions of myth, ideology, and interests; group behavior and public opinion; factors in voting and elections; consequences of organization; attitudes and psychology of political preference; quantitative techniques. (3 cr per qtr) Flanigan
171. **Scandinavian Foreign Policy.** (3 cr; prereq 6 cr in history or political science or #; offered when feasible)
- 175f. **Diplomacy.** Nature and functions, historical development of diplomacy; its relation to forms of government and power systems. Traditional diplomacy, diplomacy by conference and in international organizations, personal diplomacy, open and secret diplomacy. Essentials of diplomatic usage. Diplomatic agents. (3 cr; offered 1961-62 and alt yrs) McLaughlin
- 176w-177s.† **Conduct of United States Foreign Relations.** Control of foreign relations; treaties and executive agreements; structure and functions of foreign affairs agencies—Department of State, National Security Council, International Information Agency, economic, financial,

- military, intelligence agencies; co-ordination of agencies; the Foreign Service and other overseas agencies. (3 cr per qtr; offered 1961-62 and alt yrs) McLaughlin
- 180f-181w†-182s. **International Law (Pacific Relations)**. 180-181: Relation of international law to individuals, states, international community; jurisdictional problems; survey of principles developed in diplomatic practice, national courts, international adjudications. 182: Status of diplomatic agents and consuls, treaties, arbitration, treatment of aliens, pacific settlement. (3 cr per qtr) McLaughlin
- 183s. **International Law (Conflict)**. War and hostile measures short of war, military occupation, war crimes, neutrality, collective security sanctions. (3 cr; prereq 181 or §; offered 1962-63 and alt yrs) McLaughlin
- 184f. **International Relations and Organization I**. Fundamental principles. Global and regional organization. Institutions and methods in the political field. (3 cr) Levi
- 185w. **International Relations and Organization II**. Methods and institutions in the social, economic and cultural field. (3 cr) Levi
- 186s. **International Relations and Organization III**. International administration and civil service. Problems of and planning for an international order. (3 cr) Levi
187. **Problems of European Politics**. Contemporary development of intra-European relations and organization; changing role of key-European states; Europe's position in world politics. (3 cr; offered when feasible) Levi
- 191f. **Asia in International Relations I**. The period of separatism. (3 cr; offered 1961-62 and alt yrs) Levi
- 192w. **Asia in International Relations II**. The period of inequality. (3 cr; offered 1961-62 and alt yrs) Levi
- 193s. **Asia in International Relations III**. Contemporary development. (3 cr; offered 1961-62 and alt yrs) Levi
194. **International Politics of Asia**. Survey of Asian international relations; recent developments. (3 cr, §193; offered when feasible) Levi
- 195f. **Colonial Government and the Problems of Imperialism**. Motives of American, British, Dutch, French, and Spanish colonization; ancient and modern imperialism. (3 cr; offered 1961-62 and alt yrs) Mills
- 196s. **Proseminar in East and South Asia**. (Same as Anth 196, Geog 196, Hist 196, Ortl 196) Integrating course for students majoring in East and South Asia Area Studies program. (3 cr; prereq sr) Interdepartmental staff
- 197w. **The Mediterranean Area in World Affairs**. Economic, political, and strategic conditions; policies of the European and Asiatic states, postwar conflict of interests between the Western powers and Russia. (3 cr; offered 1961-62 and alt yrs) Mills

*For Graduate Students Only*

- 200-201. **Readings in American Government**
- 202-203-204. **Seminar in Constitutional Law**
- 205-206. **Seminar in Administrative Law**
- 207-208-209. **Seminar in Jurisprudence**
- 210-211-212.† **Special Seminar in Public Administration**
213. **Topics in Contemporary Latin-American Government and Politics**
214. **Seminar in Political Parties**
215. **Seminar in Comparative Public Administration**
- 216-217-218. **Seminar in Comparative European Government**
- 219-220-221. **Seminar in Political Power in the Modern World**
- 222-223-224. **Seminar in Recent Political Thought, American and Foreign**
- 225-226-227. **Readings in the Classics of Politics**
228. **Seminar in Political Theory**
- 229A-B. **Scope and Methods of Political Science**
- 230-231-232. **Seminar in Political Behavior**
- 234-235. **Political Science and Related Disciplines**
- 236-237. **Seminar in Federalism and Intergovernmental Relations**



238-239.† Seminar in the History and System of International Law

240. International Constitutional Law

242-243-244. Topics in Colonization and Imperialism

245-246-247. East Asian Government and International Relations

248-249. Seminar in International Organization

248A-249A. Problems of International Relations Theory

## PORTUGUESE

See Romance Languages

## PSYCHOLOGY (Psy)

FACULTY—Kenneth MacCorquodale, *chairman*; Ralph F. Berdie, John G. Darley, Marvin D. Dunnette, Norman Garnezy, Starke R. Hathaway, William T. Heron, James J. Jenkins, David L. LaBerge, Gardner Lindzey, Howard Longstaff, Paul E. Meehl, Ephraim Rosen, Wallace A. Russell, Virginia Senders, Benjamin Willerman, Robert D. Wirt.

**Major Advisers in SLA**—Professors Heron, Jenkins, Lindzey, Lofquist, Longstaff, MacCorquodale, Rosen, Russell; Associate Professors Dunnette, LaBerge, Wirt; Lecturer Senders.

A student considering the choice of a major in psychology must consult the Student Counseling Bureau prior to seeking his first conference with a major adviser, and allow enough time for the results to be reported to the Psychology Department. All students contemplating a major in psychology must pick up a set of mimeographed material in 112 Psychology Building prior to consulting a major adviser.

### Major Sequences in SLA—

**A. Honors Sequence.** For high-ability students preparing for graduate work in psychology. Requires a 3.0 over-all grade point average at Minnesota. (Prerequisites: Psy 1-2 and 4-5.) Psy 70; 190; 128-129 or 132-133 or 117; one of the following: 101-102, or 125-126, or 140-141, or 151, or 166-167 plus Jour 115; additional Upper Division psychology courses to make a total of 27 Upper Division credits. See Professor MacCorquodale.

**B. General Sequence.** Intended for students who have a broad interest in psychology regardless of whether they plan to take additional work beyond the B.A. degree. (Prerequisites: Psy 1-2 and 4-5.) Psy 70; 144-145; 140; 52 or 55 or 148 or 151; 130 or 155 or 160; CD 80; 6 additional credits in Upper Division psychology courses. Heron, LaBerge, Lindzey, MacCorquodale, Russell, Wirt.

**C. Differential Sequence.** Intended mainly for students preparing for graduate work in industrial, personnel, counseling, or advertising psychology; or for subprofessional work in these applied fields. (Prerequisites: Psy 1-2 and 4-5.) Psy 70; 125-126; 130 or 160; 190; 12 additional credits in Upper Division psychology courses, of which 6 credits may be in child development or in certain courses in educational psychology or business administration. Dunnette, Jenkins, Lofquist, Longstaff, Rosen, Senders.

All students majoring in psychology are strongly urged to elect courses in mathematics, especially Math 10 and 40. Math 10 and Zool 1-2-3 or Biol 1-2-3 are required for students planning to enter graduate work in clinical psychology.

Psy 70 should be taken as soon as possible in the junior year.

Majors in psychology may take not more than 33 Upper Division credits in psychology, educational psychology, and child development combined. This is in accordance with the general principle that a liberal arts degree should not involve overspecialization.

Psy 190 requires original work and should not be taken until as late in the student's program as possible.

Many of the courses numbered below 200 are designed for nonmajors as well as majors in psychology. This department particularly recommends Psy 52, 55, 140, and 144-145 as courses contributing to the general education of all students. Honors sections of Psy 1-2 are available—see the *Class Schedule*.

### Lower Division Courses

- 1f,w,s-2w,s.† **General Psychology.** General introduction to study of human behavior. Prerequisite for all advanced courses in psychology. (3 cr per qtr; prereq soph or 3rd qtr fr with B avg) Heron, Jenkins, LaBerge
- 4f,w,s-5w,s†-6s. **Introductory Laboratory Psychology.** Experiments illustrating subject matter of contemporary psychology. Included are human and animal learning, motivation, verbal behavior, problem solving, visual perception, psychological measurement, personality and social psychology. (2 cr per qtr; prereq soph, 1-2 or ¶1-2) Russell and staff
- 10s. **Applications of Psychology.** Review of research findings and individual techniques in the study of vocational choice and personal adjustment with particular emphasis on the psychology of college students. (3 cr; not intended for students planning to major in psychology; not open to any student who has had *any psychology or educational psychology course over 100*; prereq 1-2) Volsky, Hewer

### Upper Division Courses

In this department courses numbered between 50 and 70 are open to sophomores who have an average grade of at least C in all their courses and an average of B in the prerequisite courses.

- 52s. **Genetic Psychology.** Parallelism of habits, customs, ways of living, societies, etc., between animals and human beings. Elemental forms of human behavior and characteristics in animal life. Evaluations of different modes of adaptation. (3 cr; prereq 2) Heron
- 55s. **Sensation and Perception.** Roles of the stimulus, the receptor organ and the brain, and of learning and motivation, in man's perception of his world. Lectures and demonstrations. (3 cr; prereq 2) Senders
- 70f,w,s. **Principles of Psychological Measurement.** Uses and limitations of fundamental varieties of psychological measurement. (3 cr; prereq 2, 5) Dunnette
- 101f-102w.† **Experimental Psychology.** Critical treatment of content and methods of experimental psychology. Emphasis on current problems in perception, learning, motivation, and complex processes. Class will design, execute, and analyze 2 or 3 experimental projects per quarter. (3 cr per qtr; prereq 2, 5, 70, or equiv) LaBerge
- 117f. **The Analysis of Behavior.** A systematic formulation of the topics of psychology based upon a Skinnerian analysis. Scientific method, learning, motivation, and emotion are discussed. (3 cr; prereq 2 and 1 course numbered 50 and above) MacCorquodale
- 118w. **Verbal Behavior.** An account of an individual's verbal behavior in terms of his past history and current circumstances. Psy 117 is not prerequisite but the same method of analysis is used. (3 cr; prereq 2 and 1 course numbered 50 and above) MacCorquodale
- 120w-121s. **Theories of Personality.** Summary and evaluation of the major contemporary theories of personality. Among the theorists whose works will be discussed are Freud, Adler, Allport, Sheldon, Murray, and Rogers. (3 cr per qtr; prereq 9 cr in psychology) Lindzey
- 125f-126w. **Differential Psychology.** Introduction to methodology of differential psychology. Quantitative studies of the nature of psychological traits and influence of age, sex, heredity, and environment in the causation of individual differences in ability and temperament. (3 cr per qtr; prereq sr, 70, or 5 and 5 cr in statistics for 125...125 for 126) Jenkins, Dunnette
- 128f-129w. **Psychology of Learning.** Psychological theory: characteristics and function. Critical analysis of all learning theories and their application to problems of normal and abnormal behavior. (3 cr per qtr; prereq 9 cr in psychology) Heron
- 130w,s. **Vocational and Occupational Psychology.** Psychology of individual differences in intelligence, aptitudes, interests, and training, as related to vocational guidance and problems of occupational adjustment. Lectures and laboratory work. (3 cr; prereq 2 and 5 or 5 cr in statistics) Lofquist
- 132f-133w.† **Psychology of Motivation.** Classical and contemporary theories of motivation. Elaboration of basic drives into motives, acquisition of new drives and goals; dynamics of the

elaborated drive structure. Motivation in complex situations involving set, level of aspiration, the Zeigarnik effect, frustration, etc. (3 cr per qtr; prereq 9 cr in psychology) Russell

- 135f-136w-137s. Occupational Counseling.** Occupational information as used in counseling. Educational and occupational training opportunities and requirements. Psychological techniques in case analysis, interviewing, and remedial work. Types of vocational problems. Illustrative case histories. (2 cr per qtr; prereq sr...9 cr or # for 135-136, 130 for 137) Lofquist
- 140w. Social Psychology.** Survey of theories and evidence. The effects of other persons, mass communications, social class, and group membership upon the individual's attitudes and behavior. (3 cr; prereq 2, 5, and 9 cr in social science)
- 141s. Social Psychology of Small Groups.** Communication and influence processes; factors related to group cohesion; problem-solving behavior of groups; relation of group structure to function; emergence of leadership and relation between leadership and group process; types of member participation. (3 cr; prereq 2, 5, 9 cr in a social science) Willerman
- 144f,w-145w.s.† Abnormal Psychology.** Normal and abnormal behavior contrasted. Dynamics, and particularly social determinants, of personality maladjustments. (3 cr per qtr; prereq either 9 cr in psychology...or 6 cr in psychology, plus either Biol 2 or old Biol 3 or Zool 3 or 12 cr in social science) Rosen, Garmezey
- 148s. Physiological Psychology.** Elements of neural anatomy and physiology, tonus, neuromuscular set, integration, and the neural basis of learning. Their importance for psychology. (3 cr; prereq 2, 5 or Zool 3 or #)
- 151f. Animal Psychology.** Historical, philosophical, and biological foundations; consciousness; motivation; learning; reasoning; judgment; abnormal behavior; social influences. (3 cr; prereq 2, 5 or equiv in another science) Heron
- 155s. Engineering and Industrial Psychology.** Human factors as they relate to industrial production, biomechanics (adaptation of the machine to the capacities and limitations of the operator), work and effort, and the role of communication, motivation, and supervision in an industrial organization. (3 cr; prereq 2, 5 or 3 cr in statistics) Dunnette
- 156f,w. Psychology of Advertising.** Psychological analysis of basic principles underlying advertising and selling. Consumer research is stressed. Research techniques for investigating advertising problems and analysis of consumer wants are considered in detail. (3 cr; prereq 2 and Principles of Economics) Longstaff
- 160f,w. Psychology in Personnel Work.** Selection and retention of a stabilized personnel. Standardized interview; principles and technique of employment tests; methods of judging character qualities; rating scale; personnel classification methods; morale and its measurement. (3 cr; prereq 2, 5, or 3 cr in statistics, and Principles of Economics or #) Longstaff
- 166f. Opinion and Communication: Social Factors.** Examination of processes of opinion formation and change in relation to personality and social structure will lay groundwork for analysis of flow of public communications through society and impact of selected types of mass communication on particular audiences. (3 cr; prereq sr, Soc 1 or 120 or Psy 140 or #...recommended that 166 be taken as a 3-qtr sequence with Psy 167 and Jour 115) Hall
- 167w. The Measurement of Opinions and Attitudes.** Problems of sample survey techniques, including the preparation of questionnaires, methods of sampling, procedures in data analysis, social implications of polling, and applications of survey techniques in public affairs and in social science research. (3 cr; prereq sr, 70 or equiv) Dunnette
- 171f-172w†-173s. Clinical Psychology I: Assessment.** Theory and practice of personality appraisal, especially of deviant individuals and in a psychiatric context. Diagnostic interview and mental status; history-taking; behavior ratings; psychological deficit; prediction; structured personality tests. (3 cr per qtr; prereq sr, 145 and a course in mental measurement or statistics; students intending to use this course professionally should postpone taking it until they are in Graduate School) Meehl, Schofield, Meier
- 190f,w,s. Project in Psychology.** Individual library study or experimental investigation. (Cr ar; prereq sr, #) Staff

*For Graduate Students Only*

**200-201-202. Systematic Psychology**

**203-204-205. History of Psychology**

**207-208-209. Group Dynamics**

**210, 211, 212. Research Problems**

**215, 216, 217. Seminar in Special Areas of Psychology and Related Sciences**

**219-220. Psychology of Personality**

- 221, 222, 223. Seminar in Personality Research  
 224, 225, 226. Seminar in Advanced Clinical Child Psychology  
 227-228-229. Seminar in Vocational Rehabilitation Counseling  
 230, 231, 232. Field Work in Psychometrics and Applied Psychology  
 235-236-237. Clinical Practice in Counseling  
 240, 241, 242. Seminar in Student Personnel Work  
 243. Experimental Psychodynamics  
 244. Research Problems in Experimental Psychodynamics  
 Phil 244-245-246. Seminar: Philosophy of Psychology  
 246. Psychoanalytic Theory  
 247. Mathematical Theories of Behavior  
 CD 247-248. Clinical Child Psychology  
 249. Biological Aspects of Emotional Behavior  
 250-251-252. Advanced Seminar in Vocational Rehabilitation Counseling  
 257-258-259. † Methods of Research in Group Behavior  
 260-261-262. † Seminar in Differential Psychology and Industrial Relations  
 265-266-267. Seminar in Advanced Clinical Psychology  
 270. Advanced Psychological Measurement  
 271-272-273. † Clinical Psychology II: Treatment  
 274. Preclinical Practicum in Clinical Psychology  
 275-276-277. Seminar in Research in Student Personnel Work  
 281, 282, 283. Seminar in the Psychology of Marriage  
 284-285-286. Seminar in the Psychology of Language  
 290-291. Projective Techniques  
 292-293. Seminar in Theoretical Problems of Group Functioning  
 299. Tabulating Equipment Laboratory

## PUBLIC HEALTH (PubH)

(College of Medical Sciences)

Chairman—Caylord W. Anderson

Advisers in SLA—Professors Anderson and Thomson; Professor Bearman for biostatistics.

Major Sequence in Biostatistics in SLA—PubH 110, 111, 120, 121, 130, 131, and 18 credits in Upper Division courses approved by the adviser.

Modifications of this sequence will be permitted upon petition approved by the major adviser and the assistant dean for the Upper Division.

For further information about undergraduate curriculums leading to graduate work in biostatistics consult with members of the staff in biostatistics.

For additional details of courses of study in public health consult the *Bulletin of the School of Public Health*.

### Lower Division Courses

21,w,s.\*\* Personal and Public Health. Individual and community activities for promotion of health and safety. (2 cr, \$3, \$50; will not be accepted as prereq for any other course in public health; prereq fr, soph only) Reiter

\*\* No credit is granted for this course in the major sequence in public health nursing.

- 3f,w,s.\*\* **Personal Health.** Normal body function; causes and prevention of disease. (2 cr, §2, §50; prereq fr, soph only) Thomson
- 4s.\*\* **Health Problems of the Community.** Prevention of disease in family and community. (2 cr; prereq 3, or successful passing of exemption exam; exemption from 2 or 3 on basis of military service does not serve as a prereq) Thomson

### Upper Division Courses

Upper Division courses are open to sophomores under conditions explained on the first page of Section II.

- 50f,s.\*\* **Personal and Community Health.** Fundamental principles of health conservation and disease prevention. (3 cr, §2, §3, §4, §51, §52, §53, §100A) Thomson
- 51w.\*\* **Community Hygiene.** Community programs for disease control. (3 cr, §4, §50, §52, §53, or §100 or those excused from 3 on basis of military service; prereq 3, 3A) Cowan
- 57s.\*\* **Health of Infant and Preschool Child.** Infant and maternal mortality; growth and development of child; care and feeding of normal infant; prevention and correction of defects. (2 cr; prereq 4, or 50, or 51, or 52)
- 75s. **Introduction to Environmental Sanitation.** Principles of urban and rural sanitation relating to water, food, wastes, housing, air, insects, rodents. (3 cr; prereq 4 or 50 or 51 or 52) Bond, Bosch
- 100Af. **Elements of Public Health.** Occurrence and prevention of communicable, degenerative, and industrial disease. (3 cr; prereq 3 or 50, or equiv and a course in bacteriology) G Anderson, Thomson, Schuman
- 102Aw. **Environmental Sanitation.** General principles of urban and rural sanitation with special reference to problems encountered by official health agencies. (2 cr; prereq 100A or §) Bosch, others
- 103f,w,s. **Public Health Bacteriology.** Bacteriologic and serologic diagnosis, public health laboratory administration and methods. (Cr ar; prereq grad, Micb 102, 116 and §) Bauer
- 106w. **Public Health Administration.** Structure, basic functions, and activities of public health agencies. (3 cr; prereq 100A) G Anderson, Hamilton
- 125f,s. **Community Health Education Programs.** Planning educational aspects of community health programs; group procedures; community organization; public relations; selection, development, and use of media. (2 cr; prereq ¶100A) Grout
- 126f. **Occupational Health Program.** Professional, social, economic, and legal aspects; organization; technical aspects of specific health hazards. (3 cr; prereq 100A, InCh 4-5 or equiv, or §) Foker

For other courses in public health see the *Bulletin of the Graduate School*, or the *Bulletin of the School of Public Health*.

### BIOSTATISTICS

- 110f-120w. **Biostatistics I and II.** Introduction to role of statistics in research; finite and infinite population sampling; simple tests of hypotheses, power; estimation; regression; correlation; other measures of association; standard distributions including normal, t,  $\chi^2$ , F, binomial, Poisson; special distributions arising from nonparametric procedures. (3 cr; prereq sr, Math 10 or §, ¶111-121) Brown
- 111f-121w. **Biostatistics Laboratory I and II.** Presentation of data; descriptive statistics; practice and practical application of principles and methods covered in 110 and 120. (2 cr; prereq ¶110-120) Knatterud, Meinert
- 130s. **Biostatistics III.** Principles and methods of analysis of effects and components of variance in experiments and surveys; 1-way, 2-way and higher nested, crossed, or mixed classifications; simple and multiple analysis of covariance. (3 cr; prereq 120 with C grade, ¶131) Brown
- 131s. **Biostatistics Laboratory III.** Practice and practical application of principles and methods covered in 130. (2 cr; prereq ¶130) Knatterud, Meinert

Other courses in biostatistics designed primarily for students in public health, medicine, or Graduate School may be open to students in SLA by special arrangement with Mr. Bearman.

\*\* No credit is granted for this course in the major sequence in public health nursing.

### PHYSIOLOGICAL HYGIENE

- 91f. **Physiological Hygiene.** Basic physiological principles and facts. (4 cr [to receive cr for this course 92w must also be completed except by ♯]; prereq 8 cr in chemistry and 4 cr in human anatomy or equiv) Taylor
- 92w. **Physiological Hygiene.** Effects of exercise, nutrition, environment, and age on performance and health. (4 cr; prereq 91 or equiv) Taylor
- 95f. **Human Nutrition.** Particular reference to public health. Nutritional values of foods, food utilization and requirements, food management, nutrition education. (3 cr; prereq course in chemistry or biology, or ♯) J Anderson
- 191f. **Science of Human Nutrition.** Surveys; nutritional status; undernutrition; malnutrition; dietetics in social relief and medical practice. (3 cr; prereq ♯) Keys, J Anderson
- 192w. **Physiology of Exercise.** Muscular efficiency, training, deconditioning, effects of exercise on physiological systems. (Cr ar; prereq 92 or Phsl 103 or equiv and ♯) Taylor, Simonson

### RADIO AND TELEVISION

Courses relating to radio and television are offered by the School of Journalism and the Department of Speech and Theater Arts to juniors and seniors who have had the fundamental prerequisite courses.

### RELIGION

While the University has no department of religion, attention is called to the following courses from several departments which deal with religious matters:

#### Anthropology

- 124—Culture Sphere of China  
125—Peoples and Cultures of India  
126—Peoples and Cultures of South East Asia and Indonesia  
127—The Islamic Culture Sphere  
161—Primitive Religion

#### Classics

- Grk 73—Hellenistic Greek

#### English

- 66-67—The Literature of the Bible

#### Music

- 134-135-136—History of Church Music

#### Philosophy

- 10—Science and Religion  
11—World Religions  
137—Kierkegaard and Scandinavian Philosophy  
171-172—Philosophies of India  
180—History of Religions  
181—Psychology of Religion  
182—Philosophy of Religion

#### Sociology

- 142—Religion as a Social Institution

### RHETORIC (Rhet)

(College of Agriculture, Forestry, and Home Economics)

*Chairman*—Ralph G. Nichols

47f,w,s. **Efficient Reading.** Increases reading rate, comprehension, and vocabulary. Not a remedial course. (1 cr for SLA students; prereq score above 30th percentile on a standard reading test) Brown

### ROMANCE LANGUAGES

**FACULTY**—Eugene H. Falk, *chairman*; Emmert M. Brackney, James F. Burks, James A. Cuneo, Rodolfo O. Floripe, Raymond L. Grismer, Thomas B. Irving, Richard A. Narvaez, Elizabeth Nissen, Walter T. Pattison, Armand E. Renaud, Dorothy E. Rundorff, Karl L. Selig, John M. Sullivan, Aram Vartanian.

**Major Advisers in SLA**—Professors Pattison, Falk, Grismer; Associate Professors Nissen, Floripe.

## French (Fren)

### Major and Minor Sequences in SLA—

**Major:** Fren 20 and 33 Upper Division credits, including 54 or 56; 60-61-62; 70-71-72; 80-81-82; 90-91-92. In exceptional cases, students may be allowed by the department to elect course work in literature on the 100 level instead of the corresponding Upper Division offerings.

