

The Bulletin *of the University of* **Minnesota**

Correspondence Study Courses
Announcement for the Year
1937-1938



Vol. XL

No. 1

January 2 1937

Entered at the post office in Minneapolis as second-class matter
Minneapolis, Minnesota

Accepted for mailing at special rate of postage provided for in section 1103,
Act of October 3, 1917, authorized July 12, 1918

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GENERAL INFORMATION

CORRESPONDENCE STUDY

The last few years have demonstrated the effectiveness of university teaching by correspondence. The foremost American universities have recognized this opportunity for specific service. In thus extending its functions, the University offers a plan of practical instruction whereby preparatory, vocational, and collegiate training is made available to those who of necessity must devote a part of their time to other duties. Teaching by correspondence thus has become a part of the state educational system. It now is possible to contribute largely to the requirements for a Bachelor's degree by combining work in residence with correspondence study under the General Extension Division.

WHO MAY REGISTER

Correspondence study courses are open to all who are prepared to pursue them with profit. Students who expect to secure credit toward a university degree must, of course, satisfy all entrance requirements; in addition the prerequisites listed for each course must be met, at least in equivalents. But those who do not desire or expect such credit are permitted to register for any course in which they have an interest and sufficient preparation to enable them to do the work for the course. Students of this character are welcomed, and are given the same careful instruction and criticism as those who are candidates for a degree.

Students who have been dropped from the University or from any other college are not allowed to register in the Correspondence Study Department until they have been reinstated in the college from which they were excluded.

ADVANTAGES

Correspondence study accommodates itself to a person's time and conditions. It enables him to start a course at any time and to make use of spare moments, without interfering with his vocational activities. Courses are inexpensive and speedy progress can be made.

The student recites on every part of every lesson and receives the individual attention of the instructor in the correction of the papers he submits. Since the student is not hurried in his work, but may within reasonable limits (page 8) take as much time as he needs for preparation, he can master the material thoroly.

The correspondence study plan allows the registrant to carry on work in the field of his special interest; to prepare for special occupations; to store up credits toward university residence work; or to feel the thrill of mental and cultural growth.

THE INSTRUCTION

Upon the receipt of the application and fee for any course the first lessons are sent, together with instructions for the preparation of lessons and directions for making reports.

The teaching is done by instructors or professors from the various faculties in the University who are in continuous charge of similar courses in residence and who are familiar with the needs of non-resident students.

Each lesson assignment contains instructions, questions, references, and helps, so that the student may appreciate the ground to be covered and may cover that ground.

Each lesson report is returned to the student with such corrections, explanations, and suggestions as may be needed. It is expected that these lesson papers will be carefully reviewed by the student for the purpose of avoiding errors in future lessons. Questions on any lesson point are welcomed.

COURSES AND LESSONS

Courses are divided into lesson assignments, varying in number from six to thirty-two—the credits earned varying from one to six. These courses parallel the corresponding day courses in content, as well as in the number of clock hours required to complete the work.

Each lesson is planned to consume about six clock hours of preparation time. The hope is that a student will finish at least one lesson per week, which would involve, therefore, one hour of work a day for six days. (See further remarks under Amount of Work Carried, page 8.)

SELECTION OF COURSES

In selecting courses for university credit, it is advisable for the student to secure a copy of the bulletin of the college he expects to enter, so that he may conform to the prescribed course of study. Bulletins may be secured by addressing the registrar, University of Minnesota, Minneapolis.

BOOKS AND OUTFIT

All necessary textbooks, drawing outfits and apparatus are extra and *must be procured by the student. Do not send money to the University for the purchase of texts and other materials.* There will accompany the first lesson, instructions regarding texts and how to order them. No list of textbooks is published by the department except the individual lists which accompany first lessons.

UNIVERSITY MATRICULATION

Admission to the schools and colleges of the University which accept students directly from the high school is either by certificate or by examination.

The applicant must present a certificate of graduation from an accredited preparatory school, or certificates showing that he has passed examinations in high school subjects as given by the Minnesota State Board, or corresponding examinations in another state provided these examinations are recognized by the state university in that state. Certificates representing examinations given by the College Entrance Board or the Regents of the State of New York, are likewise accepted.

The University of Minnesota entrance requirements are described in detail in the General Information Bulletin to be had of the registrar. A preparatory unit represents the equivalent of one year's work in a subject, for five classroom periods each week. Twelve units of senior high school work, selected from five specific groups, are required for entrance in any case; the particular requirements of the several colleges vary.

Then how can a student who has not sufficient entrance units enter the University? There are only three ways:

1. Obtain admission on probation by tests.

Applicants for admission to the University who are high school graduates, or who are at least nineteen years of age and are unable to meet the requirements for entrance by certificate will be admitted provisionally and subject to one year of satisfactory work at the University, upon passing the following tests:

(a) College aptitude test

(b) Test of proficiency in English

(c) Such special placement tests as the school or college to which the candidate desires admission, may prescribe.

Applicants failing to pass tests (b) or (c) may apply for subsequent examination at any scheduled date on payment of a fee of five dollars. Those failing to pass test (a) may enter only upon satisfactorily meeting the entrance requirements by the certificate method.

2. Take correspondence study courses.

3. Obtain credits by passing the Minnesota High School Board examinations, or the examinations of the College Entrance Examination Board.

The Correspondence Study Department of the University can help a student to obtain entrance credits in four different ways:

1. If he is a high school graduate but lacks one or more of the required entrance credits, he may obtain the necessary credits by correspondence study.

2. If he has not completed high school and wishes to apply for entrance, correspondence study courses will help him prepare for the English test and placement test required of such applicants for admission.

3. He can take the State Board examinations, in those subjects for which he is prepared by previous schooling, and obtain the remaining credits by correspondence study.

4. He can do all of his preparatory work by correspondence study. However, this is a long and difficult task and is not recommended except to persons of great patience and determination. Still, it can be done.

Whether a state teachers college will accept the entrance or "high school" credits obtained from this department and apply them toward a diploma, and the extent to which such credits will be accepted and applied, depends entirely upon the rules of the school concerned. The University does not grant a high school diploma for work done by correspondence study.

LIST OF PREPARATORY COURSES

Below is a list of the courses offered by correspondence study which may be taken for credit toward entrance. The student who successfully completes any of this work is not required to take entrance examinations in the subjects covered. Certain subjects, such as elementary courses in lan-

guages, may be taken *either for entrance or for college credit, but not for both*; a subject presented for entrance may not be repeated for college credit.

Group A: English

English Literature A, B, C, and D

English Composition A, B, C, and D

Group B: Languages

Courses marked with an asterisk under German, Romance Languages, and Scandinavian Languages.

Group C: History and Social Science

American History A and B

World History A and B

Social Science A and B

Group D: Mathematics

Algebra A and B

Plane Geometry A and B

Solid Geometry

Higher Algebra

Group E: Natural Sciences

Elementary Physics A and B

(No credit; see note on page 36)

Group F:

Elementary Bookkeeping

(See Business Course 1c, page 17)

LOAN LIBRARY FACILITIES

Some reference books may be borrowed from the University Library. Such loans are necessarily limited to books which are not at that time in use. This privilege does not apply to the necessary textbooks. *The period of loan is one month.* In case the book is urgently needed for university use it may be immediately recalled. The student is expected to pay express or postage both ways. Requests for such reference books should be addressed to the librarian, University of Minnesota, Minneapolis, and the student should state explicitly what books are desired, with the author's name, title of the book, and the volume number, naming the course in which they are to be used and giving full instructions for mailing. Blanks are supplied for this purpose.

The State Department of Education operates a loan library service, through which students may obtain some of the necessary books. This service is available only to residents of Minnesota living outside of Minneapolis and St. Paul. Application should be made to the Library Division, State Department of Education, State Building, St. Paul.

The student should first secure the assistance of his local library. Librarians are willing to co-operate, and will often secure a needed reference book, if future use justifies such a purchase.

The General Extension Division operates a loan library service in connection with certain courses. This is designed to supply reference books when all other sources have been exhausted. A small fee is charged for the service. Details of administration will be furnished with the first lesson of the courses for which these reference books are available.

REGISTRATION PROCEDURE

The student who wishes to undertake correspondence study should first select such a course or courses as he may desire to take. He should then fill out in ink the application blank which has been sent to him and return it with the required fee to the Correspondence Study Department, University of Minnesota, Minneapolis. The student himself should fill out the blank.

HOW TO SEND MONEY

Payment should be made by post-office or express money order, personal check, or draft. *Make all checks and orders payable to the University of Minnesota.* The remittance should cover the exact amount of the fee.

SPECIAL CLUB AND GROUP SERVICES

The Correspondence Study Department offers special help in the form of club study programs, reading courses, group study by correspondence study, and courses acceptable for Extension Division certificates. Ask for further information.

ACTIVITIES OF THE GENERAL EXTENSION DIVISION

Extension or evening classes in the Twin Cities, Duluth, and other cities of Minnesota.

Correspondence study courses, open twelve months of the year.