**Minor:** A minimum of 15 credits in courses above 52. The department recommends one of the following sequences:

- A. Fren 65-66-67 (9 credits) and 8 additional credits in Upper Division French (or)
- B. Fren 60-61-62 (12 credits) and 5 additional credits in Upper Division French (or)
- C. Fren 70-71-72, 80-81-82, 90-91-92.

### *Lower Division Courses*

**Note**—There are 2 beginning courses in French, 1-2-3 and 1A-2A-3A. The student should study the description of each sequence and select the one most suited to his needs and interests. Juniors, seniors, and graduate students should also consider Fren 50-51-52.

**1f,w-2f,w,s-3f,w,s. Beginning French.** Beginning course stressing correct pronunciation, aural comprehension, basic grammar, and a practical reading knowledge. (5 cr per qtr; students submitting 1 yr high school French for entrance must take 2 and those offering 2 yrs must take 3)

**1Af-2Aw-3As.\*\* Beginning French: Conversational Approach.** Ten class meetings a week: 5 hours of demonstration (introduction to texts dealing with common conversational material and real life situations; necessary grammatical analysis of sentence patterns) and 5 hours of intensive conversational drill in sections small enough to insure for each student individual attention. (5 cr per qtr)

**4f,w,s. Intermediate French.** Practical grammar review with composition and readings of a variety of French authors. (5 cr; prereq 3 or 3A or 3 yrs high school French)

**11Hw-12Hs. Honors Course: Beginning French.** (5 cr per qtr; prereq 1 or equiv and #)

**20f,w,s. Introduction to French Literary Texts.** Introduction to basic literary texts representing a sampling of the genres, accompanied by discussions of literary problems and methods of literary analysis. Presentation of classical diction and French prosody. (3 cr; prereq 4)

Attention is called to CLit 45-46-47, The Nature of Literature. See Comparative Literature.

### *Upper Division Courses*

Upper Division courses with numbers less than 100 are open to Lower Division students who have an average grade of at least C in the prerequisite courses.

**50f-51w-52s. Reading French: A Beginning Course for Juniors and Seniors.** Aims to develop reading proficiency by concentrating from the outset on vocabulary building and reading techniques and reducing the presentation of formal grammar to a minimum. Intensive study of a variety of texts in class, and individual projects in extensive readings. (3 cr per qtr, \$1, 2, 3; prereq jr; cannot be counted toward either a major or a minor in French)

**53s. French Diction.** (1 or 2 cr; open only to candidates for the French play; prereq 3A, 3B, or 3C, or 4)

\*\* The sequence of courses that must be followed is 1-2-3 or 1A-2A-3A, and a student may not receive credit for more than one of these sequences.

- 54f,w,s. French Conversation and Pronunciation. In addition to regular conversation course, an hour each week is devoted to practical phonetics and pronunciation drill. (3 cr; prereq 4; 3 rec and 1 lab hr) Sullivan
- 55s. Advanced French Conversation. (3 cr; prereq 54) Sullivan
- 56s. Introduction to History of the French Language. Origins of the French language. Outline of factors that have influenced the subsequent growth and structure of the language, with examination of samples illustrating the different periods. (3 cr; prereq 20) Brackney
- 60f-61w-62s. French Civilization and Culture. Systematic study of development of French culture, with oral and written French exercises based on material of the course. Course conducted in French. First term deals with period of Middle Ages, second term with period from end of Middle Ages to French Revolution, third term with period beginning with French Revolution to present. (4 cr per qtr; prereq 4)
- 65f-66w-67s.† Survey of French Literature. (3 cr per qtr; prereq 4) Brackney
- 70f-71w-72s.† Seventeenth-Century French Literature. (2 cr per qtr, \$65; for undergrad students only; prereq 20) Renaud
- 80f-81w-82s.† Eighteenth-Century French Literature. (2 cr per qtr, \$66; for undergrad students only; prereq 20) Vartanian
- 90f-91w-92s.† Nineteenth-Century French Literature. (2 cr per qtr, \$67; for undergrad students only; prereq 20) Falk
- 100f. French Phonetics. (3 cr; prereq French major or §) Sullivan
- 103f-104w-105s. French Syntax and Composition. (2 cr per qtr; prereq French major or §) Sullivan
- 110f. French Romanticism. (2 cr; prereq sr with §, grad; offered 1961-62 and every 3rd yr) Falk
- 111f. Nineteenth-Century Literature: The Drama. (2 cr; prereq sr with §, grad; offered 1963-64 and every 3rd yr) Falk
- 121f. Pre-Renaissance and Pleiade Poetry. (3 cr; prereq sr with §, grad; offered 1962-63 and every 3rd yr) Renaud
- 124w. Montaigne and Pascal. (3 cr; prereq sr with §, grad; offered 1962-63 and every 3rd yr) Renaud
- 125f. The Classical Drama: Corneille and the Origins of the Classical Drama. (3 cr; prereq sr with §, grad; offered 1961-62 and every 3rd yr) Renaud
- 126s. The Classical Drama: Racine. (3 cr; prereq sr with §, grad; offered 1962-63 and every 3rd yr) Renaud
- 127f. The Classical Drama: Molière. (3 cr; prereq sr with §, grad; offered 1963-64 and every 3rd yr) Renaud
- 128w. La Fontaine and La Bruyère. (3 cr; prereq sr with §, grad; offered 1963-64 and every 3rd yr) Renaud
- 129s. The Novel and Letters of the Seventeenth Century. (3 cr; prereq sr with §, grad; offered 1961-62 and every 3rd yr) Renaud
- 130s. French Poetry of the Nineteenth Century: Lamartine, Hugo, Vigny, Musset. (2 cr; prereq sr with §, grad; offered 1961-62 and every 3rd yr)
- 131s. French Poetry of the Nineteenth Century: Parnassian Poetry and Baudelaire. (2 cr; prereq sr with §, grad; offered 1963-64 and every 3rd yr) Falk
- 132f. French Poetry of the Nineteenth Century: Verlaine, Rimbaud, Mallarmé. (2 cr; prereq sr with §, grad; offered 1963-64 and every 3rd yr)
- 135f-136w-137s.† Twentieth-Century French Literature. (2 cr per qtr; offered 1962-63 and every 3rd yr)
- 140w. The Novel of the Eighteenth Century. (3 cr; prereq sr with §, grad; offered 1963-64 and every 3rd yr) Vartanian
- 141s. Eighteenth-Century Dramatic Literature: Marivaux and Beaumarchais. (3 cr; prereq sr with §, grad; offered 1963-64 and every 3rd yr) Vartanian
- 142f. Voltaire. (3 cr; prereq sr with §, grad; offered 1961-62 and every 3rd yr) Vartanian
- 143s. Diderot. (3 cr; prereq sr with §, grad; offered 1961-62 and every 3rd yr) Vartanian
- 144f. Rousseau. (3 cr; prereq sr with §, grad; offered 1963-64 and every 3rd yr) Vartanian
- 148s. The Drama of the Twentieth Century: Claudel, Giraudoux, Anouilh, Montherlant, Camus, Sartre. (3 cr; offered 1962-63 and every 3rd yr) Falk



- 153f. **The Novel of the Nineteenth Century: Balzac.** (3 cr; prereq sr with #, grad; offered 1962-63 and every 3rd yr) Vartanian
- 154s. **The Novel of the Nineteenth Century: Stendahl.** (3 cr; prereq sr with #, grad; offered 1962-63 and every 3rd yr) Vartanian
- 155w. **The Novel of the Nineteenth Century: Flaubert and Maupassant.** (2 cr; prereq sr with #, grad; offered 1961-62 and every 3rd yr) Falk
- 156w. **The Novel of the Nineteenth Century: Zola and Goncourt.** (3 cr; prereq sr with #, grad; offered 1962-63 and every 3rd yr) Vartanian
- 157w. **The Novel of the Twentieth Century: Gide.** (2 cr; prereq sr with #, grad; offered 1963-64 and every 3rd yr) Falk
- 158s. **The Novel of the Twentieth Century: Proust.** (2 cr; prereq sr with #, grad; offered 1963-64 and every 3rd yr)
- 159f. **The Novel of the Twentieth Century: Martin du Gard, Mauriac, Giono.** (2 cr; prereq sr with #, grad; offered 1961-62 and every 3rd yr)
- 160w. **The Novel of the Twentieth Century: Malraux and Bernanos.** (2 cr; prereq sr with #, grad; offered 1961-62 and every 3rd yr)
- 161s. **The Novel of the Twentieth Century: Sartre and Camus.** (2 cr; prereq sr with #, grad; offered 1963-64 and every 3rd yr) Falk
- 165w. **Poetry in the Twentieth Century: Apollinaire, Valéry, Eluard.** (2 cr; prereq sr with #, grad; offered 1961-62 and every 3rd yr)
- 171f-172w-173s. **History of the French Language.** (3 cr per qtr; prereq 1 yr Latin or #; offered 1962-63 and alt yrs) Brackney
- 175f-176w-177s.† **Main Trends in French Literary Criticism.** (2 cr per qtr; prereq sr with #, grad; offered 1962-63 and every 3rd yr) Falk

### *For Graduate Students Only*

- 204-205-206. **Readings in Old French Literature**
- 207-208-209. **Old Provençal**
- 210-211. **French Seminar: History of "Sensibilité" in the Eighteenth Century Through the Revolution**
222. **French Seminar: The Baroque in Sixteenth- and Seventeenth-Century Literature**
223. **French Seminar: Religious Thought in the Seventeenth Century**
- 230-231-232. **Research Methods and Materials**
- 250-251-252. **French Seminar**
- 259-260-261. **Directed Readings in Romance Languages**

### **Italian (Ital)**

#### **Major and Minor Sequences in SLA—**

*Major:* 24 credits in Italian courses numbered 50 or above, and 3 additional credits chosen from the following: Engl 75; Fren 65-66-67, 121; Ital 159-160, 161-162; Lat 133; Hist 103A-104A-105A.

*Minor:* A minimum of 15 credits above Ital 50.

#### *Lower Division Courses*

- 1f-2w-3s. **Beginning Italian.** (15 cr, §5) Nissen
4. **Intermediate Italian.** (4 cr; prereq 3; offered when feasible) Nissen
- 5w. **Reading Knowledge of Italian.** (5 cr, §1; prereq knowledge of French, Latin, or Spanish [no previous knowledge of Italian necessary]) Nissen

## Upper Division Courses

Upper Division courses are open to sophomores under conditions explained on the first page of Section II.

- 69s. Survey of Italian Literature I. 1600-1950. (3 cr; prereq ††; offered 1962-63 and alt yrs) Nissen
- 70w. Survey of Italian Literature II. 1200-1600. (3 cr; prereq ††; offered 1962-63 and alt yrs) Nissen
- 71w. Modern Poetry (Leopardi, Carducci, etc.). (3 cr; prereq ††; offered 1961-62 and alt yrs) Nissen
- 72f. Modern Drama (Giacosa, Pirandello, etc.). (3 cr; prereq ††; offered 1962-63 and alt yrs) Nissen
- 73s. Boccaccio. (3 cr; prereq ††; offered 1961-62 and alt yrs) Nissen
- 74s. Petrarch. (3 cr; prereq ††; offered 1962-63 and alt yrs) Nissen
- 76f. Modern Short Story (Verga, Pirandello, etc.). (3 cr; prereq ††; offered 1961-62 and alt yrs) Nissen
- 159f-160w. Dante. (3 cr per qtr; prereq 1 course above 50; students may enter any qtr with ‡; offered 1962-63 and alt yrs) Nissen
- 161f-162w. The Sixteenth Century. (3 cr per qtr; prereq 1 course above 50; offered 1961-62 and alt yrs) Nissen
- 164s. Dante in English. (3 cr; prereq ‡; no knowledge of Italian necessary; offered 1962-63 and alt yrs) Nissen
- 169s. Survey of Italian Literature I. (3 cr; prereq grad, 1 course above 50; offered 1962-63 and alt yrs; meets with 69 but addtl independent work required) Nissen
- 170w. Survey of Italian Literature II. (3 cr; prereq grad, 1 course above 50; meets with 70 but addtl independent work required; offered 1962-63 and alt yrs) Nissen
- 171w. Modern Poetry (Leopardi, Carducci, etc.). (3 cr; prereq grad, 1 course above 50; meets with 71 but addtl independent work required; offered 1961-62 and alt yrs) Nissen
- 172f. Modern Drama (Giacosa, Pirandello, etc.). (3 cr; prereq grad, 1 course above 50; meets with 72 but addtl independent work required; offered 1962-63 and alt yrs) Nissen
- 173s. Boccaccio. (3 cr; prereq grad, 1 course above 50; meets with 73 but addtl independent work required; offered 1961-62 and alt yrs) Nissen
- 174s. Petrarch. (3 cr; prereq grad, 1 course above 50; meets with 74 but addtl independent work required; offered 1962-63 and alt yrs) Nissen
- 176f. Modern Short Story (Verga, Pirandello, etc.). (3 cr; prereq grad, 1 course above 50; meets with 76 but addtl independent work required; offered 1961-62 and alt yrs) Nissen

## Spanish (Span)

## Major and Minor Sequences in SLA—

*Major:* Students may arrange major programs in either Sequence A or Sequence B:

- A. Span 53 or 60; 54-55; 65, 66, 67 or 68, 69; and 15 credits in courses numbered 50 or above (including 9 credits in literary courses numbered 100 or above).
- B. Span 53 or 60; 54-55; 70-71-72; 74-75-76; and 6 credits in courses numbered 50 or above (students taking this major sequence will not be admitted to full standing in the Graduate School until they have successfully completed 9 credits in literary courses numbered 100 or above: cf. Sequence A).

†† The prerequisite is 3 or 4; but for students beginning Italian in the Upper Division it may be 2 or 5 with consent of instructor.

*Minor:* A minimum of 15 credits in courses 52 or above. The department recommends one of the following sequences:

A. Span 54-55, and 65-66-67 or 68-69 or 74-75-76.

B. Span 54-55, and 70-71-72 or 90-91-92.

### Lower Division Courses

*Note*—There are 2 beginning courses in Spanish, 1-2-3, and 1A-2A-3A. The student should study the description of each sequence and select the one most suited to his needs and interests.

**1f,w-2f,w,s-3f,w,s. Beginning Spanish.** Beginning course stressing correct pronunciation, aural comprehension, basic grammar, and a practical reading knowledge. (5 cr per qtr; students submitting 1 yr high school Spanish for entrance must take 2 and those offering 2 yrs must take 3)

**1Af-2Aw-3As.\*\* Beginning Spanish: Conversational Approach.** Stresses conversation. Gives the students a basic active speaking vocabulary, assurance in self-expression, and facility in the spoken language. Ten class meetings a week; 5 hours demonstration (introduction to texts dealing with real-life situations and necessary grammar) plus 5 hours intensive conversational drill in sections small enough to insure for each student individual attention. Less outside preparation required than for standard course. (5 cr per qtr)

**11Hw-12Hs. Honors Course: Beginning Spanish.** (5 cr per qtr; prereq 1 or equiv and #)

**20f,w,s. Intermediate Spanish Grammar and Composition.** Co-ordinates the two sequences in elementary Spanish: 1-2-3 and 1A-2A-3A, and prepares students from these courses to continue with courses in the Spanish language at a higher level. Emphasis placed on a thorough review of Spanish grammar, and translation of highly idiomatic material from Spanish to English and from English to Spanish. (5 cr; prereq 3 or 3A, or 3 yrs high school Spanish)

**21f,w,s. Introduction to Spanish and Spanish-American Literature and Culture.** A broad cultural and literary course unifying the study of the Spains of the Old World and the New. Students are introduced to Spanish and Spanish-American history, civilization, customs, art, music, and literature. Emphasis is placed on rapid reading in texts of a cultural and literary nature, supplemented by class discussions, in Spanish, of the material read. (5 cr; prereq 3 or 3A or 3 yrs high school Spanish)

Attention is called to CLit 45-46-47, *The Nature of Literature*. See *Comparative Literature*.

### Upper Division Courses

Upper Division courses are open to sophomores under conditions explained on the first page of Section II.

**52s. Spanish Pronunciation and Diction.** (1 or 2 cr; prereq candidates for Spanish play [others with #], 3A, 3B, or 3C) Cuneo

**53f. Spanish Composition.** (3 cr; prereq 20, 3 or 3A with grade of A or B) Rundorff

**54w-55s. Conversation and Composition.** (3 cr per qtr; prereq 20 with grade of A or B or 53) Narvaez

**56s. Spanish Phonetics and Diction.** (3 cr; prereq 3 or 3A) Cuneo

**57w. Commercial Spanish.** (3 cr; prereq 53; offered 1962-63 and alt yrs) Cuneo

**60f. Advanced Composition.** (3 cr; prereq 54-55) Narvaez

**61w-62s. Advanced Conversation and Composition.** (3 cr per qtr; prereq 60) Narvaez

**65f. Survey of Spanish Literature: The Middle Ages.** (3 cr, §68, §69; prereq soph, 21) Grismer

**66w. Survey of Spanish Literature: The Renaissance.** (3 cr, §68, §69; prereq soph, 21) Grismer

**67s. Survey of Spanish Literature: The Modern Period, 1833 to the Present.** (3 cr, §68, 69; prereq soph, 21) Grismer

\*\* The sequence of courses that must be followed is 1-2-3 or 1A-2A-3A, and a student may not receive credit for more than one of these sequences.

- 68w. Survey of Spanish Literature: From the Middle Ages Through the Eighteenth Century. (5 cr, \$65, 66, 67; prereq soph, 21) Floripe
- 69s. Survey of Spanish Literature: From the Nineteenth Century to the Present. (5 cr, \$65, \$66, \$67; prereq soph, 21) Floripe
- 70f-71w-72s.† Latin-American Civilization and Culture. (3 cr per qtr; prereq 20 or 21 or #) Cuneo
- 74f-75w-76s.† Survey of the Literature of Spanish America. (3 cr per qtr; prereq 21) Irving
- 79s. A Century of Latin-American Thought: 1850-1957. Introduction to the men who have moulded the thought of Latin America and to the ideas which have shaped the attitude of their countries toward freedom, democracy, and social progress. Since there is no surer way to the heart and soul of a culture than a knowledge of the men whom it calls great, this course is another step in the understanding of the Latin-American republics. Conducted entirely in Spanish. (2 cr; prereq jr or #; 6 qtrs Spanish) Cuneo
- 80f. Spanish-American Novel and Social Problems. Deals with some of the outstanding social problems of Latin America as presented in the novels of its leading authors. These works capture the essence of social problems and suggest possible solutions for them. Conducted entirely in Spanish. (2 cr; prereq jr or #; 6 qtrs Spanish) Cuneo
- 81w. Spanish-American Novel and Social Problems. The scope is similar to that of Span 80 but the works and problems under study are different. Conducted entirely in Spanish. (2 cr; prereq jr or #; 6 qtrs Spanish) Cuneo
- 90f-91w-92s. Spanish Civilization and Culture. (9 cr; prereq 21) Pattison
- 107f-108w-109s. The Structure of Modern Spanish. A scientific approach to the structure of present-day Spanish, with special attention to syntax. Phonology, word-formation, and dialectal differences. (3 cr per qtr; prereq 60 or # or ¶60) Narvaez
- 110f-111w-112s. Spanish Literature: Nineteenth Century. (3 cr per qtr; prereq 65, 66, 67 or 68, 69; offered 1962-63 and alt yrs) Pattison
- 115f. Spanish Literature of the Seventeenth Century: The Drama. (3 cr; prereq 65, 66, 67 or 68, 69; offered 1961-62 and alt yrs) Grismer
- 116w. Spanish Literature of the Seventeenth Century: The Novel. (3 cr; prereq 65, 66, 67 or 68, 69; offered 1961-62 and alt yrs) Grismer
- 117s. Spanish Literature of the Seventeenth Century: Poetry. (3 cr; prereq 65, 66, 67 or 68, 69; offered 1961-62 and alt yrs) Grismer
120. The Ballad. (3 cr; prereq 65, 66, 67 or 68, 69; offered when feasible)
130. Cervantes: Don Quijote. (3 cr; prereq 65, 66, 67 or 68, 69; offered when feasible)
131. The Picaresque Novel. (3 cr; prereq 65, 66, 67 or 68, 69; offered when feasible)
- 140f. Latin-American Literature: Poetry. Silva, Dario, Neruo, Chocano, Herrera y Reissig, Lugones, Agustini, Mistral, Ibarbourou, Storni, López Verlarde, and Neruda. (3 cr; prereq 65, 66, 67 or 68, 69 or 74-75-76; offered 1962-63 and every 3rd yr) Floripe
- 141w. Latin-American Literature: Essay, Short Story, Drama. Rodó, González Prada, Ricardo Rojas, Blanco Fombona, Ugarte, Vasconcelos, Alfonso Reyes, Quiroga, Callegos, Florencio Sánchez. (3 cr; prereq 65, 66, 67 or 68, 69 or 76; offered 1962-63 and every 3rd yr) Floripe
- 142s. Latin-American Literature: Novel. Callegos, Azuela, Rivera, Güiraldes, Barrios, Gálvez, Lynch, Ciro Alegria. (3 cr; prereq 65, 66, 67 or 68, 69 or 76; offered 1962-63 and every 3rd yr) Floripe
- 143f-144w-145s.† Colonial and Nineteenth Century Latin-American Literature. (3 cr per qtr; prereq 65, 66, 67 or 68, 69 or 76; offered 1963-64 and every 3rd yr) Floripe
- 146f-147w-148s.† Spanish-American Novel and Short Story. (3 cr per qtr; prereq 65, 66, 67 or 68, 69 or 76; offered 1964-65 and every 3rd yr) Floripe
- 155f. Spanish Literature of the Sixteenth Century: The Novel. (3 cr; prereq 65, 66, 67 or 68, 69; offered 1962-63 and alt yrs) Grismer
- 156w. Spanish Literature of the Sixteenth Century: The Drama. (3 cr; prereq 65, 66, 67 or 68, 69; offered 1962-63 and alt yrs) Grismer
- 157s. Spanish Literature of the Sixteenth Century: Poetry. (3 cr; prereq 65, 66, 67 or 68, 69; offered 1962-63 and alt yrs) Grismer
- 161f-162w-163s. Hispano-Arabic Culture. (2 cr per qtr; prereq 21 and #) Irving
- 171f-172w-173s.† History of the Spanish Language. (1 cr per qtr; prereq 20 and 1 yr Latin or #) Grismer

- 174f. **Contemporary Spanish Literature: Drama.** Benavente, Martinez Sierra, Linares-Rivas, Alvarez Quintero, Valle Inclán, Marquine, Garcia Lorca, and Casona. (3 cr; prereq 65, 66, 67 or 68, 69; offered 1961-62 and alt yrs) Pattison
- 175w. **Contemporary Spanish Literature: Prose.** Unamuno, Azorin, Baroja, Valle Inclán, Ortega y Gasset, Perez de Ayala, Gómez de la Serna. (3 cr; prereq 65, 66, 67 or 68, 69; offered 1961-62 and alt yrs) Pattison
- 176s. **Contemporary Spanish Literature: Poetry.** Juan Ramón Jiménez, Unamuno, Antonio and Manuel Machado, Valle Inclán, Garcia Lorca, Alberti, Moreno Villa, Aleixandre, León Felipe, Guillén, and Salinas. (3 cr; prereq 65, 66, 67 or 68, 69; offered 1961-62 and alt yrs) Pattison
- 190-191-192.† **Directed Readings for Undergraduates.** (1-3 cr; prereq consent of dept chm) Staff

### *For Graduate Students Only*

- 230-231-232. **Research Methods and Materials**
- 241-242-243. **Old Spanish Philology**
- 244-245-246. **Readings in Old Spanish Literature**
- 250-251-252. **Spanish Seminar**
- 253-254-255. **Seminar in Latin-American Literature**
- 259-260-261. **Directed Readings in Romance Languages**

### PORTUGUESE (Port)

- 1f-2w. **Beginning Portuguese.** (3 cr per qtr; offered when feasible)
- 3s. **Intermediate Portuguese.** (3 cr; prereq 2; offered when feasible)

### Studies in Latin America and Northwest Europe

(See International Relations and Area Studies, page 88)

**Major Advisers in the College of Education—**French: Assistant Professor Burks.  
Spanish: Associate Professor Floripe.

**Requirements for a Teacher's Certificate** (applicable only to students in the College of Education)—

*French Major:* Fren 20 and 36 Upper Division credits in French including Fren 54, 56, 60-61-62, 65-66-67, 100, 103-104-105. In addition, Clas 56 (3 credits) is recommended.

*French Minor:* 23 credits including Fren 54, 56, 60-61-62.

*Spanish Major:* 36 Upper Division credits including Span 53 or 60; 54-55; 56; 65-66-67 or 68-69 or 74-75-76; 70-71-72 or 90-91-92; 108; 171-172-173. In addition Clas 56 (3 credits) is recommended.

*Spanish Minor:* 23 credits numbered above Span 20 including one of the following sequences: Span 65-66-67, 68-69, or 74-75-76.

**Admission to Advanced Courses—**No student will be allowed to elect courses more advanced than intermediate French or Spanish unless he has received a grade of C or better in the intermediate course.

### RUSSIAN

See Slavic and Oriental Languages

### SANSKRIT

See Classics

## SCANDINAVIAN (Scan)

FACULTY—Alrik Gustafson, *chairman*; Marion J. Nelson.

Major Adviser in SLA—Professor Gustafson.

Major Sequence in Scandinavian Languages and Literature in SLA—Scan 51-52, 61 or 71, 161 or 162, 171, 172, 191-192-193 and 5 additional credits in Scandinavian numbered 51 or above.

Major Sequence in Scandinavian Area Studies—See special bulletin, *Programs in International Relations and Area Studies*.

For nonmajors in Scandinavian who may wish to include Scandinavian courses among electives chosen for their "general education" values the following courses are especially recommended: Scan 22, 23, 161, 162, 171, 172, and Art 140, 141, 142. No knowledge of Scandinavian languages required, except for Scandinavian majors.

### Lower Division Courses

- 1f-2w. Beginning Norwegian. (5 cr per qtr) Nelson
- 3s. Intermediate Norwegian. (5 cr; prereq 2 or equiv) Nelson
- 4f-5w-6s. Advanced Norwegian. (3 cr per qtr; prereq 3 or equiv) Nelson
- 7f-8w. Beginning Swedish. (5 cr per qtr) Lorenzen
- 9s. Intermediate Swedish. (5 cr; prereq 8 or equiv) Lorenzen
- 10f-11w-12s. Advanced Swedish. (3 cr per qtr; prereq 9 or equiv) Lorenzen
- 22w-23s. *Scandinavian Life Today*. Descriptive survey of present-day Scandinavian life and culture, with some attention paid to historical origins but with primary emphasis being placed upon 20th-century developments in political and economic democracy and social reform, in architecture and painting, in music, literature, and home crafts. (3 cr per qtr; knowledge of Scandinavian languages required for majors only) Gustafson and staff

Attention is called to CLit 45-46-47, *The Nature of Literature*. See Comparative Literature.

### Upper Division Courses

Upper Division courses are open to sophomores under conditions explained on the first page of Section II.

- 51f. *Scandinavian Literature in the Nineteenth Century*. Survey of Danish, Norwegian, and Swedish literature from Romantic Movement and mid-19th-century idealistic realism to realistic and naturalistic break-through of the drama and prose fiction in the 1870's and 1880's. (2 cr; prereq 6 or 12, or 8 cr in literature; knowledge of Scandinavian languages required for majors only; offered 1961-62 and alt yrs) Gustafson
- 52w. *Contemporary Scandinavian Literature*. Rapid sketch of characteristic trends in Scandinavian literature of last half century, especially as reflected in lyric poetry, the short story, and representative autobiographical works. (2 cr; prereq 6 or 12, or 8 cr in literature; knowledge of Scandinavian languages required for majors only; offered 1962-63 and alt yrs) Gustafson
- 61s. *Norwegian Conversation*. Practice in conversation employing common Norwegian vocabulary and idiom of today and based on material drawn from present-day Norwegian life. (3 cr; prereq 3 or equiv) Nelson
- 71s. *Swedish Conversation*. Practice in conversational Swedish of today, with subject matter drawn from immediate everyday Swedish conditions. (3 cr; prereq 9 or equiv)
- Ger 113f. *Gothic*. (3 cr; prereq 80 and 11 cr in courses 70 and above or equiv; offered 1961-62) C Wood
- Ger 114w-115s. *The Methods of Comparative Germanic Linguistics*. (3 cr per qtr; prereq 113; offered 1961-62) C Wood
- Soc 117s. *Scandinavian Folk Movements: Their Social and Political Significance*. (3 cr; prereq 1 or #)

- Phil 137w. **Kierkegaard and Scandinavian Philosophy.** (3 cr; prereq 1 course from Phil 50-51-52 or #) Holmer
- Art 140f. **Scandinavian Architecture.** (3 cr; prereq 9 cr in history of art or in literature or history with  $\Delta$ ) Nelson
- Art 141w. **Scandinavian Painting.** (3 cr; prereq 9 cr in history of art or in literature or history with  $\Delta$ ) Nelson
- Art 142s. **Scandinavian Sculpture and the Minor Arts.** (3 cr; prereq 9 cr in history of art or in literature or history with  $\Delta$ ) Nelson
- Pol 145f. **Government and Politics of the Scandinavian Countries.** (3 cr; prereq 6 cr, or 12 cr in social science)
- Pol 146w. **Social Legislation and Social Institutions in the Scandinavian Countries.** (3 cr; prereq Pol 2, or 5 or Soc 1)
- Ger 157f-158w-159s. **Old Norse: Language and Literature.** (3 cr per qtr; prereq knowledge of 1 Germanic language other than modern English; offered when feasible) C Wood
- 161w. **The Late Nineteenth-Century Scandinavian Novel.** Examination of "the great tradition" in the modern Scandinavian novel, together with the circumstances, intellectual and political, social and economic, out of which it grew. (3 cr; prereq 6 or 12, or 8 cr in literature; knowledge of Scandinavian languages required for majors only) Gustafson
- 162s. **Contemporary Trends in the Scandinavian Novel.** Characteristic trends in Scandinavian life and thought in the 20th century as expressed in the prose fiction of Sigrid Undset, Johannes V. Jensen, Olav Dunn, Hjalmar Bergman, Pär Lagerkvist, Halldór Laxness, F. E. Sillanpää, and others. (3 cr; prereq 6 or 12, or 8 cr in literature; knowledge of Scandinavian languages required for majors only) Gustafson
- 171f. **Ibsen and the Beginnings of the Modern Drama.** Intensive examination of plays of Ibsen, especially with reference to the role he has played as "founder" of modern European drama. (3 cr; prereq 6 or 12, or 8 cr in literature; knowledge of Scandinavian required for majors only) Gustafson
- 172w. **Strindberg and the Drama in Revolt and Transition.** Strindberg as master of the naturalistic drama and as "father of modernity" in European and American theater since his day. (3 cr; prereq 6 or 12, or 8 cr in literature; knowledge of Scandinavian languages required for majors only) Gustafson
- 173s. **The Contemporary Scandinavian Theater.** Examination of Scandinavian drama and theater of today, particularly with reference to their "experimental" trends both in dramatic composition and staging. (3 cr; prereq 6 or 12, or 8 cr in literature; knowledge of Scandinavian languages required for majors only) Gustafson
- 191f-192w-193s. **Readings in Scandinavian Literature.** Intensive reading of representative Scandinavian texts. Designed especially for majors and minors in Scandinavian, each student fulfilling his reading requirements in Danish or Norwegian or Swedish, depending upon his language of primary interest. (3 cr per qtr; prereq 6 or 12) Gustafson

### *For Graduate Students Only*

- 215-216-217. **Studies in Scandinavian Romanticism**
- 218-219-220. **Studies in Late Nineteenth-Century Scandinavian Literature**
- 221-222-223. **Dramatic Interpretative Problems in Strindberg**

## SECRETARIAL TRAINING

See Business Administration

## SLAVIC AND ORIENTAL LANGUAGES

FACULTY—Richard B. Mather, *chairman*; Ludmilla Alexeev, Wassilij Alexeev, Edward M. Copeland, Jr., Adele K. Donchenko, Thomas B. Irving, Valentin Kiparsky, Phillip Nice, Pearl C. Niemi, Dorothy E. Rundorff.

**Major Advisers in SLA**—Associate Professor Irving, Arabic; Associate Professor Mather, Chinese; Assistant Professor Copeland, Japanese; Associate Professor Niemi, Russian.

**General Program**—Courses especially recommended for general education purposes are Arab 110-111-112 and 161-162-163, Chin 110-111-112, Jap 110-111-112, Orlt 75, 76, 77, 78, Russ 75-76-77 and 110-111-112.

### Arabic (Arab)

**Major Sequence in SLA**—Arab 51-52-53, 61-62-63, 71-72-73, and 6 credits from 110-111-112.

#### *Lower Division Courses*

**1f-2w-3s. Beginning Spoken Arabic.** (5 cr per qtr) Irving and staff

#### *Upper Division Courses*

Upper Division courses with numbers less than 100 are open to Lower Division students who have an average grade of at least C in the prerequisite courses.

**51f-52w-53s. Dialect Analysis.** (3 cr per qtr) Irving

**61f-62w-63s. Introduction to Arabic Grammar and Reading.** (3 cr per qtr; prereq 2 courses numbered 50 or above in any foreign language) Rundorff

**71f-72w-73s. Intermediate Arabic.** (3 cr per qtr; prereq 63) Staff

**151f-152w-153s. Directed Readings.** (1-3 cr per qtr; prereq 63 or #) Staff

**161f-162w-163s. Hispano-Arabic Culture.** (See Span 161-162-163)

**191Hf-192Hw-193Hs. Honors Course: Research.** (1-3 cr per qtr; prereq 153 or #) Staff

### INDIC (Indc)

**110. Indic Literature in Translation.** Survey of Indian literature from the Vedas to the present. (3 cr; prereq 6 cr in literature or 3 cr in courses pertaining to India or #; offered 1961-62 and alt yrs) Potter

### Chinese (Chin)

**Major Sequence in SLA**—Chin 51-52-53, 56-57-58, 101-102-103, 6 credits from 110-111-112 and 6 credits selected from 151-152-153 and 191-192-193.

#### *Lower Division Courses*

**1f-2w-3s. Beginning Chinese.** (5 cr per qtr) Mather

#### *Upper Division Courses*

Upper Division courses with numbers less than 100 are open to Lower Division students who have an average grade of at least C in the prerequisite courses.

**51f-52w-53s. Intermediate Chinese.** (3 cr per qtr; prereq 3) Mather

**56f-57w-58s. Chinese Composition.** (2 cr per qtr; prereq 3) Mather

**101f-102w-103s. Advanced Chinese. Readings in modern vernacular literature.** (3 cr per qtr; prereq 53 or equiv) Mather

**110f-111w-112s. Chinese Literature in Translation.** Survey of Chinese literature from the first millenium B.C. to present. (3 cr per qtr; prereq 6 cr in literature...knowledge of Chinese required only of majors, who will read assigned portions in the original; offered 1961-62 and alt yrs) Mather

**151f-152w-153s. Directed Readings.** (1-3 cr per qtr; prereq 103 or #) Mather

**191Hf-192Hw-193Hs. Honors Course: Research.** (1-3 cr per qtr; prereq 153 or #) Mather



### Japanese (Jap)

Major Sequence in SLA—Jap 51-52-53, 56-57-58, 101-102-103, 6 credits from 110-111-112 and 6 credits selected from 151-152-153 and 191-192-193.

#### *Lower Division Courses*

1f-2w-3s. **Beginning Japanese.** (5 cr per qtr) Copeland

#### *Upper Division Courses*

Upper Division courses with numbers less than 100 are open to Lower Division students who have an average grade of at least C in the prerequisite courses.

51f-52w-53s. **Intermediate Japanese.** (3 cr per qtr; prereq 3) Copeland

56f-57w-58s. **Japanese Composition.** (2 cr per qtr; prereq 3) Copeland

101f-102w-103s. **Advanced Japanese.** Readings in modern prose and poetry; introduction to the classical language. (3 cr per qtr; prereq 53) Copeland

110f-111w-112s. **Japanese Literature in Translation.** Survey of Japanese literature from A.D. 8th century to present. (3 cr per qtr; prereq 6 cr in literature...knowledge of Japanese required only of majors, who will read assigned portions in the original; offered 1962-63 and alt yrs) Copeland

151f-152w-153s. **Directed Readings.** (1-3 cr per qtr; prereq 103 or #) Copeland

191Hf-192Hw-193Hs. **Honors Course: Research.** (1-3 cr per qtr; prereq 153 or #) Copeland

### Oriental (Ortl)

#### *Upper Division Courses*

75f. **Asian Civilization: India.** (3 cr; prereq soph with #, jr; offered 1962-63 and alt yrs) Potter

76w. **Asian Civilization: China.** (3 cr; prereq soph with #, jr; offered 1962-63 and alt yrs) Mather

77s. **Asian Civilization: Japan.** (3 cr; prereq soph with #, jr; offered 1961-62 and alt yrs) Copeland

78s. **Asian Civilization: Islamic World.** (3 cr; prereq soph with #, jr; offered 1962-63 and alt yrs) Irving

### Russian (Russ)

Major Adviser in the College of Education—Associate Professor Niemi.

Major Sequence in SLA—Russ 56-57-58, 6 credits from 61-62-63, 71-72-73, and 6 credits each from 75-76-77 and 110-111-112.

**Requirements for a Teacher's Certificate** (applicable only to students in the College of Education)—*Major recommendation:* 36 Upper Division credits including Russ 56, 57, 58, 61, 62, 63, 71, 72, 73, 75, 76, 77 and Clas 56. *Minor recommendation:* 27 Upper Division credits including Russ 56, 57, 58, 61, 62, 63; 71-72-73 or 75-76-77; and Clas 56.

#### *Lower Division Courses*

1f-2w-3s. **Beginning Russian.** (5 cr per qtr) Niemi and staff

4f-5w-6s. **Intermediate Russian.** (3 cr per qtr; prereq 3) Nice

#### *Upper Division Courses*

Upper Division courses with numbers less than 100 are open to Lower Division students who have an average grade of at least C in the prerequisite courses.

56f-57w-58s. **Russian Conversation.** (3 cr per qtr; prereq 3) Alexeev

61f-62w-63s. **Russian Composition.** (2 cr per qtr; prereq 53) Alexeev

- 71f-72w-73s. Readings in Russian Literature.** Selected readings of modern Russian prose, with aim of attaining facility in reading. (3 cr per qtr; prereq 53 or #) Niemi
- 75f-76w-77s. Russian Civilization and Culture.** Consideration of various aspects of Russian culture (land, peoples, languages, institutions, intellectual and artistic trends and achievements). (3 cr per qtr; prereq 10 cr in history or literature...knowledge of Russian language not required) Nice
- 110f-111w-112s. Russian Literature in Translation.** 110: Pushkin, Lermontov, Gogol. 111: Turgenyev and Dostoevsky. 112: Tolstoy and the period from 1880. (3 cr per qtr; prereq 9 cr in literature...knowledge of Russian language required only of majors who will read assigned portions in the original) Niemi
- 125f-126w-127s. History of the Russian Language.** Linguistic analysis of development of Russian language from time of earliest records to present. (3 cr per qtr; prereq 53 or equiv; offered 1961-62) Kiparsky
- 131f-132w-133s. Russian Poetry: Nineteenth Century.** (3 cr per qtr; prereq 73 or #) Niemi
- 141f-142w. Dostoevsky.** Analytic approach to study of the novel of Dostoevsky. (3 cr per qtr; prereq 9 cr in literature; offered when feasible) Niemi
- 151f-152w-153s. Directed Readings.** (1-3 cr per qtr; prereq 73 or #) Staff

#### SLAVIC (Slav)

- 113f-114w-115s. Old Church Slavic.** Introduction to Slavic linguistics. Descriptive grammar of earliest Slavic texts and comparison of Old Church Slavic with other Indo-European languages. (3 cr per qtr; prereq Clas 56 or equiv; offered 1961-62) Kiparsky
- 161f-162w-163s. Comparative Balto-Slavic Grammar.** A philological and linguistic study of relations among the Baltic and Slavic languages with some attention to Balto-Finnic and Slavo-Finnic relations. (2 cr per qtr; prereq Russ 6 or Clas 56 [general linguistics], or equiv; offered 1961-62) Kiparsky

#### SERBO-CROATIAN (Serb)

- 1f-2w-3s. Beginning Serbo-Croatian.** (3 cr per qtr)

### SOCIAL SCIENCE

See Interdisciplinary Programs

#### SOCIAL WORK (SW)

**FACULTY**—John C. Kidneigh, *director*; Werner W. Boehm, James Bridges, Miriam Cohn, Beulah Compton, John Crane, Edward Francel, Frances Guzie, William Hall, Philip Hovda, Dagny Johnson, Gisela Konopka, Joyce Lewis, Hyman Lippman, Lawrence Merl, Mayo K. Newhouse, Anne W. Oren, Ruby B. Pernell, Ida Rapoport, H. Etta Saloshin, Lyndell Scott, Werner Simon, Margaret Steen, Gregory P. Stone, Daniel Wiener, Dorothy Whitmore, Helen Yesner.

Professional education for social work is at the graduate level—see *Bulletin of the Graduate School* and special *Bulletin of the School of Social Work*. For undergraduate preprofessional education for social work see Sequence B in Sociology below.

#### SOCIOLOGY (Soc)

**FACULTY**—E. D. Monachesi, *chairman*; John Forster, Roy G. Francis, Edward Gross, Reuben L. Hill, Arthur L. Johnson, Don A. Martindale, Arnold M. Rose, John Sirjamaki, Marvin J. Taves, George B. Vold.

**Major Advisers in SLA**—Professors Gross, Francis, Martindale, Monachesi, Rose, Sirjamaki, Vold; Associate Professor Taves; Assistant Professor Forster.

**Major Sequences in SLA—**

*Sequence A.* General sociology is built upon a *core* requirement of 21 credits as follows: Soc 53, 111, 120, 162, 180, and 140 or 141, and 170 or 171, and 9 additional credits in Upper Division sociology courses selected with the approval of the major adviser.

Prerequisites for Sequence A—Soc 1 and 45, and a total of 15 credits from courses in sociology, anthropology, education, history, philosophy, political science, psychology, and zoology.

*Sequence B.* An interdepartmental sequence recommended as preparation for graduate study in the School of Social Work as well as preferred preparation for some beginning positions in social welfare agencies. It may be taken as a substitute for the major and minor sequences required for the B.A. degree. The specific requirements for this sequence are: Soc 50, 53, 91, 111 or 112, 140, 141, 162; Anth 165; CD 80; Econ B, C; Hum 54; Psy 144-145; Pol 124, 162 or Soc 170 or 172; PubH 50. A student majoring in this sequence must earn a minimum of 60 credits in Upper Division courses.

Prerequisites for Sequence B—Soc 1, 3, 45; Pol 1-2 or 5; Psy 1-2.

Education for social work is offered on three levels: (a) undergraduate study, which includes a broad range of the social sciences and some courses of primarily informational nature which deal directly with social work; (b) 2 years of graduate social work study involving theory, field practice under tutorial supervision and research culminating in the M.S.W. degree; and (c) 2 additional years of study and research leading to the Ph.D. degree. For information about graduate professional preparation for social work see the *Bulletin of the Graduate School* and the special *Bulletin of the School of Social Work*.

*Sequence C.* An interdepartmental sequence in training for delinquency control. The sequence is intended to meet the needs of those students who wish to prepare for graduate professional training as well as of those who wish to prepare for subprofessional careers in the control of delinquency. The sequence may be taken as a substitute for the major and minor sequences required for the B.A. degree. The specific requirements for this sequence are: Soc 50, 53, 91, 118, 119, 120, 141, 172, 180; Anth 165; CD 80; criminal law; HEd 180; Psy 125-126, 144-145; Pol 124; SW 275. It is recommended that students have completed satisfactorily a work experience period during the junior or senior year in an agency for the care of delinquent children.

Prerequisites for Sequence C—Soc 1, 3, 45; Econ 1-2; Pol 1-2 or 5; Psy 1-2.

Modifications of these sequences will be permitted upon petition approved by the major adviser and the assistant dean for the Upper Division.

**Major Advisers in the College of Education—**Professor Reuben Hill; Associate Professor A. Johnson.

**Requirements for a Teacher's Certificate** (applicable only to students in the College of Education)—*Major recommendation:* 30 credits in sociology including Soc 1, 3, 45, 53, 180 and at least 13 additional credits in courses numbered 50 or above.

See the *Bulletin of the College of Education* for additional required courses.

For a specialized minor curriculum in social studies see the *Bulletin of the College of Education*.

**Honors Course—**Students interested in the work of an honors course should consult the chairman of the department. For honors sections of Soc 1, 2, and 3, see the *Class Schedule*.

For purposes of general education the Department of Sociology recommends the following courses: Soc 1, 2, 3, 14, 53, 124, and 151.

*Lower Division Courses*

- 1-1A-2-3. Introduction to Sociology.** These courses are introductory to the field of sociology and constitute an integrated sequence. Students may, however, elect to take one or more of these courses.
- 1f,w,s. Man in Modern Society.** Characteristics of human group life. Analysis of factors associated with development of human group life and man's social environment; structure of social environment and its influence upon individual's behavior. (3 cr) Sirjamaki
- 1Af,w,s. Man in Modern Society.** (3 cr; for students of College of AFHE only)
- 2f,w,s. The American Community.** Sociological analysis of modern American society. Topics emphasized include distribution of population, urban-rural differences, social factors in business systems, occupational groups, determination of social status, and minority group adjustment. Attempts to familiarize student with current research methods. (3 cr; prereq 1 or 1A or 3) Martindale
- 3f,w,s. Social Problems.** Survey course in contemporary social problems with especial emphasis on personal demoralization and social disorganization. (3 cr) Johnson
- 14w,s. Rural Sociology.** Presentation of factual data necessary to an understanding of problems of rural social life. (3 cr)
- 14Af,w. Rural Sociology.** (3 cr; for students of College of AFHE)
- 45f,w,s. Social Statistics.** Introduction to statistical methods employed in analyses of social data including methods of measuring central tendency, dispersion, significance of differences, and correlation. (5 cr, §BA 5) Francis

*Upper Division Courses*

Soc 53 is open to third quarter sophomores who have an average grade of at least C in the prerequisite courses. Other Upper Division courses are open to sophomores under conditions explained on the first page of Section II.