Community Service Bureau: provides lectures, lyceum courses, concerts, entertainments; lends lantern slides and films for visual instruction; gives advice on selection and production of plays; operates a radio broadcasting station for educational purposes.

Municipal Reference Bureau: maintained for the benefit of municipalities of Minnesota and their officers; offers consultation service to city councils.

Short courses and special institutes.

AGRICULTURAL EXTENSION SERVICE

Agricultural Extension Service, including lectures, demonstrations, institutes, co-operating with county extension agents, and short courses, is furnished under the direction of the Extension Division of the College of Agriculture, Forestry, and Home Economics. For this latter service, address the Agricultural Extension Division, University Farm, University of Minnesota, St. Paul, Minnesota.

REGULATIONS

NOTE OF CAUTION

All correspondence study students should give especial attention to the rules on Time (see below); Reinstatement (p. 9); Refunds (p. 9); Transfer of Credits (p. 10); Examinations (p. 10).

ADMISSION

Any prospective student who is not enrolled in an institution of learning may register for correspondence study work. In case of enrolment in any institution of learning, there must be presented written permission from the proper officer.

If the person wishes to receive credit for his work, he must matriculate in the regular way by presenting his credits to the registrar for evaluation. A person who is not a high school graduate or the equivalent must meet the entrance requirements as suggested on pages 4-6.

However, all persons wishing to pursue courses for self-development, will be allowed to register if they seem to be qualified to pursue such courses successfully. The student is required to fill out an application blank. The department reserves the right to advise discontinuance or change of the student's course if it finds that the course selected is not for the best interests of the student. Whenever a registration is thus discontinued or rejected, the fee is returned.

AMOUNT OF WORK CARRIED

Not more than two courses may be taken by correspondence study at one time.

The maximum number of lessons that will normally be accepted from a student is four per week, regardless of whether one or two courses are being carried.

Correspondence study courses are included in the amount of work permitted for students in extension classes. Accordingly, students pursuing both kinds of extension study should have their work approved by the students' work committee of the General Extension Division.

TIME

A student may begin a correspondence study course at any time, and should complete the course within one year from the date of enrolment. If the course is not completed within this limit the registration is considered expired. (See Reinstatement below.)

During the summer months the department cannot guarantee the prompt return of lesson papers. While instructors are on vacations their work may be carried by substitutes, or the work may be temporarily discontinued. In the latter case an extension of time for the completion of the course affected will be allowed.

The student should endeavor to send in at least one lesson report every week. If it is not possible to do this the department should be notified. Temporary delays are, however, unavoidable in a busy person's work, and no student should become discouraged because of them. Each report should be sent in as completed, and not held until others are completed. The latter practice will cause delays in their return; and in addition, the in-

structor's corrections and criticisms will not have been available before proceeding with advanced lessons.

PREPARATION OF LESSON REPORTS

Lesson reports, which are the evidence of the study given to assignments, must represent the student's own work. Success in the final examination, which is conducted under supervision, and on which credit for a course is finally based, will depend on the amount and quality of the student's work on all the lessons in the course.

REINSTATEMENT

Any student who has failed to complete a course within the prescribed time of one year, through causes not within the control of the University, may be reinstated with the consent of the department on payment of one dollar for each course and each year involved since the expiration of the registration. Such reinstatement holds for one year. Reinstatements for only two extra years will be allowed.

TRANSFER OF REGISTRATION

Any student may have the privilege of transferring his registration from one correspondence study subject to another by the payment of a fee of one dollar. A transfer will be allowed only within three years from the date of registration. In case reports have been made on the lessons of the original course, a fee of sixty-five cents will be charged for each lesson completed. If the transfer is recommended by the department, no charge will be made.

A registration, or the fees therefore, may not be transferred to or from (a) extension classes, (b) any other division of the University, or (c) another person.

FEEs

All fees are payable in advance. The fee for each course may be found following the description of the course.

POSTAGE

The student prepays postage on all mail sent to the University; mail sent from the University to the student is prepaid by the Correspondence Study Department.

REFUNDS

Two dollars of each fee is the non-refundable portion withheld to cover expenses of registration. *No fee will be refunded after two months from the date of registration or after the student has completed one half of the course for which he has registered.* If an application for instruction is rejected, the entire fee is returned. If lessons have been completed before the cancellation of a course, a charge of sixty-five cents for each lesson will be made in addition to the two dollars above mentioned.

CREDIT

Students who undertake correspondence study work for university credit should state this fact in advance and must comply with all requirements of the University, including the prerequisites for each course. Credits allowed in this connection will be recorded separately until the student

matriculates at the University, when they will be recorded permanently as university credits.