- 50f,w. An Introduction to the Theory and Practice of Social Work.** Survey of social service with consideration of areas of social needs, social agencies, their purpose and function, and methodology and philosophy of social work practice. (5 cr; prereq 3)
- 53f,w,s. Elements of Criminology.** General survey of field of criminology. (3 cr; prereq 1 or 1A or #) Vold
- 91f,s. Case Method Applied to the Study of Human Problems.** General application of interviewing method for students who plan to work professionally in fields involving human relationships, such as social work, public health nursing, speech pathology, etc. (3 cr; prereq 50 or consent of major adviser)
- 95. Introduction to Public Welfare.** Public welfare function of American government with especial emphasis on social security programs. (3 cr; prereq 50 or consent of major adviser; offered when feasible)
- 97f-98w-99s. Tutorial and Honors Work in Selected Fields.** (3 cr per qtr; prereq consent of major adviser in sociology)
- 100s. Contemporary Penology.** Analysis of some of the more important developments in recent attempts at treatment of criminals and the prevention of crime. (3 cr; prereq 1, 53, or #) Vold
- 101f. Criminological Theories: Historical and Contemporary.** Consideration and evaluation of major historical and contemporary theories of criminal behavior. (3 cr; prereq 1, 53, or #) Vold
- 102f. Adult Parole and Probation.** Critical examination of problems and practices in supervision of adult criminals. (3 cr; prereq 1, 53, or #; offered 1962-63 and alt yrs) Vold
- 104f. Police Problems and Practices in the United States.** Personnel, organization, and public relations of police forces, with special attention to successful techniques of integrating police work with other community agencies. (3 cr; prereq 1, 53, or #; offered 1961-62 and alt yrs) Vold
- 106f. Planning.** (Same as Arch 104, Econ 110, and Pol 123) Social, economic, political, geographic, and technical phases of modern city planning. (3 cr; prereq sr) Broek, Rose, Sirjamaki, Vivrett, Warp
- 111s. Population Theory.** Emphasizes cultural and social phases of population change, with particular reference to birth rates, death rates, and migration. Implications of population change are also discussed. (3 cr; prereq 1 or #) Francis

- 112w. **World Population Problems.** Population policy, both historical and present-day, in Europe, Asia, and other selected areas but with special emphasis on United States. Some discussion is given to field of population and power politics. (3 cr; prereq 1, or #) Francis
- 115w. **Social Aspects of Housing and Standards of Living.** Analysis of housing of the masses in relation to problems arising in urban overcrowding, population distribution, and standard of living as affected by distribution of national income, and factors related to personal and social disorganization. (3 cr; prereq sr, 1, or #) Sirjamaki
- 117s. **Scandinavian Folk Movements: Their Social and Political Significance.** (3 cr; prereq 1, or #)
- 118f. **Delinquent Behavior.** Critical analysis of nature of delinquent behavior and its "causes," with consideration of the help that understanding of causes can give to its modification and its prevention. (3 cr; prereq 53) Monachesi
- 119w. **Modern Agencies for the Control of Juvenile Delinquency.** Functions of the school, of welfare, casework, and groupwork agencies, of the juvenile bureau in police departments, the juvenile court, detention home, probation services, clinics, and integrated state agencies like the Minnesota Youth Conservation Commission in the prevention and modification of delinquent behavior. (3 cr; prereq 53 and 118) Ellingston
- 120f,w. **Social Psychology.** Research and theory regarding relation of the individual to social groups. Emphasis on socialization processes; effects of social interaction and isolation; individual behavior under conditions of social organization and disorganization; cultural influence and its limits. (3 cr; prereq 1, or #) Rose
- 121s. **Advanced Social Psychology.** Examination of methods of acquiring knowledge in social psychology, with analysis of outstanding pieces of research. Studies examined are concerned with social psychology of small groups, neurotic behavior, mass behavior, and the making of political and economic choices. A major aim is to familiarize student with current thinking and research in this field in light of concepts and theories presented in introductory course in social psychology. (3 cr; prereq 120 or #) Rose
- 122w. **Sociology of Conflict.** Manifest forms of antagonism among groups of persons; causes of conflict; methods of resolving through accommodations; role of conflict and social change. (3 cr; prereq 1, or #) Vold
- 123w. **Minority Group Relations.** Interaction of social and cultural groups in America. Processes leading to group contact; characteristics and contributions of ethnic groups in United States; mechanisms and problems of group adjustment. Democratic theory and practice; sources of prejudice; contemporary status of principal minority groups; international implications; trends and proposed solutions. (3 cr; prereq 1, or #) Forster
- 124s. **Social Movement in a Changing Society.** Examination of factors underlying social change in the modern mass society. Consideration of recent researches on social movements, reform and revolution, culture contact, impact of rapid technological change. The individual and the social structure under conditions of rapid social change. (3 cr; prereq 1, or #) Rose
- 125f. **Opinion and Communication; Social Factors.** Examination of processes of opinion formation and change in relation to personality and social structure will lay groundwork for analysis of flow of public communications through society and impact of selected types of mass communication on particular audiences. (3 cr; prereq sr, 1 or 120 or Psy 140 or #...recommended that this course be taken as a 3-qr sequence with Psy 167 and Jour 115)
- 126s. **Family Development.** Analysis of the natural history of families, how they form, function, and achieve distinctive identities. Focus on the developmental growth of children and parents in interaction in seven stages of the family life cycle, from engagement planning to family dissolution. (4 cr; prereq 1 and CD 80 or #) Hill
- 140f,s. **Social Organization.** Organization and structure of social groups; basic culture patterns of economic, political, and social institutions. Integration and disintegration of social groups and institutions. Essentials of social dynamics. (3 cr; prereq 1, or #) Gross (f), Sirjamaki (s)
- 141f,w,s. **The Family.** Evolution of the family, development of family unity or disunity, roles of the several members of the family, methods of investigation of the family. (3 cr; prereq 1, or #) Johnson
- 142w. **Religion as a Social Institution.** (3 cr; prereq 1, or #) Johnson, Taves
143. **The Newspaper as a Social Institution.** (3 cr; prereq 1, or #; offered when feasible)
- 144s. **Social Stratification and Mobility.** Relationship of social mobility to social stratification and social organization. Analysis of the hierarchical structure of society in relation to class and status. (3 cr; prereq 1 or #) Gross
- 145f. **Urban Sociology.** Introduction to study of cities; urban ecology; urban institutions and urban way of life. (3 cr; prereq 1, or #) Sirjamaki
- 146f. **Industrial and Occupational Sociology.** Analyzes the occupational group, the factory, and the business enterprise as social institutions, with particular attention to contrasting functions

of formal and informal organization, and to significance of co-operation, authority, communication, status, and group norms in the working situation. (3 cr; prereq 1 and 15 cr in sociology, psychology, political science, or economics) Gross

- 151s. Comparative Social Organization.** Consideration of the demographic and ecological characteristics, stratification system, institutional organization, and forms of association in several modern nations other than the United States. (3 cr; prereq 20 cr in sociology, economics, or political science, or §) Forster
- 152s. Sociology of Medicine and Medical Institutions.** Social factors associated with the incidence of physical and mental illness and its treatment. The social organization of medical institutions. Public needs and medical services. The sociology of aging, and the social problems of the aged. (3 cr; prereq 1, or §; offered 1961-62 and alt yrs) Rose
- 153w. Sociology of Leadership and Group Action.** Survey of the nature, function, and sources of leadership in modern society. Description and analysis of techniques of leadership and their role in group actions. Examination and application of instruments for evaluating leadership and participation within groups; the organization and function of voluntary groups. (3 cr; prereq 15 cr in sociology, psychology, anthropology, political science, history, or §) Taves
- 160f. Rural Community Organization.** History, structure, and place of the rural community in American society; an analysis of community demography, ecology, stratification, urbanization, and processes of co-operation and conflict. (3 cr; prereq 1 or §) Taves
- 161s. Rural Community Analysis.** Offered especially for all persons interested in rural community organization, rural teaching, extension work, and related fields. Emphasis is placed on tools, techniques, and methods of making community field studies. (3 cr; prereq sr, 1, or §) Taves
- 162w,s. Rural Social Institutions.** Factors in rural environment which condition functioning of rural social institutions, including the family, school, church, local government, health, and welfare. (3 cr; prereq 1 or §) Taves
- 170f. Analytical Social Theory.** Examination of major problems of sociological theory; survey of main types of sociological theory (positivistic, rationalistic, idealistic); major theoretical concepts. (3 cr; prereq 1, or §) Martindale
- 171w. Social Life and Cultural Change.** Theories of social change, with particular attention to their methodological problems. Materials drawn from the comparative social thought and structure of antiquity utilized as basic data for analysis. (3 cr; prereq 1, or §) Martindale
- 172s. Backgrounds of Modern Social Thought.** Survey of major trends of social thought from Renaissance to 19th century, with special attention to those factors contributing to origin of sociology. (3 cr; prereq 1, or §) Martindale
- 180f,w. Methods of Social Research.** Survey of major methods employed in social research, including a consideration of their advantages and limitations when applied to specific types of problems. (3 cr; prereq 45 or equiv) Monachesi
- 182w. Statistical Methods.** Selected problems of social relationship described, analyzed, and interpreted by means of common statistical methods. (3 cr; prereq 45 or equiv) Francis
- 183s. Problems in Social Measurement.** Theoretical analysis of problems involved in measuring social variables, including consideration of problems of reliability, validity, and standardization in construction of new measuring instruments. (3 cr; prereq 45 or 182 or equiv) Francis
- 184f-185w-186s. Field Work and Laboratory Training in Social Research.** Open to students whose records in statistical and research courses indicate ability to carry on individual research projects to advantage under supervision. (2-3 cr per qtr; prereq 45 or 182 or §45 or §182)

### *For Graduate Students Only*

- 201-202. Seminar: Research Problems in Crime and Social Conflict
- 203-204-205. Seminar: Research Problems in Juvenile Delinquency
- 210-211-212. Seminar: Problems in Population Research
- 220-221-222. Seminar: Social Psychology
- 223-224-225. Seminar: Research in Problems of Modern Mass Society
226. Seminar on Family Development
- 227-228. Seminar: Contemporary Research on Marriage and the Family
- 230-231-232. Seminar: Research in Group Structure and Function
- 233-234-235. Seminar: Methods for the Evaluation of Social Action Programs
- 238-239.† Seminar in Principles of Sociology
- 241-242-243. Seminar: Research Problems in the Family

- 245-246. Seminar: Research in Urban Sociology
- 247. Seminar: Research in Large Scale Organization
- 251-252-253. Selected Problems in Comparative Sociology
- 260-261-262. Seminar: Rural Sociology
- 263. Seminar: Research Methods in Rural Sociology
- 270-271-272. Seminar in Social Theory
- 280-281-282. Seminar: Recent Developments in Sociological Research Techniques
- 284-285-286. Seminar: Statistical Theory in Relation to Social Theory and Practice
- 297-298-299. General Seminar

**SPANISH**

See Romance Languages

**SPEECH AND THEATER ARTS (Spch)**

FACULTY—Donald K. Smith, *chairman*; Harvey L. Adey, Arthur H. Ballet, Ernest Bormann, William W. Fletcher, Virginia Fredricks, Kenneth L. Graham, Robert T. Hazzard, Ernest Henrikson, William S. Howell, Jay Jensen, Wendell J. Josal, Frank Lassman, Bentley Lenhoff, Robert Moulton, Ralph Nichols, Donald Parson, John J. Petelle, Jerry B. Rumley, Robert L. Scott, George L. Shapiro, Gerald Siegel, Robert Snook, Clark Starr, Earl Stark, Dale Swanson, David W. Thompson, Frank M. Whiting, Willard Zemlin, E. William Ziebarth.

**Major Advisers in SLA**—Professors Graham, Henrikson, Howell, Smith, Thompson, Whiting, Ziebarth; Associate Professors Ballet, Fletcher, Lassman, Moulton, Scott, Starr; Assistant Professors Bormann, Josal; Instructor Shapiro.

**Major Sequences in SLA**—

A. *General*: Spch 51, 65, 67, 75 or 78, 81, 82 or 83, 101, 106, 126, 161 and 169. Prerequisites: Spch 5, 31, 32; Psy 1-2.

B. *Theater and Television Drama*: Spch 81, 78 or 83, 91, 90 or 92, 111, 112, and 12 other speech credits selected with the major adviser plus a comprehensive examination. Prerequisites: Spch 5, 31, 32, 33, 34; Psy 1-2.

C. *Public Speaking and Discussion*: Spch 51, 55, 56, 101, 102, 103, 106, 109, 126, 140, 169. Prerequisites: Spch 5; Psy 1-2.

D. *Radio and Television*: Spch 65, 66, 67, 69, 81, 106, 117, 170 plus 6 credits from 78, 92, 93, and 6 other speech credits selected with major adviser. Prerequisites: Spch 5, 31, 32; Psy 1-2.

Students following the radio and television major should consider courses in journalism to meet either minor or elective requirements. Such students usually elect from among Jour 84, 85, 86, 88, 113, 120, 130-131, 162.

Modifications of these sequences will be permitted with approval of the major adviser.

**Major Advisers in the College of Education**—Professors Graham, Smith, Whiting; Associate Professors Ballet, Starr.

**Requirements for a Teacher's Certificate** (applicable only to students in the College of Education)—*Major recommendation*: 44 credits in speech distributed as follows: a core of 18 credits, Spch 5, 31, 32, 67, 81; 27 credits taken in either of 2 curriculums, as follows:

**Curriculum I**—Spch 51, 106, 161; 9 credits selected from Spch 55 or 56, 65, 97, 101, 102, 103; 9 credits selected from Spch 66, 74, 75, 76, and 82 or 83.

**Curriculum II**—Spch 34, 65 or 66, 76, 78 or 83, 90 or 91, 92, 111, 112, 131 or 132, plus a comprehensive examination.

*Minor recommendation:* Students minoring in speech and theater arts are required to take Spch 5 and 31 plus 18 additional credits in speech and theater arts. These courses are to be selected with the aid of one of the above advisers. Differential sequences are recommended according to whether the student is primarily interested in general speech, theater, interpretation, public speaking and discussion, or radio and television. Speech and theater arts minors in education with English majors will register for EdT 75D, but those with a major other than English will register for EdT 76G.

For further information concerning teaching majors and minors, and concerning the specialized curriculum in speech pathology, students should consult the *Bulletin of the College of Education*.

Speech and theater arts majors in the College of Education may follow the language arts sequence with emphasis in speech and theater arts. See the *Bulletin of the College of Education*.

**Speech Activities**—All students in the University are entitled to participate in Intercollegiate Debating, the Freshman-Sophomore Debate, the Freshman-Sophomore Oratorical Contest, the Pillsbury Oratorical Contest, the Verse Reading Contest, and the activities of the University Theater.

*Note*—The University maintains a clinical service for students with speech-hearing defects. Students who desire treatment should consult the director of the Speech and Hearing Clinic, 205 Shevlin Hall.

**General Education**—The department recommends courses in public address, theater history, and oral interpretation of literature for meeting the goals of general education. Consult descriptions for: Spch 5, 31, 51, 55, 81, 101, 106, 171.

### Lower Division Courses

- 5f,w,s. Fundamentals of Speech.** Development of basic skills in meeting a variety of speech situations: extemporaneous speaking, oral reading, discussion. Development of basic understanding of speech processes and forms. (5 cr; prereq fr with  $\Delta$ , soph) Fletcher, Smith, and staff
- 6f,w,s. Fundamentals of Speech.** (Continuation of 5) (3 cr; prereq fr with  $\Delta$ , soph, 5) Fletcher, Smith, and staff
- 6As. Voice and Articulation.** Fundamentals of voice production and articulation. Considerations of physiological, physical, and psychological factors. Examination and application of basic approaches used in voice and articulation improvement to individual cases. (3 cr; prereq 5 and #) Fletcher
- 9f,w,s. Freshman Discussion and Debate.** Open to freshmen who win places on Freshman Debate Squad. (1 cr; prereq fr with C avg) Scott, Shapiro
- 31f,w,s. Introduction to the Theater Arts.** History and theory of plays and playwrights as well as various arts and crafts of the theater. Special projects in theater crafts. (4 cr) Ballet
- 32f,w,s. Beginning Acting: Creative Approach.** Creation and presentation of original scenes and skits. Ability to respond to the imaginative situation with individuality and effectiveness is stressed. (3 cr; prereq soph, 31) Adey, Backlin, Moulton, Rumley
- 33f,w,s. Beginning Acting: Technique.** Fundamentals of body movement, rhythms, and acting technique. Individual and group performances. (3 cr; prereq 32) Moulton, Rumley
- 34f,w. Stagecraft: Construction and Painting.** Theory and practice in construction, painting, and shifting of stage scenery. (3 cr; prereq soph, 31) Josal
- 39. Parliamentary Procedures.** Rules of order and practice in applying these to various types of meetings. (2 cr; prereq  $\Delta$ ; offered when feasible) Shapiro

### Upper Division Courses

Spch 51, 67, 97 are open to Lower Division students who have an average grade of at least C in the prerequisite courses. Other Upper Division courses are open to sophomores under conditions explained on the first page of Section II.



- 51f,w,s. **Advanced Public Speaking.** Preparation and delivery of speeches on current public issues. (3 cr; prereq 5) Scott
- 55f,s, 56w. **Speech Writing and Platform Speaking.** Essentials of speech writing, organization, style. Presentation of speeches from manuscripts. (3 cr per qtr; prereq 5 or #) Smith
61. **Personal Development Through Speech.** (3 cr; prereq 5, Psy 1-2; offered when feasible)
- 65f,w,s. **Radio and Television Speech.** Speech arts and psychology of radio and television. Practice exercises, projects, and reports on problems of appeal and audience response. (3 cr; prereq 5) Bormann
- 66f,w,s. **Radio and Television Drama.** Historical development of radio and television drama, including production, direction, and acting techniques. (3 cr; prereq 5, 32, 65) Snook
- 67f,w,s. **Phonetics.** Sounds of American English as they occur separately and in connected speech. Strong and weak forms, stress, assimilation. Practice in ear training. (3 cr; prereq 5) Fletcher
- 69w,s. **Radio and Television Production.** An introduction to the problems of radio and television production. Equipment and staff organization; interrelationships with program design. Exercises in production. (3 cr; prereq 65) Bormann
- 74f. **Play Production in the Secondary School.** Technical fundamentals: stagecraft, design, lighting, and costuming. (3 cr; prereq 31) Josal
- 75w. **Play Production in the Secondary School.** Fundamentals including the analysis and production of selected scenes. (3 cr; prereq 5, 32, 74) Lenhoff
- 76s. **Play Production in the Secondary School.** Administration of dramatics program in high school. Direction of full-length play. (3 cr; prereq 75 or 112 or #) Lenhoff
- 78f,w, 79w,s. **Advanced Acting.** 78: Characterization, styles of acting, and stage technique. Presentation of scenes from great plays. 79: Continuation with emphasis upon stage dialects. (3 cr per qtr; 78f open only to students in major sequence B...78w open to others; prereq 32) Graham
- 81f,w,s, 82w,s, 83s. **Interpretative Reading.** Aesthetic theory of literature and of oral reading. Practice in reading for interpretation and mastery of technique. 81: Fiction. 82: Poetry. 83: Drama. (3 cr per qtr; prereq 5...81 is prereq to 82 or 83) Thompson, Fredricks
- 90f. **Costuming.** Theory, design, and construction of costumes for stage and television. (3 cr; prereq 5, 31, 34) Moulton
- 91w. **Scene Design.** Theory and practice of designing scenery as a functional environment for the stage and television. (3 cr; prereq 5, 31, 34) Josal
- 92s. **Lighting.** Theory and practice in applying methods and principles of lighting in theater and television. (3 cr; prereq 5, 31, 34) Josal
- 97f,w. **Intercollegiate Oratory and Debate.** Open to students who represent the University in annual contest of Northern Oratorical League and to students who win places on intercollegiate debate squad. (2 cr; prereq soph with C avg, jr) Scott, Shapiro
- 101f, 102w, 103s. **Argumentation and Persuasion.** Theories of modern motivational rhetoric. Analysis of persuasive speaking; practice in preparation and delivery of oral argument. (3 cr per qtr; prereq 5, Psy 2, 10 cr in social science) Howell, Scott
105. **Theory of Reading and Acting.** Literature as an art; its various forms; psychology of creative imagination; speech elements in literature. Collateral readings and reports. (3 cr; prereq 83 and Psy 2; offered 1962-63 and alt yrs) Thompson
- 106f,w,s. **Discussion.** Co-operative thinking; recognition and definition of problems, critical analysis, examination of possible solutions. Planning, preparing for, participating in, and leading classroom, public, and radio and television discussions. (3 cr; prereq 4) Bormann, Howell, Smith
107. **Platform Reading.** Advanced course in oral interpretation of selected poems and plays. Speech melody, rhythm, platform techniques. Problems in aesthetic analysis. Lecture recitals. (3 cr; prereq 83; offered 1961-62 and alt yrs) Thompson
- 109f. **Classical Rhetoric.** A study of Greek and Roman theories of speech making and the influence of these theories on speech education to the present. (3 cr; prereq 5 and Δ) Scott
- 110w. **History and Criticism of British Public Address.** Critical study of British orators, their works, the historical setting. British rhetorical theory. (3 cr; prereq 5 and Δ; offered when feasible) Scott
- 111f, 112w, 113s. **Stage Direction.** 111: Theory of direction. Exercises in blocking and production of short scenes. 112: Rehearsal problems and direction of two one-act plays. 113: Problems of theater management and staging; direction of full-length play. (3 cr per qtr; prereq sr, 4, 31, 32, 33, 34, 90 or 92, 91 and Δ) Whiting

- 115f, 116w. Playwriting and Production.** Group invention and presentation of scenarios. Individual writing of a stage play. 115: One-act play. 116: Full-length play. (3 cr per qtr; prereq 5, 31, 32 or  $\Delta$ ; 116 offered when feasible) Thompson
- 117s. Writing Radio and Television Drama.** Group invention and presentation of scenarios. Individual writing of an original, 30-minute radio or television play. (3 cr; prereq 5, 31, 32 or  $\Delta$ ) Thompson
- 122f. Introduction to Research.** Graduate research in speech; selections of topics and methods of investigation. Required of all graduate majors in speech. (3 cr; prereq sr, 5, Psy 2) Bormann
- 124. Experiments in General Speech.** Examination of studies of the correlates of speech skills, audience reactions, and speech improvement. (3 cr; prereq 5, Psy 2; offered when feasible) Bormann
- 126s. History and Criticism of American Public Address.** Examination of historical and critical studies of oratory. Study of orators: education and training, style, speech composition, topics and issues, historical settings. (3 cr; prereq 5, Psy 2) Bormann
- 127. Language Training for the Deaf.** Language problems resulting from marked and/or early deafness. Methods of developing and teaching language to the deaf. Underlying theory and supervised practice with the deaf individual. (3 cr; prereq 152 or  $\#$ ; offered when feasible) Lassman
- 131w. Creative Dramatics.** Principles and methods of developing original dramatizations with children. Observation of children's classes in creative dramatics. Readings, projects, term papers. (3 cr; prereq 51, 31 or elementary education major, or  $\#$ ...32 recommended) Graham
- 132s. Children's Theater.** Theory and practice of selection, direction and production of plays for children's audiences, co-ordinated with current production of the Young People's University Theater. (3 cr; prereq 5, 31 or  $\#$ ) Graham
- 135f, 136w, 137s. Production of Television Drama.** Televised drama production analyzed with reference to adaptation of techniques and theory from stage production. (3 cr per qtr; prereq 65, 66, 78, 111, 112 and  $\#$ ) Ballet
- 140f. Introduction to Voice Science.** Consideration of fundamental aspects of phonetic, anatomic, physiological, and physical bases of speech. (3 cr; prereq 5, Psy 2) Fletcher
- 141w. Anatomy and Physiology of Voice Mechanism.** Respiration, articulation, and phonation. (3 cr; prereq 5, 67, or  $\#$ ; Psy 5) Fletcher
- 142s. Physical Bases and Instrumentation of Speech.** Relationship of basic principles of sound to speech mechanism. Analysis of speech sound production. Application of mechanical and electronic equipment to speech; basic theory and uses. (3 cr; prereq 5, 67, 140 or  $\#$ , Psy 5) Fletcher
- 149. Speech Habilitation for Persons with Neuromuscular Disorders.** Physiological, neurological, and psychological characteristics of persons with cerebral palsy and other types of neuromuscular disorders and a study of methods used in their speech habilitation. (2 cr; prereq 161, 162, 163 or  $\#$ ; offered when feasible) Starr
- 150. Organic Speech Disorders: Aphasia.** A study of aphasia in adults and children. Consideration of etiology, language, and associated nonlanguage problems and therapeutic considerations and procedures. (2 cr; prereq 161, 162, 173, or  $\#$ ; offered when feasible) Henrikson, Jensen
- 151. Cleft Palate Speech Problems.** Research, clinical practice concerning cleft palate. Observation. (2 cr; prereq 141, 161, 163 or  $\#$ ) Starr
- 152f. Hearing Disorders.** Basic orientation to audiology. Physiology and anatomy of auditory mechanism. Symptomatology and pathology of hearing disorders, their medical and surgical treatment. Clinical and classroom management, including discovery programs, hearing aids, language development, lip reading, speech correction, auditory training, psychology of hard-of-hearing and deaf, vocational guidance, educational channels. (3 cr; prereq 5, 67, Psy 2 or  $\#$ ) Lassman
- 153w. Audiometry and Hearing Aids.** Theory and practice of clinical and group audiometry; screening and diagnostic techniques, pure tone and speech audiometry; hearing conservation programs. Characteristics of modern hearing aids; selection and usage problems. (3 cr; prereq 5, 67, 152, Psy 2 or  $\#$ ) Lassman
- 155s. Lip Reading and Lip Reading Method.** Supervised practice in teaching lip reading to hard-of-hearing persons. (3 cr; prereq 5, 67, 152, Psy 2, or  $\#$ ) Lassman
- 156. Auditory Training.** Problems of auditory discrimination and of hearing aid usage in persons with hearing deficiencies. Methods of developing skills in listening with and without acoustic amplification. Supervised practice with acoustically handicapped children and adults. (3 cr prereq 152 or  $\#$ ; offered when feasible) Lassman

- 157f, 158w, 159s. **Clinical Methods and Practice in Audiology.** Methods and supervised practice in the analysis, diagnosis, and habilitation of communication disorders of persons with auditory impairments. (3 cr per qtr; prereq 152, 153 and ♯) Lassman
- 161f,w. **Introduction to Speech Correction.** Basic orientation in speech correction. Analysis of common disorders of speech, their characteristics, prevention, and correction. Designed as a basis for more advanced study in speech pathology or for a basic understanding of the field. (3 cr; prereq 5, or Δ) Henrikson
- 162w, 163s. **Speech Pathology.** Causes, characteristics, and therapy. 162: Stuttering. 163: Pathologies of speech; voice and articulation disorders. (3 cr per qtr; prereq 5, 67, 161) Henrikson
- 164f-165w-166s. **Clinical Methods and Practice in Speech Pathology.** (3 cr per qtr; prereq sr, 5, 67, 161, 162, 163) Henrikson, Starr
- 169w. **Speech and Language in Human Behavior.** Basic orientation in the place of speech and language in human behavior. Individual projects and collateral reading. (3 cr) Shapiro
- 170s. **Radio and Television Programming.** Intensive study of theory and practice of radio and television programming. Examination of the principles of program effectiveness and the program policies of the industry. Building and production of experimental programs with special emphasis on talk and discussion. (3 cr; prereq 65 or 66 or ♯) Goldstein
- 171f, 172w, 173s. **History of the Theater.** Plays, arts, and crafts of the theater from their beginnings to present. Special reports and projects. (3 cr per qtr; prereq sr, 5, 31) Graham
- 177f. **Theater on Tour.** Selection, preparation, production, and touring of a school assembly program. (3-6 cr; prereq sr, 12 or more Upper Division speech credits and approval of faculty committee) Whiting and staff
- 178w. **Theater on Tour.** Preparation, production, and touring of one or more full-length plays. (3-6 cr; prereq sr, 12 or more Upper Division speech credits and approval of faculty committee) Whiting and staff
- 181f, 182w, 183s. **Readings in Speech.** Directed reading and preparation of reports on selected subjects. (Cr ar; prereq 5 and 6 addtl cr and ♯) Henrikson, Howell, Whiting, Ziebarth, Graham, Lassman, Smith, Thompson, Ballet, Fletcher, Scott, Starr, Bormann, Josal, Moulton
- 190f, 191w, 192s. **Technical Stage Problems.** Theory of stage costume, scenic design, theater architecture, stagecraft, and lighting. Special projects and reports. (3 cr per qtr; prereq 111, 112, 113) Moulton (f), Josal (w,s)

*For Graduate Students Only*

201. **General Seminar**
- 203-204. **Debate Coaching**
- 207-208-209. **Seminar in Persuasion**
- 211-212-213. **Seminar in Dramatic Theory**
- 214-215-216. **Seminar in Stage Direction**
217. **Seminar in Visual Arts of Drama**
218. **Seminar in Theater Planning**
- 221-222-223. **Seminar in Oral Interpretation of Literature**
- 231-232-233. **Seminar in Advanced Speech Problems**
- 241-242-243. **Seminar in Radio and Television Research**
251. **Seminar in Listening Comprehension**
- 261-262-263. **Seminar in Speech Pathology**
- 267-268-269. **Seminar in Experimental Phonetics**
270. **Advanced Clinical Audiology**
- 271-272-273. **Seminar in Hearing**
- 275-276-277. **Seminar in Rhetoric**
- 281-282-283. **Seminar in Organic Disorders of Speech**
- 291-292-293. **Research in Special Problems**

## STATISTICS (Stat)

FACULTY—Ingram Olkin, *chairman*; Meyer Dwass, Sudhish G. Ghurye, Donald L. Richter, Milton Sobel.