Those seeking a university degree must conform to all the requirements exacted by the college or school in which such a degree is sought. The bulletin of any college or school may be obtained from the registrar.

A maximum of one half of the required credits for the bachelor of arts degree may be accumulated through correspondence study. The work of the earlier part of the course is more likely to be available for correspondence study. A student must earn at least one year's credit in residence in this University. If the term of residence is only one year, that year must be the senior year; and in any case he must spend two quarters of the senior year in residence. Only three credits in a major sequence may be earned through correspondence study and applied toward a degree in the College of Science, Literature, and the Arts.

Credit is granted by the Institute of Technology only on the satisfactory completion of a comprehensive examination given by the department concerned. Students desiring this credit should make arrangements with the dean.

Entrance credit is allowed for courses of high school grade. See Preparatory Courses, pages 5-6.

No credits may be earned by correspondence study to apply on the Master's degree, or any other graduate degree. However, if probationary credits are demanded before a student enters the Graduate School, nine credits in the major or minor field may be earned by correspondence study. A grade of B must be maintained in this work.

TRANSFER OF CREDITS

Acceptance of credits transferred to another institution depends wholly upon the regulations of that institution. Students who expect to apply credits elsewhere should first make sure of the rules of the other school or college, and of the definition of credit in that school.

A University of Minnesota credit now means one fifty-minute classroom period per week for a "quarter," or twelve weeks. Three "quarter" credits are equivalent to two "semester" credits.

EXAMINATIONS

A student, on completing any course, will be given an examination either at the University, at one of the several city extension offices, or by arrangement, in the student's home town under approved supervision. The supervisor must be the county superintendent of schools, the principal or superintendent of a public high school, or an official in a state school.

Success in the examination is requisite to credit.

Deferred examinations.—Examinations should be taken after preparation and immediately following the completion of the course. If taken any time before the expiration of the course registration there is no extra charge; after this expiration the regular reinstatement fee of one dollar will be charged.

GRADES AND HONOR POINTS

In addition to the recognition, by the use of *credits*, of the *amount* of work done, there is a further recognition of *quality*, through the use of *grades* and *honor points*. Four grades are employed: D (75-81%) is used on work of mediocre merit, which may be counted toward a degree only when averaged with work of higher grades in other courses; C (81-87) indicates the quality of work acceptable for graduation; B (87-93) and A (93-100) are given to work of especial merit.

Work below D in merit is marked E (condition) or F (failure). A condition is a temporary grade, representing a deficiency which may be removed by a subsequent examination. The fee for this condition examination is one dollar. The final grade, however, may not be higher than C; *and unless the examination be taken within three months the grade becomes a failure*. A course receiving a final grade of F must be repeated before any credit is given.

RESIDENT STUDENTS

Registration for correspondence study courses will not be accepted from resident or extension class students of the University of Minnesota or of any other institution of learning unless specific permission is granted by the institution concerned.

No registration for a correspondence study course for the purpose of removing a condition or a failure will be accepted except upon the written consent of the proper authorities in the school concerned.

DESCRIPTION OF COURSES*

ANTHROPOLOGY

41. Introduction to Anthropology. Origin and development of mankind and the races; racial distribution and immigration; the bearing of anthropology on present-day thought and problems.
Twenty-seven lessons (five credits). \$17.00. Mr. Wallis.

ART EDUCATION

1. Fundamental Experiences in Design. A beginning design course, emphasizing structure and function. General design principles are applied to a series of interesting problems. Helpful as a basis for other art courses and for public school art teaching.
Sixteen lessons (three credits). \$10.00. Mrs. Lewis.
3. Interior Decoration. Design principles in relation to the home. Identification of period and modern furniture. Subjects discussed include wall treatment, floor coverings, color schemes, furniture arrangement, window treatment, and the use of accessories. Of interest to salespeople, homemakers, and decorators.
Sixteen lessons (three credits). \$10.00. Mrs. Lewis.
- 37,41,42. Primitive Handicraft. A course in pottery and basketry suitable for application with limited equipment.
Sixteen lessons (three credits). \$10.00. Miss Ross.
- 38,45. Application of Design to Needlecraft, and Elementary Weaving and Allied Crafts. A practical course in needlework and other textile crafts suitable for use in homes, schools, camps, playgrounds, and for those interested in adult education.
Sixteen lessons (three credits). \$10.00. Miss Ross.