Students interested in course offerings in statistics may obtain information from the chairman of the department. Those with special interests in one of the related fields may consult any of the members of the graduate faculty listed on pages 226-229 of the *Bulletin of the Graduate School*. In particular, the following members will be available for consultations: Animal Husbandry, R. Comstock; Biometrics, C. Gates; Biostatistics, J. Bearman; Business Administration, J. Neter; Econometrics, L. Hurwicz; Educational Psychology, R. Collier; Industrial Engineering, G. McElrath; Mathematics, Probability, M. Donsker, B. Lindgren; Sociology, R. Francis.

The organization of the Department of Statistics is primarily adapted to the needs of graduate students in statistics and qualified workers in other fields who wish to receive training in statistical methods. However, there are a number of courses in statistics (or related mathematics) which are of interest to the undergraduate student. The student would do well to consult with one of the advisers in statistics (in particular, Professor I. R. Savage) concerning the kind of undergraduate preparation that would provide a good background for graduate work, as well as to obtain information concerning the opportunities in statistics.

One phase of the preparation for graduate work in statistics is in the field of mathematics. At the first level of difficulty, we include such supporting mathematics courses as elementary and advanced calculus, algebra of vectors and matrices and of linear and quadratic forms. At a more advanced level, one could include a number of mathematical topics, in particular, theory of functions of real and complex variables and measure theory.

Students interested in some substantive field, e.g., in the physical sciences, the biological sciences, or the social sciences should obtain a knowledge of the content and problems in the field and a functional knowledge of scientific method as operative in the particular field. This may serve as the field of application in the graduate program in statistics.

Whether the student is interested in the theory of statistics or a field of application, one of the sequences, Math 121-122-123 (Mathematical Theory of Statistics), Econ 121A, 121B, 121C (Introduction to the Theory of Statistics), and ITM 132, 133-134 (Introduction to Statistics and Probability), plays a central role and forms the prerequisite for further work.

A few of the offerings open to undergraduates are listed below:

### Agricultural Science Fields

- Biom 90—Introductory Statistics
- Biom 100, 101—Introduction to Statistical Analysis I, II

### Biostatistics

- PubH 110, 120, 130—Biostatistics I, II, III

### Business Administration

- BA 171—Statistical Methods for Sample Surveys
- BA 181—Quality Control and Industrial Statistics

### Economics

- Econ 101A—Foundations of Mathematics for Social Scientists
- Econ 101B—Introduction to Decision Theory
- Econ 101C—Elements of Econometrics

- Econ 121A, B, C—Introduction to the Theory of Statistics
- Econ 181A, B, C—Topics in Statistics

### Educational Psychology

- EPsy 116—Introduction to Statistical Methods

### Engineering, Mathematics, and Physical Sciences

- IE 171—Quality Control
- IE 197—Industrial Sampling Techniques
- IE 198—Sequential Analysis of Industrial Data
- IE 199—Design and Analysis of Industrial Experiments
- ITM 132—Introduction to Statistics and Probability
- ITM 133, 134—Statistical Theory with Applications
- ITM 133A, 134A—Mathematical Methods in Operations Analysis
- ITM 133B, 134B—Probability with Technological Applications

Math 121, 122, 123—Mathematical Theory  
of Statistics  
Math 178A, B, C—Introduction to Probability

**Sociology**  
Soc 182—Statistical Methods  
Soc 183—Problems in Social Measurement

Some of the graduate courses offered by the Department of Statistics are:

Stat 181A, B, C—Advanced Topics in Statistics  
Stat 221A, B, C—Statistical Theory  
Stat 231A, B, C—Linear Models

Stat 241A, B, C—Nonparametric Inference  
Stat 251A, B, C—Multivariate Analysis

For a complete description of these courses and graduate courses in a field of application, see the *Bulletin of the Graduate School*.

## SWEDISH

See Scandinavian

## THEOLOGICAL TRAINING, PREPARATION FOR

*Chairman*—William A. McDonald

**Major Advisers in SLA**—Professors Hoyt, McDonald; Associate Professor Mather; Assistant Professors M. Blum, Mason.

The title "Preparation for Theological Training" is accurate in fact but misleading in emphasis. That the studies taken in a liberal arts college actually precede seminary training is obvious enough. That their main function should be to prepare the student for seminary work is dubious. An even more important task is getting the student ready for his total responsibility as a minister and as a citizen—most particularly in those areas where the liberal arts college can do the job more efficiently than a specialized seminary program conceivably can.

The student should, of course, learn as early as possible what seminary he plans to attend and what prerequisites it demands. But he should study its catalogue just as much to learn those areas in which it does *not* offer training as to ascertain those in which it does. For he should plan his program with a clear sense of his mission as a minister and of the part that the liberal arts can play in fulfilling that mission.

The Lower Division curriculum outlined below satisfies the SLA distribution requirements. At the same time it specifies a number of modifications. Therefore the freshman who intends (or is seriously considering) entering a theological seminary should study the program carefully, talk it over with specially designated Lower Division advisers, and also discuss it as soon as possible with one of the above-mentioned major advisers—Mr. Blum, 215 TNM; Mr. Hoyt, 219 ForH; Mr. McDonald, 310 FolH; Mr. Mason, 100A WeH; Mr. Mather, 322 FolH. Such consultation will be useful whether or not the student decides to elect the interdepartmental program rather than a regular departmental major.

In planning their Lower Division program students should consult the General Distribution Requirements listed on page 7, as well as the special requirements and recommendations listed below.

### *Lower Division*

- A. **Freshman English:** Engl A-B-C (if eligible); otherwise Engl 1A-2A-3A or 1B-2B-3B.
- B. **Foreign Language:** Greek strongly recommended.
- C. **Social Science:** Hist 14-15-16 (required) and 6 credits in other departments (excluding history and psychology).
- D. **Natural Science:** Psy 1-2 (required) and 9 credits in mathematics or physical science. Laboratory requirement may be met by taking Psy 4-5.
- E. **Humanities:** Phil 2 (required) and 10 credits in other departments (excluding history and mathematics). Engl 21-22-23, 37-38-39, Comp 27-28, Spch 5 recommended.

F. **Health:** PubH 2 (Personal and Public Health, 2 credits) or PubH 3 (Personal Health, 2 credits) or equivalent.

### Upper Division

The following are specific requirements, not all of which need be met by Upper Division courses. However, at least 60 credits must be earned in Upper Division courses for graduation.

- A. **Fine Arts:** 9 credits minimum in art and/or music.
- B. **History:** 18 credits minimum in medieval and modern history (at least 9 modern).
- C. **Language and Literature:** 9 credits minimum in English; 9 credits minimum in Greek, Hebrew, Latin, modern foreign language, foreign literature in translation, or humanities.
- D. **Philosophy:** 21 credits minimum, including history of philosophy (Phil 50-51-52).
- E. **Social Science:** 12 credits minimum in anthropology, economics, political science, sociology, speech, psychology.

## ZOOLOGY (Zool)

FACULTY—Nelson T. Spratt, Jr., *chairman*; Magnus Olson, *associate chairman*; Robert M. Benolken, Marion A. Brooks, H. C. Chiang, Edwin F. Cook, Samuel Eddy, Joseph G. Gall, Norman S. Kerr, David J. Merrell, Roger D. Price, Sheldon C. Reed, A. Glenn Richards, Otto Schmitt, Grover C. Stephens, James C. Underhill, Franklin G. Wallace, Dwain W. Warner.

Major Advisers in SLA—Professor Olson; Associate Professors Gall, Stephens, Wallace; Assistant Professor Kerr.

Major Sequence in SLA—Zool 50, 55, 56, 59, 65, and 83, and 8 additional credits in courses numbered above 50. It is suggested that students expecting to major in zoology take Zool 55 and one of the following courses, Zool 56, 59 or 83, during the sophomore year.

Preparation for Major—Biol 1-2 or equivalent. It is strongly recommended that majors take mathematics through Math 40; chemistry, including InCh 4-5-11, AnCh 57, and OrCh 61-62; and Phys 4-5-6, or their equivalent. Students intending to do graduate work in zoology will be expected to have this background.

Major Adviser in the College of Education—Magnus Olson.

For the specialized curriculum in natural science see *Bulletin of the College of Education*.

General Education—It is recommended that the nonscience or nonzoology major student select from among the following courses: Biol 1-2, 1A-2A, or Biol 61-62, Zool 52, 53, 59, 81, 82, 83. Biol 1-2 is prerequisite to all listed courses except Biol 1A-2A and Biol 61-62 which are terminal courses.

### Lower Division Courses

- Biol 1f,w,s-2f,w,s.† **General Biology.** Introduction to living things both plant and animal, and to the major biological concepts. Structure, function, classification, and evolution of organisms. (5 cr per qtr, §Biol 1-2-3, §Bot 1-2-3, §4-5, §Zool 1-2-3 or §old 14-15, §old NSci 7-8-9)
- Biol 1Af,w,s-2Af,w,s.† **General Biology.** Introduction to living things and the major biological concepts. A terminal course primarily for nonmajors and students not pursuing a preprofessional program related to the biological sciences. (7 cr, §Biol 1A-2A-3A, §Bot 1-2-3, §4-5, §Zool 1-2-3 or §old 14-15, §old NSci 7-8-9)

### Upper Division Courses

Upper Division courses are open to sophomores under conditions explained on the first page of Section II.

- 50s. General Physiology.** Introduction to biochemical and biophysical study of the functioning of cells and cell systems. (5 cr; prereq soph, Biol 2 or equiv, 10 cr in chemistry...OrCh 61, 62 recommended)
- 51f. Introductory Animal Parasitology.** Elementary course dealing with parasitic protozoa, worms, and arthropods, and their relation to diseases of man and animals. (5 cr; prereq Biol 2 or equiv) Wallace
- 52w. Introductory Entomology.** General morphology, life histories, habits, and classification of insects. (5 cr; prereq Biol 2 or equiv) Price
- 53s. Fauna of the Central United States.** Identification, classification, and life histories of common land and fresh-water animals exclusive of insects and birds. (5 cr; prereq Biol 2 or equiv) Eddy
- 54f. Histology.** Microscopic structure of the tissues and organs. (5 cr; not open to regular 3-yr premed and predent students; prereq Biol 2 or equiv) Olson
- 55f. Cell Biology.** Dynamic aspects of cell structure and macromolecular organization, with emphasis on current research. (3 cr; prereq Biol 2 or equiv) Gall
- 56w. Comparative Anatomy.** Comparative study of vertebrate systems, tracing the development of various structures from lowest forms to man. (5 cr; prereq soph, Biol 2 or equiv) Eddy
- 57w-58s.† Introductory Ornithology.** Laboratory and field course in structure, classification, distribution, migration, habits, habitats, and identification of birds. (3 cr per qtr; prereq Biol 2 or equiv) Warner
- 59w. General and Comparative Embryology.** Embryological development of invertebrate and vertebrate forms. (5 cr; prereq Biol 2 or equiv) Spratt
- 60f. Comparative Animal Physiology.** An introduction to animal physiology emphasizing functional aspects of organ systems from a comparative viewpoint. (5 cr; prereq Biol 2, InCh 5, or #; offered 1962-63 and every yr thereafter) Stephens
- Biol 61f-62w.† General Biology.** Introduction to organisms and basic biological concepts. A terminal course suited for nonmajors and students not pursuing a preprofessional program related to the biological sciences. Registration confined to Upper Division students. (7 cr, §Biol 1-2-3, §Biol 1A-2A-3A, §Bot 1-2-3, §NSci 7-8-9, §Zool 1-2-3, §14-15)
- Ent 63w. Mammalogy.** Distinguishing characteristics of life histories of the various mammal groups, particularly those represented in the state. Consideration is given to the possibilities of fur farming in the case of certain species. (4 cr; prereq Zool 56) Beer
- 65f. Introductory Animal Ecology.** General ecology stressing ecological principles and land ecology. (3 cr; prereq Biol 2 or equiv) Underhill
- 81w. Invertebrate Zoology.** Review of invertebrate phyla with emphasis on functional morphology and phylogeny. (3 cr; prereq Biol 2 or equiv; offered 1961-62 and alt yrs) Stephens
- 82f. Organic Evolution.** Survey of history, evidence, and causes of evolution. (3 cr; prereq Biol 2 or equiv) Merrell
- 83fs. Introduction to Genetics and Eugenics.** Genetic principles derived from experimentation with both plants and animals are considered, together with their application to practical problems, including those of human society. (3 cr; prereq Biol 2 or equiv) Reed (f), Merrell (s)
- 84fs. Genetics Laboratory.** Experiments with living material to demonstrate the principles of heredity and their chromosomal basis. (1 cr; prereq 83 or ¶83 or #) Reed, Merrell
- 107s. Protozoology.** Introduction to the taxonomy, morphology, physiology, development, and genetics of the free-living protozoa. (4 cr; prereq 15 cr incl Biol 2 or equiv or #) Kerr
- Geol 107f. Invertebrate Paleontology.** (3 cr; prereq Geol B or Δ) Sloan
- 109w. Topics in Comparative Physiology.** Intensive coverage of comparative animal physiology including neuromuscular mechanisms, invertebrate endocrinology, biological rhythms, and other related topics. (2 cr; prereq 50 or 60 or equiv or #; offered 1961-62 and alt yrs) Stephens
- 110s. Animal Behavior.** Survey of effector mechanisms, their nervous and endocrine control, and behavior patterns of animals. (3 cr; prereq 15 cr incl Biol 2 or equiv and #) Stephens
- 112f. Advanced General Physiology.** Quantitative study of transport processes and related phenomena in biological systems. (3 cr; prereq 15 cr incl Biol 2 and #)
- 113w. Special Topics in Advanced General Physiology.** (3 cr; prereq 15 cr incl Biol 2 or equiv with #) Brokaw
- 116s. Population Ecology.** General principles of population, covering population dynamics and trophic relationships. (3 cr; prereq 65 or #; offered 1961-62 and alt yrs) Underhill

- 117s. Field Ecology.** Field work in major and minor communities in Minnesota; extended field trips to neighboring states. (3 cr; prereq 65 and #...recommended that student have Bot 50 or 130 or equiv; offered 1962-63 and alt yrs) Underhill
- 118w. Animal Ecology.** Experimental approach to study of environmental factors affecting animal populations. (3 cr; prereq 15 cr in zoology incl Biol 2 or equiv and #) Hodson
- 119su. Limnology.** Conditions for life in the water and distribution of aquatic animals. (4 cr; prereq 15 cr in zoology incl Biol 2 or equiv; offered at Itasca Station only) Underhill
- 120s. General Ecology of Insects.** Ecology with special reference to insects, their dispersal, distribution, abundance, natural control, and related problems. (3 cr; prereq 15 cr in zoology or entomology) Hodson
- 121f. Ichthyology.** Taxonomy and habits of North American fishes with special reference to those of upper Mississippi drainage. (3 cr; prereq 15 cr incl Biol 2 or equiv) Eddy
- Ent 125f. Insect Morphology.** Comparative studies of external and internal macrostructure of insects including phylogeny and function. (4 cr; prereq Zool 52 and #) Cook
- Ent 126w. Microanatomy and Development of Insects.** Histochemistry and fine structure; reproductive behavior, embryology and postembryonic development of insects. (4 cr; prereq organic chemistry...Zool 52 or equiv recommended) Brooks
- Ent 127s. Insect Metabolism and Co-ordination.** Homeostasis, permeability, circulation, metabolic systems and products, properties of muscle and nerves, sensation, behavior. (4 cr; prereq Ent 126, organic chemistry or agricultural biochemistry) Richards
- Bot 136su. Organism, Microclimate, and Weather.** (4 cr; prereq 10 cr in biology, botany or zoology...physics recommended; offered when feasible at Itasca Station)
- 140s. Biological Microscopy.** Necessary elements of optics, use and limitations of various types of microscopes, interpretation of microscopical data. Laboratory and demonstrations plus project in field of students' interests. (4 cr; prereq sr, 15 cr in zoology, entomology, or botany, and #; offered 1961-62 and alt yrs) Richards
- 144f. Medical Entomology.** Principal arthropods noxious to man and animals. Special emphasis is placed on those arthropods which serve as vectors of pathogenic organisms of man and animals. (3 cr; prereq 15 cr incl 52 or equiv or #) Price
- 145w. Parasitic Protozoa.** Structure, life histories, and economic relations of protozoal parasites of man and animals. Laboratory diagnosis. (3 cr; prereq 15 cr incl Biol 2 or equiv and #) Wallace
- 146s. Helminthology.** Worm parasites of man and animals, their structure, life histories, and biological relationships. (3 cr; prereq 15 cr incl Biol 2 or equiv and #) Wallace
- Geol 155f. Vertebrate Paleontology.** (3 cr; prereq Geol 107 or Zool 56 or #; offered 1961-62 and alt yrs) Sloan
- 160w-161s. Cytology.** Survey of cell structure and behavior with special reference to genetic cytology and cellular physiology. (3 cr per qtr; prereq 15 cr incl Biol 2 or equiv with #) Gall
- 170f. Advanced Genetics.** General laws involved in heredity and variation with their applications to microorganisms, higher plants, and animals exclusive of man. (3 cr; prereq 15 cr incl 83, and #) Reed, Merrell
- 171w. Genetics and Speciation.** Application of genetic principles to problems of speciation and evolution. (3 cr; prereq 15 cr incl 83 or #) Merrell
- 175s. Human Genetics.** Inherited characters in man, particularly in relation to medicine, with some reference to the relation of genetics to marriage and to social conditions. (3 cr; prereq 83 and #) Reed
- 176w. Problems and Methods in Human Genetics.** Principal tools and methods for research in human genetics. The importance of statistical thinking and appropriate statistical techniques. The use of genetic concepts in exploring new problems and the necessity of stating hypotheses in testable form. Individual study of current problems and group discussion. (3 cr; prereq 175 or #) Anderson
- 182s. Experimental Embryology.** Growth, differentiation, and metabolism of developing organisms. (5 cr; prereq sr, 50 and 59 or equiv and #) Spratt
- 183f, 184f, 185f. Physiology of Development.** Trains advanced students in organization, presentation, and evaluation of results of research in experimental embryology. 183: Chemical embryology, metabolic aspects of growth, differentiation, and morphogenesis. 184: Embryonic differentiation, including neuroembryology. 185: Endocrines in development, including sex differentiation. (4 cr per qtr; prereq sr, 182 or equiv and #; 183 offered fall 1962-63, 184 fall 1963-64, and 185 fall 1961-62) Spratt



197f, 198w, 199s. Problems. Advanced work in some special line. (Cr ar; prereq Biol 2 or equiv or #)

### *For Graduate Students Only*

- 100, 101, 102. Zoological Techniques
- 201, 202, 203. Research in Entomology
- 211, 212, 213. Research in Ecology
- 217, 218, 219. Research in Physiology
- 221, 222, 223. Research in Biophysics
- 229, 230, 231. Research in Histology
- 233, 234, 235. Research in Embryology
- 236. General Ecology of Insects
- 237, 238, 239. Research in Cytology
- 242-243. Insect Physiology
- 244, 245, 246. Research in Protozoology
- 251, 252, 253. Research in Genetics
- 259. Experimental Ecology Laboratory
- 261, 262, 263. Research in Parasitology
- 291, 292, 293. General Seminar
- 296, 297, 298. Special Seminar in Special Research Fields

### Biophysics

Zool 138f,w,s. Seminar: General Physiology and Biophysics. (Cr ar) Staff

Zool 155f, 156w, 157s.† Biophysics. Survey of theoretical and experimental aspects of biology which can be studied by quantitative physical means. 155: Surveys tissue ultrastructure (biostatics) as revealed by hypermicroscopy, birefringence, X-ray, electron, and radioactive means, and by colloidal and micellar phenomena. 156: Studies dynamics of biophysical systems; excitatory state, contraction, secretion, synthesis. 157: Examines integrative biophysical systems; stability of systems, transmission of intelligence, sensory mechanisms. (3 cr per qtr; prereq 28 cr distributed between physics and biology and #...physical chemistry and general physiology recommended) Schmitt, Benolken

### Entomology and Economic Zoology

(College of Agriculture, Forestry, and Home Economics)

Students in SLA may elect courses in entomology and economic zoology by arrangement with the department, but before registering for any course they should get the approval of the Scholastic Committee. See the *Bulletin of the College of Agriculture, Forestry, and Home Economics*.

## SECTION III

# Preprofessional Curriculums in Science, Literature, and the Arts

As explained on the first page of Section I of this bulletin, many students enter the College of Science, Literature, and the Arts in order to secure the essential foundation for entrance into a professional school. The preprofessional work consists of courses particularly related to the field of ultimate interest, together with courses of a broadening general education nature.

It is essential that the student study the preprofessional requirements for the field of his choice very carefully if he is to continue his college career without loss of time. Detailed outlines of the curriculums in SLA which are prerequisite for entrance into the various professional schools are presented below.

## A. UNIVERSITY COLLEGE

See Section I, page 12.

## B. SCHOOL OF ARCHITECTURE

### Six-Year Course

This curriculum is intended for students who wish to combine with their professional training more general education than is offered by the 5-year professional curriculum in architecture. It leads normally to the bachelor of arts degree with a major in architecture at the end of 4 years and the bachelor of architecture degree at the end of 6 years.

The work of the first 4 years constitutes a modified version of the curriculum prescribed for the SLA major in architecture. The following procedures and program of studies should be adhered to in order to complete the work required for the two degrees in the proper sequence and in the normal time:

**First and Second Years**—The first 2 years' work may be taken at the University of Minnesota in the Lower Division of SLA, or at other accredited institutions. During this period the student should complete the requirements for entrance to the Upper Division of SLA as stated on page 7. These requirements should include the following:

High school or college equivalents of Higher Algebra or Solid Geometry

Math T, 15—Trigonometry and College Algebra (8 credits)

Math 49—Analytic Geometry and Calculus I (5 credits)

Phys 1-2-3—Introduction to Physical Science (9 credits); Phys 1A-2A-3A, Physical Science Laboratory (3 credits)

Art 23A-24A-25A—Drawing and Painting I (6 credits)

Approved electives to make a minimum total of 90 credits

**Third and Fourth Years**—During these years the student is registered in the Upper Division of SLA as a candidate for the bachelor of arts degree with a major in architecture. To register as such, the student must secure the approval of the School of Architecture. Application forms may be obtained from the School of Architecture or from the Office of Admissions and Records. *Applications should be submitted not later than July 15 preceding the beginning of the academic year for which admission is being sought.*

The following courses should be included:

Arch 51-52-53—History of Architecture (12 credits)

Arch 81-82-83—Architectural Design I (18 credits)

Arch 91-92-93—Architectural Design II (18 credits)

Art 60A-61A-62A—Drawing and Painting II (6 credits)

Math 53—Analytic Geometry and Calculus II (5 credits)

MM 92-93—Statics for Architects: Solid Mechanics for Architects (8 credits)

Approved electives to make a minimum total of 180 credits acceptable for the B.A. degree

CE 38-39-41—Structural Design, or Arch 71-72-73, Building Technology, may be taken but will not carry credit toward the B.A. degree

**Fifth and Sixth Years**—During these years the student is registered in the Institute of Technology as a candidate for the bachelor of architecture degree. To register as such, the student must secure the approval of the School of Architecture and transfer to the Institute of Technology. Application must be made as prescribed above for admission to the third and fourth years' work. The following courses should be included:

CE 38-39-41—Structural Design (9 credits)

Arch 71-72-73—Building Technology (12 credits)

Arch 74-75-76—Building Technology (12 credits)

Arch 104—Planning (3 credits)

Arch 111-112-113—Architectural Design III (24 credits)

Arch 121-122—Architectural Design IV (18 credits)

Arch 123—Thesis (12 credits)

Arch 126—Professional Relations (3 credits)

Additional approved electives to make a minimum total of 282 credits for the 2 degrees

For detailed information about the individual subjects of study in this curriculum (course numbers and titles, credits, prerequisites, etc.) see Section II of this bulletin.

## C. SCHOOL OF BUSINESS ADMINISTRATION

The purpose of the prebusiness curriculum is to combine courses in liberal education with preliminary basic courses in business administration and economics. In recognition of the widening social responsibility of business management, the student is urged to elect courses in several fields outside of business administration and economics in addition to fulfilling the following requirements.

To be eligible for admission to the School of Business Administration, the student must present 90 credits, in addition to credits for physical education, earned in a recognized college or university with a scholarship average of C.

The School of Business Administration offers courses leading to the degrees of bachelor of science in business and bachelor of science in economics. Students preparing to enter the School in pursuit of either of these degrees must satisfy the following prebusiness requirements.

## Lower Division Requirements for Admission to the Programs Leading to the Degree of Bachelor of Science in Business

All applicants to the School of Business Administration must meet the following requirements:

### *Requirements for Admission*

(Credits shown in parentheses)

1. Business and Economics Courses—22 credits

BA 1—Business and the American Economy (3)

BA 5—Elements of Statistics (4)

BA 24-25-26—Principles of Accounting (9)

Econ 1-2—Principles of Economics (6)

2. Freshman English—9-15 credits

a. Engl A-B-C—Freshman Literature and Composition (15)

b. Engl 1A-2A-3A or 1B-2B-3B—Freshman English (12)

c. Comm 1-2-3—Communication (12)

d. GC 31A, B, and C or D—Writing Laboratory (if ranked in the upper one-third) (3 each)

e. Exemption from the requirement

3. Mathematics—5 credits

Math 10—College Algebra, or equivalent

Depending upon results of a mathematics placement test, Math X (0 cr) and/or Math Y (3-5 cr) may be prerequisites for Math 10.

4. Social Sciences—15 credits\*\*

In 2 or more of the following departments, with at least 5 credits†† taken in a department to meet this requirement: anthropology, geography, history, political science, psychology, and sociology (except Soc 45, Social Statistics, which is not acceptable in fulfillment of this requirement). SSci 1-2-3 and 5 credits in 1 of the above departments will satisfy this requirement.

5. Natural Sciences—8 credits\*\*

In a single natural science to be selected from the following areas: biology, botany, chemistry, geology, physics, zoology, NSci 4-5-6 (Physical World). All courses must include laboratory to meet this requirement.

6. Humanistic Courses—10 credits\*\*

From 2 or more of the following categories, with at least 5 credits†† to be taken in a department to meet this requirement: art, English literature, foreign literature, history, humanities, music, philosophy, speech and theater arts (except Spch 3, 6, 9, and 39), a foreign language. Literature credits received as part of the Freshman English courses will satisfy a portion of this requirement.

7. Electives to complete the minimum of 90 credits required for admission.

Students planning to enter the accounting program are required to complete the following courses in addition to the above: Comp 27, Advanced Writing; and Math 40A, Mathematical Analysis I.

## Lower Division Requirements for Admission to Sequences Leading to the Degree of Bachelor of Science in Economics

### *Economics Sequence*

These are the same as those for the B.S.B. degree (see above), except that BA 1 is not required. Minor modifications in these requirements may be made upon petition to the department chairman.

\*\* Courses in a department may be used to satisfy the requirements in only one area.

†† 4½ transfer credits will satisfy this requirement.

**Statistics Sequence**

Engl A-B-C or 1A-2A-3A or 1B-2B-3B or  
Comm 1-2-3—Freshman English (9-15)  
Math 40—Mathematical Analysis I (5)  
All courses prerequisite to Math 40  
BA 5—Elements of Statistics (4)  
19 credits in social sciences (including  
philosophy) and/or additional mathe-

tics. It is desirable that Math 53 be  
taken in sophomore year.  
BA 24-25-26—Principles of Accounting (9)  
(or) BA 55A-B—Elementary Accounting (8)  
Electives to complete the minimum of 90  
credits required for admission.

Recommended electives include modern language, history, political science, and Econ 40.

For detailed information about the individual subjects of study in this curriculum (course numbers and titles, credits, prerequisites, etc.), see Section II of this bulletin.

**D. SCHOOL OF DENTISTRY****Six-Year Dentistry Program**

The 6-year dentistry program consists of 2 years of prescribed liberal arts course work during which time students are registered in SLA and are subject to its regulations, plus 4 years in the School of Dentistry which then grants the degree of doctor of dental surgery (D.D.S.). At the end of the second year in dentistry, a bachelor of science (B.S.) degree is awarded to all students in good standing who formally request it. Prerdental course work can be begun at any time, but students are accepted into the School of Dentistry only during fall quarter.

**Requirements for Admission**

**General**—A minimum of 90 quarter credits (60 semester credits) from an accredited liberal arts college is required. Quality credits may not be used to decrease this requirement. The minimum scholastic average which may be considered is C, but acceptance is on a competitive basis and an average above C is usually necessary in order to achieve admission. Courses must include at least 12 quarter credits of English, 10 quarter credits of zoology or biology, 12 quarter credits of physics, 12 quarter credits of inorganic chemistry including semimicro qualitative analysis, and 8 quarter credits of organic chemistry to include both the aliphatic and aromatic series. Science courses must include both lecture and laboratory instruction. ROTC credits are acceptable, but credits in physical education, human anatomy, physiology, histology, and bacteriology are not acceptable as part of the 90 quarter credits required for admission. A maximum of 4½ quarter credits in religion and 3 quarter credits in ROTC is allowed as part of the 90 quarter credits.

At the University of Minnesota the requirements for admission to the School of Dentistry are met by the following 2-year course of study, provided algebra and plane geometry were taken previously in high school:

1. Engl 1B-2B-3B (12 qtr cr); or Comm 1-2-3 (12 qtr cr); or Engl A-B-C (15 qtr cr)
2. Biol 1-2 (10 qtr cr)
3. InCh 4-5, 11 (14 qtr cr)
4. OrCh 61-62 (8 qtr cr)
5. Phys 1-2-3 and 1A-2A-3A (12 qtr cr)
6. Especially recommended as electives, and listed in order of significance, are Math 10-40; AnCh 57; Zool 22, 83; Art 20; and Clas 24.
7. It is recommended strongly that at least 15 credits be taken in such liberal arts courses as anthropology, classics, economics, history, humanities, languages, philosophy, political science, psychology, and sociology.

The Committee on Admissions will give preference to those applicants who have high scholastic records in college; who make satisfactory scores on the dental aptitude test; who will have completed all course requirements by the end of the usual academic year previous to the desired date of admission; who, after having been granted a provisional acceptance, maintain an academic record of quality at least as good as the record at the time of the provisional acceptance; and who, in all other respects, give promise of becoming successful students and dentists of high standing.

**Dental Aptitude Test**—All applicants are required to take the Dental Aptitude Test. It is given three times each academic year, the last time being in April. A good time to take the test is during the first quarter of the sophomore year, or as soon as the courses in biology and inorganic chemistry have been completed. Many of the questions are specific and detailed, thus a careful course review prior to taking the test is advised. An application form and a brochure describing the test and listing the testing dates are available from the Office of Admissions and Records, 105 Administration Building, University of Minnesota, Minneapolis 14.

**Residence Requirements**—First choice is given to Minnesota residents, second choice to residents of neighboring states that do not have dental schools, and third choice to other nonresidents who have acceptable reasons for attending the University of Minnesota School of Dentistry. Nonresidents are accepted only if their scholarship has been outstanding and if their other qualifications indicate unusual promise for the study of dentistry and a career in science.

### Application Procedures

**General**—Application blanks can be secured from the Office of Admissions and Records, 105 Administration Building, University of Minnesota, Minneapolis 14. Applications should be filed between October 1 and April 15 of the academic year prior to the fall quarter the applicant desires to enroll in the School of Dentistry. While the closing date for application is April 15, early filing is encouraged since late application may be to the student's disadvantage. Applicants may be required to appear for a personal interview at the discretion of the Committee on Admissions.

### Seven-Year Program in Arts and Dentistry Leading to the Degrees of Bachelor of Arts (from SLA)\*\* and Doctor of Dental Surgery (from School of Dentistry)

Students in this combined course must complete all the distribution requirements of SLA and must earn 135 credits in SLA including the usual pre dental requirements. Of the 135 credits, 45 must be earned in residence in Upper Division and a minimum of 30 must be in Upper Division courses.

The SLA credits must include a minor and 15 Upper Division credits outside the major and minor areas. Since the major area is dentistry, courses in those departments closely related to medical sciences may not be used to fulfill the requirement of 15 outside credits. An average of C must be maintained in all University of Minnesota courses, in all transfer credits applicable to the B.A. degree, and in courses taken in residence in Upper Division.

During his third year the student elects work in Upper Division subject to the approval of the assistant dean for the Upper Division. The course work of the freshman and sophomore years in the School of Dentistry, exclusive of technical and practical work, when completed according to the standards required in that school,

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\*\* Restricted to students who have completed all of their required course work in SLA prior to entering the School of Dentistry.

counts as the equivalent of the fourth year (45 credits of the Arts program). The student is then eligible for the B.A. degree, and he becomes eligible for the D.D.S. degree in 2 more years.

### Program Leading to the Degree of Graduate Dental Hygienist and Bachelor of Arts

Students may enter the 2-year dental hygiene program in the School of Dentistry either as freshmen or upon transfer from some other college. When they have completed this program as specified in the *Bulletin of the School of Dentistry*, with a C average, they may enter the Arts College.

To receive the bachelor of arts degree, in addition to the dental hygiene degree (G.D.H.), students must fulfill the distribution requirements listed on pages 7 and 8 of this bulletin and the graduation requirements listed on pages 10 to 12. Liberal arts courses taken while in the School of Dentistry or elsewhere may be applied toward these graduation requirements. Usually 3 additional years of work are required, depending on amount of other work taken here or elsewhere.

For detailed information about the individual subjects of study in this curriculum (course numbers and titles, credits, prerequisites, etc.) see Section II of this bulletin.

## E. COLLEGE OF EDUCATION

All students who want to receive a state teacher's certificate upon graduation from the University of Minnesota must be graduates of the College of Education. In many cases students register in that college at the beginning of their junior year. In certain 4-year and 5-year curriculums, however, they should register in the College of Education at the beginning of their freshman year or as soon thereafter as they have made their curriculum choice. All of these curriculums (art, business and distributive, industrial, music, physical education, and recreation leadership) are described in the *Bulletin of the College of Education*.

Students preparing to enter the elementary and the nursery-kindergarten-primary (NKP) curriculums take the first year in pre-education study in SLA. During the first year the student is expected to complete a minimum of 45 quarter credits including 30 credits selected from courses in freshman English, sociology or social science, geography, and natural science. Other recommended courses in the first year are history, political science, public health, music, and physical education.

Students preparing to teach academic subjects in high school take the first 2 years in SLA. They should secure a copy of the *Bulletin of the College of Education* and have an adviser in that college at the beginning of the sophomore year. To qualify for the state high school standard certificate they must have 1 major and 1 or more minors in subjects commonly taught in high schools. The selection of suitable majors, minors, and the most desirable combinations of subjects is very important in securing a high school teaching position. Counselors in the Student Personnel Office of the College of Education will help the student in making such selection and will also furnish information in regard to the current demand for teachers in the various fields and the possibility of future placement.

The College of Education offers majors in the following areas: core curriculum, economics, English, French, geography, German, history, language arts, Latin, mathematics, natural science, physical science, political science, Russian, Spanish, sociology, speech and speech pathology. Minors may be completed in journalism, library science and school health education as well as in most of the areas listed for majors. The specific requirements for the different majors and minors are given in Section II of this bulletin and also in the *Bulletin of the College of Education*. Special combinations

of majors and minors are provided in the language arts and natural sciences and a minor combination is provided in the social studies curriculum.

### General Requirements for Transfer to the College of Education

The following general requirements must be satisfied by students who are preparing to teach academic subjects in high school and who regularly enter the College of Education at the beginning of the junior year and by those students who are preparing to enter elementary and NKP curriculums in the College of Education at the beginning of their sophomore year.

1. A minimum of 90 quarter credits for majors in academic subjects or 45 quarter credits for students in the elementary and NKP programs, carried with an average of 2 grade points per credit (C average). Quality credits are awarded in accordance with SLA policy.
2. For students who are preparing to teach academic subjects in high school, a minimum of 15 credits in a major field carried with an average of 2½ grade points per credit (C+ average), and at least 10 credits in a minor field are necessary for admission. In the case of those individuals taking broad field majors, the minors may be in subdivisions of the broad field major. No comparable requirement exists for majors in elementary and NKP.
3. Students preparing to teach academic subjects in high school must have completed 6 credits in general psychology (Psy 1-2); PubH 5 or 50 or equivalent; and physical education (3 credits for men, 5 credits for women) selected from the nonprofessional physical education courses.
4. At the time of entrance to the College of Education a student must present a certificate from the University Health Service indicating that he is free from physical defects or health conditions that would prevent the successful pursuit of educational work, and a certificate from the Speech and Hearing Clinic that he meets the speech requirements for teaching.
5. At the time of applying for transfer to the College of Education, the student also must complete the necessary clearances including certain psychological tests and interviews.

### Distribution Requirements for Students Transferring to the College of Education

In addition to the general requirements listed above, students preparing to teach academic subjects in high school must have met distribution requirements under 1 of 2 optional plans described in Section I of the *Bulletin of the College of Education*.

1. Plan I calls for 12 to 15 credits of English or communication; 0 to 20 credits of foreign language (depending on high school background); 10 to 12 credits of social science; and 10 to 15 credits of natural science (other than psychology or math)
2. Plan II includes 12 to 15 credits of English or communication; 18 credits of social science from at least 2 fields; 18 credits of natural science from at least 2 fields, 9 of which must be with laboratory (excluding psychology laboratory); and 18 credits in humanities from at least 2 fields.

Students planning to enter the elementary and NKP programs must have completed 45 quarter hours of credit including 30 credits in freshman English, sociology or social science, geography and natural science.

Students should consult the *Bulletin of the College of Education* for full details on the above plans. Those with 2 years of college work who have not fulfilled all entrance requirements may consult with the Committee on Student Scholastic Standing of the College of Education, 206 Burton Hall, for individual consideration.

The above requirements do not apply to students in the speech pathology curriculum. Students desiring this program should consult the *Bulletin of the College of Education* for requirements and should confer with the adviser early in their course.

### Application Procedures

1. Apply for admission to the College of Education at the college transfer window (window 5) in the Administration Building early in the third quarter of the



freshman year for those students preparing to enter the elementary and NKP programs and early in the third quarter of the sophomore year for those preparing to teach academic subjects in high school. This allows sufficient time to schedule psychological tests, speech and health examinations prior to registration for the next quarter.

2. Complete the clearances as outlined on the clearance form that is issued when application for transfer is made.

3. At any time students may talk with a staff member in the Student Personnel Office, 206 Burton Hall, about entrance requirements, arrangements for transfer, educational and vocational information, or choice of a career in teaching.

### Combined Program in Arts and Education Leading to the Degrees of Bachelor of Arts (from ~~SEA~~) and Bachelor of Science (from the College of Education)

For students who qualify, the ~~College of Science, Literature, and the Arts~~ and the College of Education provide an opportunity for joint registration in a program leading to the B.A. and B.S. degrees. To earn both degrees, the student must complete the requirements of both colleges and must spend 1 year of Upper Division residence in each college. The total time required is but little more than 4 years if the student enters it at the beginning of the junior year. For information on eligibility and the procedures for application, consult the Upper Division office (223 Johnston Hall) or the College of Education (206 Burton Hall). 223

## F. LAW SCHOOL

### Requirements for Admission and for the Combined Degree in Arts and Law

The Law School offers the professional degree of bachelor of laws (LL.B.) which qualifies one for bar examinations and admission to practice. The course of study in the Law School consists of 3 years plus 15 quarter credits of law usually taken in 1 summer after the first or second year.

Admission to the Law School requires:

1. A bachelor of arts degree or its equivalent; or
2. Completion of a special 3-year course in the College of Science, Literature, and the Arts. The 3 years of college work must include the following:
  - a. Completion of 135 of the credits (not including quality credits) required for a B.A. degree. Forty-five of these credits must be in residence in the Arts College of this University.
  - b. Completion of the college cultural distribution or breadth requirements. At Minnesota this includes the Lower Division distribution plan and 15 Upper Division credits outside the student's major department.
  - c. Completion of the college requirements for a "major" in the department of the student's choice. (There is no requirement of a minor.)
  - d. Completion of a course in advanced English composition.
  - e. Completion of two substantial papers involving independent research at the Upper Division level, either as a part of the requirements of a course or as an independent research assignment.
  - f. Satisfaction of SLA English proficiency requirement.

After successful completion of the first year of Law School, the student admitted under the special 3-year course will receive the B.A. degree from the Arts College with law as the minor. A student who attends his first 2 years of college elsewhere may qualify under this 3-year prelaw program by transferring to the Arts College

of this University for his third year, provided he has planned his program carefully in his first 2 years.

The Law School recommends completion of the regular 4-year college program before entering Law School. The 3-year liberal arts program is made available for those whose financial or military obligations make a 7-year combined college-law program too great a hardship. But the student with a well planned 4-year college program is better prepared, both for law studies and for the practice of law, than one who enters the Law School after 3 years of college. Twice as much advanced, Upper Division work ordinarily results in a student better qualified for the independent critical thinking required in the Law School and in a lawyer better educated for his private and public responsibilities.

Details with respect to admission requirements and the Law School program may be found in the *Bulletin of the Law School*. Attention is directed to the fact that a student's prelaw scholastic record and the results of the Law School Admission Test given by the Educational Testing Service at Princeton, New Jersey, will be considered in determining his admissibility. This test is given in February, April, August, and November of each year at the University of Minnesota as well as at numerous other test centers throughout the world. Students should plan to take the test in November or February of the year before they make application to the Law School. Information pamphlets and application blanks for the test are obtainable from the office of the dean at the Law School; from the Student Counseling Bureau, 101 Eddy Hall, University of Minnesota, Minneapolis 14; or from the Educational Testing Service, 20 Nassau Street, Princeton, New Jersey.

## G. COLLEGE OF MEDICAL SCIENCES

The principal curriculums offered in the College of Medical Sciences are the following: medicine, nursing, medical technology, physical therapy, and occupational therapy. Each affords training for a different profession and the requirements of each course should be read carefully.

### 1. *Curriculum in Medicine* \*\*

There are two 7-year courses of study which lead to the degree of doctor of medicine. Both require 3 full years of college work (135 credits exclusive of quality credits) which must include the courses prescribed for admission to the Medical School. In the first course the student may freely choose elective subjects to make up the total of 135 credits. He will receive the degree of bachelor of science after he completes 2 years of work in the Medical School. In the second of the 2 courses, the student must meet the requirements for admission to the Upper Division of SLA which he should enter, normally, after 2 years of residence in the Lower Division. His program for the third year must be submitted for approval to the assistant dean for the Upper Division. He will receive the degree of bachelor of arts after he completes satisfactorily 1 year of work in the Medical School.

**Residence**—First choice is given to residents of Minnesota, second choice to residents of neighboring states that do not have medical schools, third choice to

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\*\* Students who desire to receive a college degree before entering the Medical School must include all of the required premedical subjects in the "Course Leading to the Degree of Bachelor of Arts" for which the requirements are stated on pages 10 to 12. They may find it to their advantage to take the course with an interdepartmental major rather than a major in one department. (See page 11.)

other nonresidents who have acceptable reasons for attending here. Nonresidents are accepted only if their scholarship has been outstanding and other qualifications indicate that they have unusual promise for the study of medicine or a career in science.

**Program Plans**—Because of the large number of applicants to the Medical School and the consequent high percentage of students failing to be admitted although they may meet the minimum entrance requirements, all premedical students are urgently advised to plan their 3 years of premedical work in such a way that, in case they are not admitted to the Medical School, they may still proceed toward a degree in some other college without undue loss of time. They should consider this possibility from the first quarter of their registration in the University.

### Seven-Year Course in Science and Medicine Leading to the Degrees of Bachelor of Science (from Medical School) and Doctor of Medicine (from Medical School)

The minimum requirements in order to be considered for admission to the Medical School are 3 full years of college work, amounting to 135 credits, with a scholarship average of C. At the present time, because of the large number of applicants, an average well above C is usually necessary in order to achieve admission.

The premedical work, for which the student is registered in SLA, must include the following required courses or their equivalent as approved by the Admissions Committee of the Medical School.

#### Required Courses

**English:** Engl A-B-C—Freshman Literature and Composition (15 credits), or Engl 1A-2A-3A—Freshman English (12 credits), or Engl 1B-2B-3B—Freshman English (12 credits), or Comm 1-2-3—Communication (12 credits), or exemption from the requirement

**Biology:** Biol 1-2-3—General Biology (10 credits) and Zool 83—Introduction to Genetics and Eugenics (3 credits)

**Chemistry:** InCh 4-5, 11 or equivalent—Inorganic Chemistry (14 credits); AnCh 57—Quantitative Analysis (4 credits); OrCh 61-62—Elementary Organic Chemistry (8 credits)

**Physical Chemistry:** PCh 107-108 or equivalent

**Mathematics** (as a prerequisite for physics): Math Y—Higher Algebra and Math T—Trigonometry, taken in high school or college (for credits see page 102); Math 10—College Algebra (5 credits) and Math 40—Mathematical Analysis I (5 credits) or equivalent including trigonometry and college algebra

**Physics:** Phys 4-5-6—General Physics (15 credits; prereq Math 40 or ¶40 or comparable mathematics, ††)

**Humanities, Social Sciences, and Liberal Arts** (27 credits). These course credits must include Psy 1-2, General Psychology (6 credits). Other courses are to be selected for the student's individual program from liberal arts subjects such as anthropology, classics, economics, geography, history, modern languages, philosophy, sociology or other courses in the social sciences, or humanities, or both.

It is suggested that the 3 years of work should be distributed as follows:

**First year**—InCh 4f-5w, 11s (14 credits); Biol 1f-2w-3s (10 credits); Engl Af-Bw-Cs (15 credits) or Engl 1Af-2Aw-3As (12 credits) or Engl 1Bf-2Bw-3Bs (12 credits) or Comm 1f-2w-3s (12 credits); Math Y, T, 10 and 40 taken according to placement tests in freshman year if possible.

**Second year**—OrCh 61f-62w and AnCh 57s (12 credits); Phys 4f-5w-6s (15 credits); Psy 1f-2w or 1w-2s (6 credits); social science (12 credits); Math 40f if not taken during the freshman year.

†† Students matriculated in schools other than the University of Minnesota must complete a physics sequence comparable to the above: i.e., a physics course for which trigonometry and college algebra are prerequisites.

Third year—PCh 107f-108w (6 credits); humanities (9 credits); Zool 83f or 83s (3 credits); and electives chosen in conference with an adviser.

### *Elective Courses*

The Admissions Committee will show preference for the applicant who has displayed a well-developed interest in, and aptitude for, a special field of knowledge.

Prospective applicants are usually encouraged to concentrate their electives in one or another of the humanities or social sciences in order to broaden the base of their liberal arts education as the required premedical courses provide a concentration in the physical and biological sciences. By the nature of Medical School education there is additional concentration in science courses and little time for pursuit of general or special liberal arts subjects. The College of Medical Sciences, therefore, encourages students to acquire an understanding of social and cultural matters before entering on their medical studies. It is usually undesirable, from this point of view, for the premedical students to select elective courses exclusively in the physical and biological sciences. Exceptions will be made for the student whose special interest and aptitude lead him toward a science major. All prospective applicants are urged to take advantage of a fourth year of college work in pursuit of either general or specialized education before entering Medical School.

Although a reading knowledge of a modern foreign language is not a requirement for admission it is recommended, especially for students interested in medical research or in graduate medical training.

Application forms may be obtained from the Office of Admissions and Records after May 1, along with detailed instructions for filing the application. The Medical College Admissions Test (MCAT) and a variety of special tests are required of all applicants. The completed application must be filed about 12 months before the student plans to enter medical school. Two official college transcripts must accompany the application.

The Medical College Admissions Test is given twice each year, in early May and late October, at designated test centers including the University of Minnesota. This test is given under the auspices of the Association of American Medical Colleges by the Psychological Corporation, 304 East 45th Street, New York 17, New York. Each applicant is required to pay a \$15 fee to the Psychological Corporation and students must register for the test at least 2 weeks before the examination is to be given.

The Minnesota battery of tests is administered at the Student Counseling Bureau and other test centers. Arrangements should be made by the student for these tests.

A report of physical examination and current health status is also required and is to be filed with the completed application. This health report is to be filled in by the University Health Service of the college.

Letters of reference will be solicited by the College of Medical Sciences from the list of names provided by the applicant. Students should list persons who have direct knowledge of the applicant and of his personal qualifications for medical study and a career in professional medicine.

The work which is credited as the fourth year in candidacy for the degree of bachelor of science is taken in the Medical School. To earn this degree, a student must have completed satisfactorily the first 2 years of the medical course.

Students who have completed elsewhere 3 or more years of collegiate or university work which includes the required subjects specified above and which is in other respects the full equivalent of the 3 years of academic work required in this 8-year course will be awarded the degree of bachelor of science on recommendation of the faculty of the Medical School, provided they meet the scholarship requirements stated above.

The foregoing regulations governing the quality and amount of premedical training required for admission to the Medical School will apply for those who present the minimum amount of work. In cases of mature and superior students, especially those who have taken degrees and have a record of outstanding accomplishment in some special field of study, even though it may not have been closely related to medicine, concessions may be made. Such cases will be considered individually by the Admissions Committee upon petition to the dean of the College of Medical Sciences.

A broad, general education is considered fundamental to medical study, but no student can pursue the medical course to advantage without adequate knowledge of biology, chemistry, and physics. Therefore, no substantial amount of the credits required in these premedical subjects is likely to be waived by the Admissions Committee.

### **Seven-Year Course in Arts and Medicine, Leading to the Degrees of Bachelor of Arts (from SLA) and Doctor of Medicine (from Medical School)**

This course requires 3 years of college work and 4 years in Medical School. The first 2 years of college work may be taken in any accredited college, but the third year (45 credits) must be taken in the Upper Division of SLA of this University.

Students in this combined course must complete the distribution and English proficiency requirements of the Arts College (except Item F, Public Health) and must earn 135 credits in SLA including the usual premedical requirements (see page 175.)\*\* Of the 135 credits, 45 must be earned in residence in Upper Division, a minimum of 30 must be in Upper Division courses and the program must be approved by a premedical adviser. The SLA credits must include a minor and 15 Upper Division credits outside the major and minor areas. Since the major area is medicine, courses in those departments closely related to medical sciences may not be used to fulfill the requirement of 15 outside credits. An average of C must be maintained in all University of Minnesota courses, in all credits applicable to the B.A. degree (including transfer credits), and in courses taken in residence in Upper Division. The first year of the course in the Medical School, when completed with the standards required by that school, counts as the equivalent of the fourth year (45 credits) of the Arts course.

### **Combined Medical-Graduate Programs**

A combined medical-graduate study program is available to certain highly qualified students with interest in graduate study in one of the basic medical sciences (anatomy, bacteriology, pharmacology, physiological chemistry, or physiology). Under this program, a student may pursue, over an extended period, both the curriculum leading to the M.D. degree and a graduate study program in one of the stated areas. In some cases, stipend support may be provided for the graduate portion of the program. Students interested in this program or in graduate study in one of the basic medical sciences are encouraged to schedule, whenever so advised by departmental advisers, more advanced courses in biology, chemistry, mathematics, and physics than those indicated as minimum requirements for admission to the Medical School. Furthermore, reading competence in one or more foreign languages is exceedingly important for students in graduate study in medical sciences.

\*\* For recommended electives and the restrictions governing them, see page 175.

To qualify for the combined medical-graduate program, a student must be accepted for admission to the Medical School and to the Graduate School, and his program of study must be approved by the Committee on Combined Medical-Graduate Programs of the College of Medical Sciences. Students wishing to explore a combination of graduate study in a basic medical science with the medical curriculum are encouraged to consult the office of the dean of the College of Medical Sciences, 1360 Mayo Memorial, and a faculty adviser in one of the basic medical science departments.

## 2. Curriculum in Nursing ††

The curriculum in basic professional nursing leading to the degree of bachelor of science is a 4-year program, 1 year of which may be taken in the Arts College or any other accredited university, college, or junior college. This program, open to both men and women, prepares for first-level positions in all fields of professional nursing. To be eligible for admission to the School of Nursing, students must have completed certain requirements in general education satisfactorily, and must give evidence that they are able to pursue more advanced study. Graduates of a Bachelor's degree program from an accredited college or university are also eligible for admission, and those who do not meet specific requirements are considered for admission on an individual basis.

The curriculums of the School of Nursing are being revised, and students interested in qualifying for admission are urged to seek current information by writing to the School of Nursing or making an appointment to discuss their program with faculty members of the School of Nursing.

An adviser from the School of Nursing faculty is assigned to prenursing students enrolled in the Arts College. Before registering each quarter, students should have their programs reviewed by their adviser in the School of Nursing, 124 Millard Hall.

Students from other universities or colleges may transfer to the University of Minnesota. Those who wish to enroll in another college or university for the first year are urged to contact the School of Nursing before beginning their program elsewhere.

After admission as a sophomore student to the School of Nursing, the student continues to take general education courses and starts courses in clinical nursing. In the total program, there is an approximate half and half balance of general education courses and courses in nursing or related areas. For further information about this portion of the program see the *Bulletin of the School of Nursing*.\*\*

## 3. Curriculum in Medical Technology

The program in medical technology is a 4-year course given in the Arts College and in the College of Medical Sciences. The degree of bachelor of science is awarded upon completion of the prescribed curriculum.

The first 2 years are spent in the Arts College. After completing 90 credits, including the required courses, with a C average, the student is eligible for admission to medical technology (that is, for registration in the College of Medical Sciences). The total number of required credits may be reduced in accordance with the quality

\*\* By action of the State Legislature, scholarships have been established for nursing students who are residents of Minnesota. Anyone interested should inquire at the office of the School of Nursing, 125 Owre Hall.

†† For advanced professional and practical nursing curriculums, see the *Bulletin of the School of Nursing*.

credit rule of the Arts College. The entire fourth year (12 months) is spent in a rotating practical service in the laboratories of the University Hospitals.

The following courses or their equivalents are prerequisites for admission to the junior year:

Engl A-B-C—Freshman English and Composition (15 credits) or Engl 1A-2A-3A or 1B-2B-3B—Freshman English (12 credits) or Comm 1-2-3 (12 credits) or exemption from the requirement

InCh 4-5, 11—General Inorganic Chemistry and Semimicro Qualitative Analysis (14 credits)

AnCh 57—Quantitative Analysis (4 credits)

OrCh 61-62—Elementary Organic Chemistry (8 credits)

Biol 1-2-3—General Biology (10 credits)

Zool 54—Histology (5 credits)

Anat 4—Elementary Human Anatomy (5 credits)

Math Y—Higher Algebra (for credits see page 102)

Phys 2-3—Introduction to Physical Science (6 credits)

Micb 53—General Bacteriology (5 credits)

MedT 10-11-12—Orientation in Medical Technology (3 credits)

MedT 30-31-32—Case Presentations (3 credits)

Electives—there is no essential limitation to the subjects which may be chosen as electives

The *Bulletin of the Division of Medical Technology*, which may be obtained at the Office of Admissions and Records, contains a suggested program for the first 2 years. For further information the student should consult special advisers in the Medical Technology office, C-205 Mayo Building (telephone: Federal 9-7311, extension 2601).

Advisers—All students in this course should consult advisers in the Medical Technology office, C-205 Mayo Building. Registration each quarter must be reviewed by one of these advisers.

#### 4. Course in Physical Therapy

The course in physical therapy is a 4-year course leading to a bachelor of science degree in physical therapy. The first 2 years are spent in the Arts College during which time the studies are mainly in the basic sciences. The last 2 years are spent in the College of Medical Sciences, Department of Physical Medicine and Rehabilitation. To be eligible for entrance into the junior year the student must complete 90 credits, including the required courses or their equivalents, with a C+ average in the basic sciences.

Physical medicine is that part of medical science concerned with the diagnosis and treatment of disease or injury by physical means. The treatment techniques are carried out by trained personnel called physical therapists who work under the direct medical supervision of a physician. Physical therapy includes the use of heat, cold, light, water, electricity, massage, exercise, and the teaching and training of patients in a rehabilitation program. The student must complete a minimum of 600 hours of clinical practice in the physical therapy departments of various affiliated hospitals.

The following courses or their equivalents are prerequisites for admission to the junior year:

Engl A-B-C—Freshman Literature and Composition (15 credits) or Engl 1A-2A-3A—Freshman English (12 credits) or 1B-2B-3B—Freshman English (12 credits) or Comm 1-2-3 (12 credits) or exemption from the requirement

InCh 4-5—General Inorganic Chemistry (10 credits)

Biol 1-2-3—General Biology (10 credits)

Phys 1-2—Introduction to Physical Science (6 credits) or GC 7A—Physical Science: Elements of Physics (5 credits)

- Anat 4—Elementary Anatomy (5 credits)  
 Phsl 51—Human Physiology (6 credits)  
 Psy 1-2—General Psychology (6 credits) plus 3 additional credits in psychology (CD 80—Child Psychology [3 credits] is acceptable)  
 Social sciences (10 credits)—humanities, history, sociology and other social sciences are acceptable.  
 PubH 3 and 4—Personal Health and Health Problems of the Community (4 credits) or PubH 50—Personal and Community Health (3 credits)  
 PMed 2A—Orientation to Physical Therapy (1 credit)  
 Sufficient electives to make a total of 90 quarter credits.

**Advisers**—All students in this course should consult advisers in the Physical Therapy office, 860 Mayo Building (telephone: Federal 9-7311, extension 2721). Registration must be approved by a physical therapy adviser each quarter. For more detailed information see the *Bulletin of the Department of Physical Medicine and Rehabilitation*.

### 5. Course in Occupational Therapy

The course in occupational therapy is a program of 4 academic years plus 1 quarter which is given in the Arts College and in the College of Medical Sciences. The degree of bachelor of science in occupational therapy is awarded upon completion of the prescribed curriculum.

The first 2 years are spent in the Arts College. After completing 90 credits and the required courses of the first 2 years with a high C average, the student is eligible for admission to the course in occupational therapy in the College of Medical Sciences, Department of Physical Medicine and Rehabilitation. Nine months are spent in clinical training in various types of hospitals and institutions for the sick and handicapped during the senior year.

The following courses or their equivalents are prerequisites for admission to the junior year:

- Engl A-B-C—Literature and Composition (15 credits) or Engl 1A-2A-3A—Freshman English (12 credits) or Engl 1B-2B-3B—Freshman English (12 credits) or Comm 1-2-3 (12 credits) or exemption from the requirement  
 Biol 1-2-3—General Biology (10 credits)  
 Hum 21-22—American Life I and II (6 credits)  
 Anat 4—Elementary Anatomy (5 credits)  
 Psy 1-2—General Psychology (6 credits)  
 Soc 1—Man in Modern Society (3 credits)  
 Phsl 4—Human Physiology (4 credits)  
 Art 1—Principles of Art (5 credits)  
 ArEd 53-54—Weaving (6 credits)  
 CD 80—Child Psychology (3 credits)  
 Physical education (1 credit)  
 PMed 1—Introduction to Occupational Therapy (1 credit)  
 PMed 4—Orientation to Occupational Therapy (2 credits)  
 PMed 5—Therapeutic Recreation (2 credits)  
 PubH 3—Personal Health (2 credits)  
 GC 7C—Physical Science: Elements of Chemistry (5 credits)  
 Ind 1—Handicrafts (3 credits)  
 Ind 2—Wood Processing I (3 credits)  
 Ind 15—Graphic Arts I (3 credits)

For more detailed information the student should consult a special adviser in the Occupational Therapy office, 860 Mayo Building (telephone: Federal 9-7311, extension 2721). See *Bulletin of the Department of Physical Medicine and Rehabilitation*.



**Advisers**—All students in this course should consult a special adviser in the Occupational Therapy office and have their programs reviewed each quarter. This applies to students who are still in the Arts College.

For detailed information about the individual subjects of the study in these curriculums (course numbers and titles, credits, prerequisites, etc.) see Section II of this bulletin.

## H. COLLEGE OF PHARMACY

The College of Pharmacy offers the professional degree of bachelor of science in pharmacy (B.S. in Pharm.) which is one of the qualifications for examination for licensure as a registered pharmacist.

The first year of the 5-year curriculum (prepharmacy year), offered to students enrolled in the Arts College, is required for admission to a 4-year program of professional study in the College of Pharmacy. The prepharmacy year must include specified courses and elective credits as follows:

InCh 4-5-11 (14 credits)  
Math 10-T (8 credits)

Comm 1-2-3 (12 credits)  
Electives (6-8 credits)

Students enrolled in the Arts College for the prepharmacy year usually take, in addition to the above courses, PhmT 1A-1B-1C (3 credits).

Students who have completed 2 or more years in SLA may be eligible for admission to a 3-year program of professional study in the College of Pharmacy provided they have also taken the following courses required in the pharmacy curriculum:

Biol 1-2 (10 credits)  
Phys 1-2-3 (9 credits)  
Phys 1A-2A-3A (3 credits)  
Econ 1-2 (6 credits)

BA 24-25 (6 credits)  
OrCh 61-62 (8 credits)  
Electives (6 credits)

The College of Pharmacy and the School of Business Administration offer an optional combined course requiring, in addition to the courses of the pharmacy curriculum, 55 additional credits in business administration and economics and leading to the degrees of bachelor of science in pharmacy (B.S. in Pharm.) and bachelor of science in business (B.S.B.).

Admission to the College of Pharmacy is based upon the earned grade point average in the prepharmacy studies. A grade point average of 2.5 (C+) or above assures admission. Applicants with grade point averages below 2.5 will be considered individually. Application forms are available at the Office of Admissions and Records or at 115 Appleby Hall, and should be addressed to the Office of Admissions and Records.

An over-all C average in courses taken while enrolled in the College of Pharmacy is required for graduation. In addition, all candidates for the degree of bachelor of science in pharmacy are required to pass a comprehensive examination covering the professional studies in the College of Pharmacy.

## I. SOCIAL WORK

Professional study in the School of Social Work, which is a part of the Arts College, is at the graduate level. The recommended preprofessional program is Sequence B of the Department of Sociology which is described on page 151 of this bulletin. However, admission is not limited to those who complete the recommended Sequence B. For entrance requirements see the *Bulletin of the Graduate School* and the special *Bulletin of the School of Social Work*.

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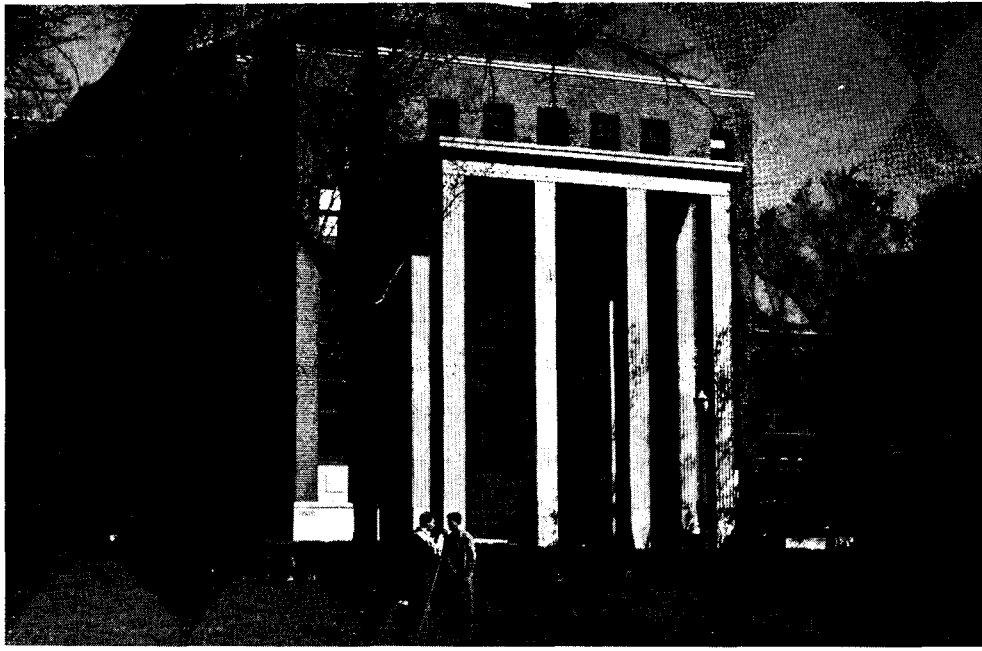
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*Bulletin of the*

**UNIVERSITY OF MINNESOTA**



*School of Social Work 1961-1962*

# UNIVERSITY OF MINNESOTA

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Edward Francel, Ph.D., Associate Professor of Social Work  
Francis Guzie, M.S.W., Lecturer in Social Work  
William Hall, M.S.W., Instructor in Social Work and Public Health  
Lydia M. Hermann, M.S., Assistant Professor of Social Work and Psychiatric Social Worker, University Health Service  
Philip Hovda, M.S.W., Lecturer in Social Work  
Dagny Johnson, M.S.W., Lecturer in Social Work  
John C. Kidneigh, M.A., Professor of Social Work and Director of School of Social Work  
Gisela Konopka, M.S.S.A., D.S.W., Professor of Social Work  
Helen Kretchmer, M.A., Medical Social Work Supervisor and Assistant Professor of Social Work, University Hospitals  
Lawrence Merl, M.S.W., Lecturer in Social Work  
Mayo K. Newhouse, M.S.W., Associate Professor of Social Work  
Anne Winslow Oren, Ph.D., Associate Professor of Social Work  
Ruby Pernell, M.S.S.A., Ph.D., Professor of Social Work

Ida Rappoport, M.S.W., Lecturer in Social Work  
 Henriette E. Saloshin, M.S.W., Ph.D., Professor of Social Work  
 Lyndell Scott, Ph.D., Professor of Social Work  
 Margaret Steen, M.S.W., Instructor in Social Work  
 Daniel Weiner, Ph.D., Lecturer in Clinical Psychology  
 Dorothy Whitmore, M.A., Professor of Social Work  
 Helen J. Yesner, M.S.W., Associate Professor of Social Work

### Other Faculty

Gaylord W. Anderson, M.D., Dr.P.H., Professor of Public Health  
 Miriam Andrus, M.A., M.S.W., Clinical Assistant Professor of Social Work; Chief, Social Services, Veterans Administration Hospital  
 Joyce Lewis, M.D., Lecturer in Social Work  
 Hyman S. Lippman, M.D., Ph.D., Clinical Professor of Pediatrics and Psychiatry; Director, Amherst Wilder Child Guidance Clinic, St. Paul  
 Sue Mason, M.S.S., Clinical Assistant Professor of Social Work; Chief, Social Services, Veterans Administration Regional Center  
 Elio D. Monachesi, Ph.D., Professor and Chairman, Department of Sociology  
 Werner Simon, M.D., Lecturer in Psychiatry

### Field Work Agencies

Amherst Wilder Child Guidance Clinic	Jewish Family Service (St. Paul)
Capitol Community Center	Lutheran Welfare Association
Children's Service, Inc.	Margaret Barry House
Edward F. Waite Center	Minnesota Department of Public Welfare
Elizabeth Kenny Institute	Northeast Neighborhood House
Emanuel Cohen Center (Minneapolis)	Pillsbury Citizens Services
Family and Children's Service (Minneapolis)	Ramsey County Welfare Board
Family Service, Inc. (St. Paul)	St. Paul Board of Education
Hallie Q. Brown Community House	University of Minnesota Hospitals
Hamm Foundation Clinic	Urban League
Hennepin County Court Services	Veterans Administration Hospital
Hennepin County Welfare Board	Veterans Administration Regional Office
Jewish Community Center (St. Paul)	Washburn Memorial Clinic
Jewish Family and Children's Service (Minneapolis)	Wells Memorial Community Center
	Young Women's Christian Association

# *School of Social Work*

## GENERAL INFORMATION

### Education for Social Work

In the problem-solving continuum which is life for individuals, groups and communities, social work is a professional service enabling a solution for problems that fall within the area of personal, person-to-person, and person-to-environment relationship adjustments. This expanding field of professional service demands competently trained personnel. With our rapidly changing world the need for skilled social work increases and the responsibilities of the worker increase and call for ability, skill, and integrity of the highest order.

Social work services touch all sorts and conditions of people, including children needing protection, guidance, or placement, families in trouble, persons in need of medical or psychiatric help, and groups in need of informal education and recreation. Communities as well as individuals have suffered from abnormal conditions and shifting of populations and have become more conscious of the importance of social welfare organizations.

Social workers facing such wide and varied responsibilities need very broad understanding, sound judgment, and thorough professional education. At this University, education for social work is offered on these levels: (a) undergraduate study, which includes a broad range of social sciences, and some courses of primarily informational nature which deal directly with social work; (b) 2 years of graduate social work study which includes basic technical social work theory courses and field work practice under tutorial supervision and research culminating in the Master's degree; and (c) after at least 3 years of successful social work practice experience following the Master's degree, 2 additional years of graduate study and research leading to the Ph.D. degree.

### Undergraduate Curriculum

The undergraduate curriculum, offered in the College of Science, Literature, and the Arts, with participation by the faculty of the School of Social Work, affords the fundamentals of a broad, modern education, focused toward social problems and an approach to social work. It furnishes the foundation upon which graduate professional education for social work is built.

The stated purposes of the preprofessional sequence outlined below are (a) to prepare students for graduate professional education in social work by providing a broad base of liberal education including the social sciences; and (b) to provide for those students whose Bachelor's degree is a terminal point of formal education an educational experience which will better equip them for citizen interest and participation in social welfare matters as a part of preparation for good citizenship. These two objectives do not preclude the possibility of employment in social welfare agencies for students who have completed the sequence but do not go on to graduate professional social work education.



The following undergraduate course of study is recommended but not required for those who desire a 4-year course and for those who expect to do graduate study in the School of Social Work. (See Admission Requirements outlined on following pages.) The organization of the course aims to give the undergraduate the fundamentals of a broad, modern education.

**Lower Division**—The work of the first 2 years, taken in the Lower Division, consists of the regular academic requirements and fundamental courses in sociology, psychology, and political science. The requirements for admission to the Upper Division are given under the heading "Lower Division Programs for Entering the Upper Division" in the *Bulletin of the College of Science, Literature, and the Arts*. The specific subject requirements for the first 2 years are set forth in that bulletin and must include the following courses in the 2 years' work:

(Credits shown in parentheses)

Required	Recommended Electives
Soc 1 and 3—Introduction to Sociology (6)	Anth 2—Introduction to Anthropology (5)
Soc 45—Social Statistics (5)	Art 1—Principles of Art (4)
Pol 1-2 or 5—American Government and Politics (6 or 5)	Comp 27-28—Advanced Writing (6)
Psy 1-2—General Psychology (6)	Geog 4—Human Geography (5)
	Hist 1-2-3—Civilization of the Modern World (9)
	Phil 1-2-3—Problems of Philosophy, Logic, Ethics (15)
	Phil 40—Logic of Scientific Reasoning (3)
	Spch 5-6—Fundamentals of Speech (10)

**Upper Division**—The work of the junior and senior years is subject to the requirements of the course leading to the degree of bachelor of arts which are given under the heading "Requirements in the Upper Division" in the *Bulletin of the College of Science, Literature, and the Arts* with this exception:

The requirements of a major sequence and 1 or 2 minors are replaced by the following interdepartmental sequence:

1. Personality Development and Individual Behavior

(Credits shown in parentheses)

Required	Recommended Electives
C.D 80—Child Psychology (3)	PubH 57—Health of Infant and Child (2)
Psy 144-145—Abnormal Psychology (6)	CD 131—Personality, Emotional, Social Development (3)
	CD 132—Later Childhood and Adolescence (3)
	EPsy 159—Personality Development and Mental Hygiene (3)
	Psy 114—Human Behavior (3)
	Psy 125-126—Psychology of Individual Differences (6)

2. Intellectual and Ethical Forces Affecting Behavior

(Credits shown in parentheses)

Required	Recommended Electives
Hum 54—Humanities in the Modern World (3)	HEd 180—The School and Society (3)
Pol 162—Recent Political Thought (3)	Hum 51-52-53—Humanities in the Modern World (15)
(or) Soc 170—Analytical Social Theory (3)	Soc 171—Social Life and Cultural Change (3)
(or) Soc 172—Backgrounds of Modern Social Thought (3)	

3. Social Forces Affecting Behavior

(Credits shown in parentheses)

Required	Recommended Electives
Anth 165—Culture and Personality (3)	PubH 100—Elements of Preventive Medicine and Public Health (3)
PubH 50—Personal and Community Health (3)	

**Required (cont.)**

- Soc 53—Elements of Criminology (3)  
 Soc 112—World Population Problems (3)  
 Soc 140—Social Organization (3)  
 Soc 141—The Family (3)  
 Soc 162—Rural Social Institutions (3)

**Recommended Electives (cont.)**

- PubH 141—Social, Economic Aspects of Medical Care (3)  
 Soc 111—Population Trends (3)  
 Soc 115—Social Aspects of Housing, Standards of Living (3)  
 Soc 120—Social Psychology (3)  
 Soc 124—Social Mobility (3)  
 Soc 126—Family Development (3)  
 Soc 144—Social Stratification (3)  
 Soc 145—Urban Sociology (3)  
 Soc 146—Industrial, Occupational Sociology (3)

## 4. Political and Economic Forces Affecting Behavior

(Credits shown in parentheses)

**Required**

- Econ B—Scope, Methods, and Application of Economics (3)  
 Econ C—Introduction to Economic Analysis (3)  
 Pol 124—Recent Social Legislation (3)

**Recommended Electives**

- BA 52—Modern Industrial Relations: Labor Marketing (3)  
 Econ 160—Comparative Economic Systems (3)  
 Pol 126-127—Government and the Economic Order (6)  
 Pol 137—American Political Parties (3)  
 Pol 185-186—International Relations and Organizations (6)

## 5. Tools for the Analysis of Problems

(Credits shown in parentheses)

**Required**

- Soc 50—An Introduction to the Theory and Practice of Social Work (5)  
 Soc 91—Case Methods Applied to the Study of Human Problems (3)

**Recommended Electives**

- Art 63—Drawing, Painting, and Design (5)  
 Art 138—Art in the United States (3)  
 Jour 150—Public Relations in Community Services (2)  
 Pol 131-132-133—Public Administration (9)  
 PEM 52—Leadership in Social Activities (3)  
 Psy 171-172—Clinical Psychology (6)  
 Soc 180—Methods of Social Research (3)  
 Soc 182—Statistical Methods (3)  
 Soc 183—Problems in Social Measurement (3)

Satisfactory completion of 4 years' work of this curriculum leads to the degree of bachelor of arts.

Details regarding the undergraduate course will be found in the *Bulletin of the College of Science, Literature, and the Arts*.

## Professional Social Work Study

Professional social work study is carried on in the School of Social Work at the graduate level. The student must be eligible for admission to the Graduate School of the University of Minnesota.

### *Master of Social Work Program*

The course of study which leads to the degree of master of social work has as its purpose the following:

Social work is a profession which, together with other professions, contributes to the social, psychological, and physical growth and well being of individuals, groups, and communities. Social work education is education for the profession, that is, education for practice in a defined area of service. By virtue of its professional

nature, social work education purposefully aims at developing in the student a conscious philosophy and a set of attitudes, and aims at imparting a body of knowledge and a set of identifiable skills, which are based on scientific method and are basic and distinctive to the social work profession. The following are basic to social work practice:

1. A substantial body of knowledge about:
  - a. Human behavior in dynamic interaction with the physical environment, the social and political structure of society, as well as human behavior involving interpersonal relationships and individual capacities, needs, and aspirations.
  - b. Social welfare programs and social work services.
  - c. Social work methods of practice.
2. Some degree of competence in:
  - a. The use of social work methods to help persons, individually or in groups, to utilize better their own powers or social opportunities to the end of solving social difficulties, to realize better their potentials for effective community living or to protect persons who lack the power to make constructive use of their social situations.
  - b. The use of scientific method and skills in participating in and interpretation of social work research.
  - c. Participating in community organization process which equates welfare services to community needs.
  - d. Participating in those aspects of the administrative process appropriate to a given position so as to identify and carry out responsibilities in transforming policy into services and in contributing to improvement of policy and service.

In addition to the basic degree of competence expected of all students referred to in items a to d above, a higher degree of competence will be expected of all students in either casework or group work.

3. Attitudes which are appropriate to the social work profession, including:
  - a. Dedication to and responsibility for furthering human welfare.
  - b. Pride and satisfaction in belonging to the social work profession and in exercising its responsibilities and privileges.
  - c. Readiness to modify or relinquish unsuitable attitudes and acquire new attitudes based on new experiences and knowledge.
  - d. Willingness to give precedence to professional goals over personal goals.
  - e. A spirit of scientific inquiry with responsibility to contribute to advancement of professional knowledge and method.
4. A philosophy which recognizes individual human welfare as the purpose and test of social policy and of the means used by the profession.

**Admission**—An applicant of satisfactory scholastic record whose Bachelor's degree was granted by a recognized college or university may be admitted by the dean of the Graduate School upon recommendation of the Admissions Committee of the School of Social Work.

A candidate for admission to the School of Social Work must present 39 quarter credits in social sciences, i.e., in sociology, political science, economics, psychology,

history, or anthropology, including 1 or more courses in at least 3 of these social sciences, and must include a course in statistics. In addition the candidate should present some credits in physiology or biology, abnormal psychology, child psychology and a survey course in the field of social work. However, if the candidate is otherwise eligible for admission but lacks some prerequisites he may be permitted to enter the School of Social Work but will be required to complete such prerequisites before becoming a candidate for the Master's degree. Knowledge of a foreign language is not required for the Master's degree.

Application blanks and instructions regarding admission should be secured from the School of Social Work, 400 Ford Hall.

Applications and transcripts in duplicate must be filed in advance of the registration date (preferably 4 to 6 months before the opening of fall quarter). The number of beginning students is limited, with preference given to students wishing to enroll in the fall quarter and planning to remain throughout the academic year and who wish to take this training for the specific purpose of entering social work practice. Beginning graduate students are admitted only fall quarter. Persons with previous training and experience may be admitted at the quarter which makes progression from this previous training feasible.

The application for admission is considered first by a committee of the major advisers in social work, which makes recommendations to the dean of the Graduate School upon whose approval the candidate is admitted. Acceptance of candidates is based upon the following criteria: evidence of ability to meet standards of graduate work, usually indicated by grades of high quality; evidence of aptitudes for interpersonal relationships; evidence of emotional stability; and evidence of acceptable motivation for entering this profession. The Admissions Committee evaluates the application by considering the applicant's own statement of interests and aptitudes; psychological tests when available; letters of reference indicating personal aptitude for social work; and, when indicated, a personal interview. Students from foreign countries are generally expected to have completed the social work training offered in their own country, and to have had several years' work experience in social welfare programs there before admission to this School will be considered.

After formal notice of admission has been received, students must notify the director in writing that they will appear and be in attendance before arrangements for field placements can be completed. Students should also present themselves promptly on the dates set for registration and have their programs fully planned before the date at which classes begin. No student will be admitted to a class after the first week of the term except by special permission. Students returning to school must make arrangements in advance to assure field work placement.

Advanced standing may be granted for work done in other approved schools of social work, limited by the following rules.

The degree of master of social work requiring two years of graduate study will be awarded to students who fulfill the following requirements:

1. Ninety credits including a 9-credit degree project (as indicated) must be presented with an average grade of B or better. No credit is allowed for course work of D quality.
2. Complete a sequence in each of the groups of courses under the letter headings B, C, D, and E including at least one course each in administration, casework, community organization, group work, and research.
3. A degree project of 9 quarter credits consisting of seminar research papers or a single research report requiring independent work under faculty supervision which demonstrates capacity for critical evaluation and analysis must be presented. All 9 of these research credits must be earned preferably under the supervision of 1 faculty member.

4. Not less than 45 credit hours must be earned in residence at the University of Minnesota with an average of B or better.
5. Not more than 45 credit hours will be accepted by transfer and then only if earned in an accredited school of social work. Credits accepted for transfer shall be an average of B or better quality. Credits of D or lower will not be accepted.
6. Not more than 9 credit hours earned in extension courses will be accepted to apply on degree requirements and then only if the grade received is B or better and the course (a) was taught by a member of the graduate faculty, (b) is numbered above 100, (c) carries the same title and content as a corresponding course in the regular curriculum.
7. The candidate must successfully pass a written examination and/or an oral examination conducted by a committee of three or more members of the graduate faculty.
8. All credits offered for the degree must have been earned within 7 years preceding the quarter in which the degree is conferred.
9. Following the completion of 40 graduate credits not less than 15 of which must have been earned at the University of Minnesota and not later than the end of the quarter preceding the quarter in which the degree is to be conferred, the student shall apply for admission to candidacy for the degree, using the appropriate application form. The application for candidacy will be reviewed by the faculty of the School of Social Work. The School will recommend to the Graduate School dean, through the appropriate graduate group committee, the acceptance or rejection of the application for candidacy.
10. Not later than the beginning of the final quarter's work and after admission to candidacy the student shall submit, through his major adviser, a program of all credits presented for the degree upon the appropriate degree program form.

Normally students are not admitted for part-time work at this School and in any case students will not be permitted to accumulate more than 18 quarter credits on a part-time basis.

The School of Social Work is accredited by the Council on Social Work Education.

### *Doctor of Philosophy Degree in Social Work*

The advanced program of study leading to the Ph.D. degree at the University of Minnesota School of Social Work has as its objective the providing of a course of study to prepare for high level scholarship for the field of social work preparing for leadership and standard setting in the field. The core emphasis is upon research and administration to the end that graduates of this course will be equipped to add new knowledge, to evaluate programs and processes, to improve methods of practice, and to be able to relate social science to creative work in the field of social work.

A limited number of students is admitted each year. Those considered for admission must hold the Master's degree from this School or the Master's degree in social work from a school accredited by the Council on Social Work Education, have subsequently acquired at least 3 years of progressively successful social work practice experience, possess personal qualifications appropriate for leadership roles in the field, and possess intellectual and scholarly qualifications appropriate for advanced study.

The program operates within the structure and standards of the Graduate School of the University of Minnesota and consists of individually planned courses of study

involving a core of social work courses and seminars totaling not less than 25 quarter credits beyond the Master's program plus completion of a minor field of study in the amount established by the selected minor field (usually 24 quarter credits). A reading knowledge of 2 foreign languages is required, but a substitute for 1 of the languages may be made on petition, substituting the acquisition of a research tool (such as mathematical statistics) or a collateral field of knowledge (usually 15 to 18 credits) for 1 of the languages. Applicants are urged to acquire a reading knowledge of at least one foreign language before entrance on full-time study. Upon completion of resident courses, seminars, and language requirements, a comprehensive preliminary examination (written and oral) is conducted. When this is passed the student is enrolled as a candidate for the Ph.D. degree and proceeds to the design, execution, and writing of the dissertation which must be defended in a final oral examination.

For further particulars, see the *Bulletin of the Graduate School*.

For further information and application materials address request to the director of the School of Social Work.

## Fellowships and Loan Funds

### *Fellowships*

Scholarships and stipends available through the School of Social Work or granted on the advice of the School are listed immediately below. If you wish to be considered for a scholarship or stipend, you should notify the School not later than May 1. First decisions are made by the first of June for the following academic year. Residual funds may permit some later decisions. Early inquiry is advised.

#### **STIPENDS FROM FEDERAL SOURCES (U.S. citizenship required)**

*U.S. Public Health Service Mental Hygiene Act Traineeships*—Training grants are available to qualified students interested in the mental health field, including school social work, through a grant of funds under the U.S. Mental Health Act. Amount of traineeships is \$1,800 for the first year in the Master's program, \$2,000 for the second year, \$3,600 for the third and fourth years plus tuition costs.

*U.S. Office of Vocational Rehabilitation Traineeships*—Training grants of \$1,800 for the first year and \$2,000 for the second year are available to qualified students who intend to practice social work in rehabilitation settings. These traineeships are made possible through a grant of funds from the U.S. Department of Health, Education and Welfare through its Office of Vocational Rehabilitation.

The Veterans Administration has paid field work positions open to qualified second year students in either medical or psychiatric social work.

#### **STIPENDS FROM OTHER SOURCES**

*Donald Abbott Miller Memorial Fellowship*—Tuition scholarship for graduate social group work student.

*Mrs. Archie Walker Scholarship Fund*—For graduate social group work students. Amount based on student's need.

*S. Vincent Owens Memorial Fellowship*—For graduate social work student with interest in research in intergroup relations.

*Assistantships*—Teaching assistant appointments at 25 per cent to 50 per cent of time, involving payment for services rendered from \$1,057 to \$2,115 per academic year, are available in limited number.

In addition to these scholastic sources there are various foundations and special funds which are available for scholarship assistance on graduate level not specifically restricted to social work. Candidates for social work education may compete with students in other fields for this type of assistance. Persons interested in this possibility should explore these resources with their college scholarship adviser.

Scholarships and stipends granted by local, state, or national agencies, foundations, or associations ordinarily involve arrangement between the agency and the student, including an application directly to the agency. The School, however, often serves in an advisory capacity in the matter. In any event, such a scholarship or stipend is conditioned on the admission of the applicant to a school of social work.

Following are only a few of the scholarships and stipends available from these sources:

*I. S. Joseph Scholarship Program* for qualified Jewish graduate social work students, residing in Minnesota, Iowa, Nebraska, North Dakota, South Dakota, and northern Wisconsin. Apply before March 31 to Minneapolis Federation for Jewish Service, Room 718, 512 Nicollet Avenue, Minneapolis 2, Minnesota.

*Firestone Scholarship Program* for qualified social work students interested in working for Jewish agencies. Amount based on need is \$1,500-\$3,000 per year. Apply by March 31 to Mr. Benjamin Lasoff, Firestone Scholarship Committee, United Jewish Fund and Council, 522 Bremer Arcade, St. Paul 1, Minnesota.

*St. Paul Social Welfare Scholarships*, awarded to Minnesota residents who are eligible for admission to graduate school of social work for a duration of 2 academic years. Amount based on need, to a maximum of \$200 per month, with commitment to accept employment for at least 2 years in a Ramsey county social agency. Apply not later than February 28 to St. Paul Social Welfare Scholarship Committee, Greater St. Paul Community Chest and Council, Inc., 400 Wilder Building, St. Paul 2, Minnesota.

*National Foundation Scholarships* awarded to qualified second-year medical social work students. Amount includes all fees. Apply by April 1 to Miss Catherine Worthingham, Director of Professional Education, National Foundation, 800 Second Avenue, New York 17, N.Y.

*Wheat Ridge Foundation Scholarships* amounting to \$1,200 plus tuition fees for each academic year are awarded to qualified students affiliated with the Lutheran Church. Apply by April 1 to Wheat Ridge Foundation Committee on Scholarships, Valparaiso University, Valparaiso, Indiana.

*National Lutheran Council Scholarships* for Lutheran graduate social work students are available in varying amounts. For further information, write Division of Welfare, National Lutheran Council, 50 Madison Avenue, New York 10, N.Y. Early inquiry is strongly suggested.

*Child Welfare League of America Scholarships* under varying conditions are offered for graduate social work study by local agency members. For detailed information, write to Child Welfare League of America, 345 East 46th Street, New York 17, N.Y.

*Nina Morais Cohen Scholarship*, established by the Minneapolis section, National Council of Jewish Women, to qualified beginning graduate social work student. Amount is \$225, and may be renewed for a maximum of 2 years. Apply to Director, Bureau of Student Loans and Scholarships, University of Minnesota, Minneapolis 14, Minnesota.

*Court Services Fellowships* awarded to two qualified students with intent to work in probation field. Amount is \$1,000. Apply to Mr. Paul Keve, Director of Court Services, Court House, Minneapolis, Minnesota.

*Family Service Association of America Grants*, in varying amounts, are available to qualified graduate social work students. Awards often carry commitment to work for donor agency. For further information, write Personnel Service, Family Service Association of America, 192 Lexington Avenue, New York 16, N.Y.

*Minnesota State Department of Public Welfare Scholarships* for social work training in psychiatric and child welfare settings. Apply by May 1 to Personnel Director, State Department of Public Welfare, Centennial Building, St. Paul 1, Minnesota.

The *child welfare division* in most state public welfare departments offers generous stipends for training in child welfare. Many states do not require residence in the state and the applicant is permitted to choose among accredited schools of social work. For further information, write to the state department of welfare in the state in which you would like to work.

Detailed information on fellowships and scholarships offered under varying conditions by national voluntary agencies, foundations, church groups, and civic organizations is contained in the publication *Social Work Fellowships and Scholarships in the United States and Canada*. This may be ordered for \$1 from the Council on Social Work Education, 345 East 46th Street, New York 17, N.Y.

### *Aid for Students from Other Countries*

The University of Minnesota offers a limited number of foreign student scholarships for *tuition only* to qualified foreign graduate and undergraduate students. These are not specifically restricted to social work study.

Further information on sources of aid for foreign students may be secured from United States consuls abroad; from the Institute of International Education, 1 East 67th Street, New York 21, N.Y.; and from the UNESCO publication, *Study Abroad: Scholarships, Fellowships, and Loans*, United Nations, New York, N.Y.

### *Loan Funds*

Student loans are available through the Office of the Dean of Students, Bureau of Student Loans and Scholarships.

## **Facilities for Study and Professional Contacts**

The University Library, with approximately 1,900,000 volumes, is well provided with current literature in the social sciences, including periodicals and government publications for this country and abroad. Available to social work students is the Gertrude Vaile Library Shelf which contains books and pamphlets used in many social work courses. A social service collection in the Minneapolis Public Library makes easily available all of the current materials in the social work field. In St. Paul, the Public Library, the State Historical Library, the James J. Hill Reference Library, and the Library of the State Division of Social Welfare supplement these sources.

The Minnesota Welfare Conference, which is outstanding among state conferences, is held each spring in the Twin Cities, and the students are advised to attend. Other professional conferences and organizations meet in the Twin Cities at various times during the year.

The Student Social Workers' Association is an organization made up exclusively of students. Any person registered in social work courses at the University is eligible for membership. Meetings are held throughout the year for the purpose of discussing social work and also student problems.

The Minneapolis Travelers Aid annually presents the Jewett Award to a student who, in faculty opinion, demonstrates outstanding potential for social work.

Students enrolled on a full-time basis are eligible for student membership in the National Association of Social Workers. It is expected that all full-time students will avail themselves of membership and will incorporate participation in the association into their program of graduate study.

## **Expenses**

### *Estimated Expenses (9-month Basis)*

Living expenses .....	\$1,400.00
Books .....	75.00
Incidental fee (\$20 per quarter) .....	60.00
Tuition (resident) (\$71 per quarter) .....	213.00
Tuition (nonresident) (\$180 per quarter) .....	540.00

All University fees are subject to modification without notice.

Students seeking assistance in securing living quarters should communicate with the Student Housing Bureau, Eddy Hall, University of Minnesota, Minneapolis 14.



## COURSES IN SOCIAL WORK

For Graduate Students Only

**Note**—The following symbols are used throughout the course descriptions and will not carry any page footnotes:

° An asterisk after a course number indicates those courses through which it is possible for graduate students to prepare required Plan B papers.

¶ A paragraph mark preceding a course number in the parenthetical statement means "concurrent registration," i.e., the course so indicated is to be taken simultaneously.

# A sharp mark in the parenthetical statement means that students must obtain the consent of the *instructor* before attempting to register for the course.

### A. Special Topics and Readings Courses

201f, 202w, 203s. **Special Topics in Social Work.** (Cr ar; prereq #)

206f, 207w, 208s. **Readings in Social Work.** Independent study under tutorial guidance. (Cr ar; prereq #) Staff

### B. Field Work

210f-211w-212s. **Field Instruction in Social Work.** Field practice in social work process under direct supervision. (Cr ar; prereq ¶265 or ¶275, or equiv)

215f-216w-217s. **Field Instruction in Social Work.** Field practice in social work process under direct supervision. (Cr ar; prereq 212)

218f, 219w, 220s. **Field Instruction in Social Work.** Field experience in social work process under direct supervision. (Cr ar; prereq MSW degree in social work)

221f,w,s. **Seminar for Clinical Field Instructors.** (Cr ar; limited to persons engaged in supervising students in field work)

### C. The Social Services

225f-226w-227s. **Social Policy and Programs I-II-III.** Social policy and social work programs, public and private, in economic security, housing, health, rehabilitation, interpersonal and intergroup relations, education, recreation, corrections and protective functions and occupational and vocational functions indicating the role of the social work profession. (3-2-2 cr)

228f-229w. **Social Policy and Programs IV-V.** Continuation of SW 227. (2 cr per qtr; prereq 227)

240s. **Seminar in Social Work as a Profession.** (Cr ar; prereq #)

241w. **Seminar: The History of Social Work.** Consideration of the historical backgrounds of the modern social work movement and the evolution of the theory underlying it. (Cr ar; designed primarily for doctoral students)

242. **Seminar: Social Work Education.** (Cr ar; prereq MSW degree)

243. **International Social Welfare.** (3 cr; prereq #)

245f,w,s.° **General Seminar in the Social Services.** (Cr ar; prereq grad social work students)

## D. Human Growth and Behavior

- 248f-249w-250s. Concepts of Human Growth and Behavior in Social Work Practice I-II-III.** Consideration of the socio-psycho-biological factors associated with individual and group development, as applied to social work practice. (3 cr per qtr; prereq ¶210-211-212 or #)
- 251f. Concepts of Human Growth and Behavior in Social Work Practice IV.** Clinical cases of psychosomatic and psychiatric illness and discussion of implications for social work practice. (2 cr; prereq 250 and ¶215)
- 252w. Concepts of Human Growth and Behavior in Social Work Practice V.** Survey of selected psychometric methods and theories with specific consideration of the use of these data in social work practice. (2 cr; prereq 250 and ¶216)
- 253s. Concepts of Human Growth and Behavior in Social Work Practice VI.** Use of psychiatric consultation in social work practice. (2 cr; prereq 250 and ¶217)
- 256f,w,s.° General Seminar in Concepts of Human Behavior in Social Work Practice.** (Cr ar; prereq grad social work student)

## E. Social Work Practice

- 260s. Principles of Administration in Social Work.** Technical study of the process of transforming social policy into social services. (3 cr)
- 261. Supervision in Social Casework.** Principles of supervision applied to supervisory process in agencies offering casework services. (2 cr; prereq 260 and #)
- 262f. Supervision in Social Group Work.** Principles of supervision applied to the supervision of volunteers and others working in agencies offering group work services. (2 cr; prereq 260, 277 and ¶215)
- 263w. Administration in Social Group Work.** Principles of administration as applied to sub-executive positions in agencies offering group work services. (2 cr; prereq 260, 278 and ¶216)
- 264s.° Seminar in Social Work Administration.** (Cr ar; prereq 226 and 260 or #)
- 265f. Social Casework I.** Introduction to the philosophy and processes, methods and skills of social casework. (3 cr; prereq ¶210)
- 266w-267s. Social Casework II-III.** Continuation of SW 265 emphasizing a critical analysis of casework process and development of skill. (2 cr per qtr; prereq 265 and ¶211-212)
- 268f-269w-270s. Social Casework IV-V-VI.** Advanced casework method focused primarily on treatment methods. (2 cr per qtr; prereq 267 and ¶215-216)
- 271s. Community Organization.** Analysis of the process by which groups and individuals within a community work together to equate social services to community need and establish social policy for the planning and co-ordination of social services. (2 cr)
- 274f.° Seminar in Community Organization.** (Cr ar; prereq 271)
- 275f,s. Social Group Work I.** Introduction to the social group work method. (3 cr; fall qtr open to social work students only, spring qtr open to other grad students)
- 276w. Social Group Work II.** Continuation of SW 275 with emphasis on the role of the worker in group process, group formation, and social forces, focused on the development of skill. (2 cr; prereq 275 and ¶211)
- 277s. Social Group Work III.** Intensified understanding of the individualization process in working with groups. (2 cr; prereq 276 and ¶212)

- 278f-279w-280s. Social Group Work IV-V-VI.** Advanced group work method. (2 cr; prereq 277 and ¶215)
- 281Aw-281Bs. Use of Program in Groups I.** Understanding and use of program as a tool in meeting the needs of the individual in the group, and of the community. Consideration of skill and planning in executing program activities. (2-1 cr; prereq 275)
- 282f. Use of Program in Groups II.** Program planning and execution related to principles and practices of the discussion method. (1 cr; prereq 275)
- 285f,w,s.° Special Studies in Social Work.** (Cr ar; fulfills 9-cr requirement for degree project)
- 290w-291s. Seminar in Recent Research in Social Work.** (Cr ar; designed primarily for doctoral students)
- 295f,w,s.° General Seminar in Social Work Methods.** (Cr ar; prereq 2)
- 298f-299w-300s. General Seminar in Social Work.** (Cr ar; prereq MSW degree in social work)