ASTRONOMY

11. Descriptive Astronomy. A descriptive course designed to give accurate general information regarding the solar system and the stellar universe. It emphasizes the basic facts of the physical universe, rather than the technical details of the work of a professional astronomer. A small telescope or even an opera glass will be helpful.
Twenty-seven lessons (five credits). \$17.00. Mr. Luyten.

BUSINESS ADMINISTRATION

(For courses in other business subjects, see page 17, Economics.)

The number of credits that may be earned by correspondence study toward the bachelor of business administration degree is limited to nine. For work carried in the Correspondence Study Department a student will be granted "transfer" credit in the School of Business Administration, i.e., in the transfer of credits for application toward the bachelor of business administration degree surplus honor points will not be considered.

- 1c. Business Correspondence. Letters in general. Letters of adjustment, reminder, recommendation, and application. Collection, sales, and follow-up letters. Comments are given on psychological effectiveness of letters written by students. *Ability to use correct English is a prerequisite.*
Twenty-four lessons (four and one-half credits toward extension certificate only). \$15.00. Mr. Haga.

* The letter c appearing after the course number indicates that the particular course is not given in residence.

- †51. **Business Law A—Contracts and Agency.** Contracts: Formation of contracts, the essentials thereof, the operation and interpretation of contracts. Agency: Methods of forming the relation and liabilities of agency.

The general rules of contracts being fundamental to all work in business law, this course must precede Business Law B, C, and D.

Sixteen lessons (three credits). \$10.00. Mr. Jackman.

- †52. **Business Law C—Partnerships, Corporations, and Bankruptcy.** Partnerships: formation of partnerships and application of uniform partnership act. Joint stock companies; how distinguished from ordinary partnerships; how like ordinary partnerships; statutory requirements.

Corporations: formation, rights and liabilities. Prerequisite: Business Law A.

Sixteen lessons (three credits). \$10.00. Mr. Jackman.

- †53. **Business Law B—Sales, Bailments, Negotiable Instruments.** Prerequisite: Business Law A.

Sixteen lessons (three credits). \$10.00. Mr. Jackman.

- 54c. **Business Law D—Real Property, Mortgages.** Classification of property, distinction between real and personal property; estates in land as to quantity, quality, and time of enjoyment; conveyances, mortgages and liens. Prerequisite: Business Law A.

Sixteen lessons (three credits). \$10.00. Mr. Jackman.

58. **Elements of Public Finance.** Government expenditures, revenues, and debts. This includes a study of the nature of public expenditures, various kinds of non-tax public revenues, various forms of taxation, shifting and incidence of taxation, budgetary and legislative control, and fiscal reforms. Prerequisites for credit: Principles of Economics I and II.

Sixteen lessons (three credits). \$10.00. Mr. Borak.

59. **Life Insurance.** This course deals with the nature, uses, and kinds of life insurance and with the fundamental principles involved in the measurement and underwriting of life risks. Prerequisites for credit: Principles of Economics 6 and 7.

Sixteen lessons (three credits). \$10.00. Mr. Graves.

60. **Fire and Marine Insurance.** The course includes a treatment of the nature of fire and marine risks and of the types of underwriters, forms of insurance contracts, analysis of policy provisions, and principles and methods of rate making. Prerequisites for credit: Principles of Economics 6 and 7.

Sixteen lessons (three credits). \$10.00. Mr. Graves.

61. **Casualty Insurance.** The course deals with the various types of coverage which have been developed in this field and includes the analysis of policy provisions and treatment of the important factors involved in the making of rates for each of these types of insurance. Prerequisites for credit: Principles of Economics 6 and 7.

Sixteen lessons (three credits). \$10.00. Mr. Graves.

69. **Retail Store Management.** A course in retail merchandising and store management. Lessons consist of discussions of actual problems en-

† No credit will be granted until all three courses are completed.

countered in retail stores, together with methods of studying and solving the problems. (A practical course for the active merchant.) Prerequisites for credit: ten credits in economics.

Sixteen lessons (three credits). \$10.00. Mr. Vaile.

86. Office Organization and Management. A general course dealing with (1) the place of the office in business, (2) functional analysis, (3) personnel, hiring, and training, (4) planning, production control, (5) standardization, (6) scientific management. Prerequisites for credit: Principles of Economics 6 and 7.

Sixteen lessons (three credits). \$10.00. Miss Donaldson.

88. Elementary Advertising. An elementary course in advertising emphasizing the retail point of view. This course discusses the economics of advertising, advertising and retail sales promotion, advertising media and technique. Prerequisites for credit: 10 credits in economics.

Sixteen lessons (three credits). \$10.00. Mr. Vaile.

146. Investments. Study of the principles of investment and their application to actual cases. Lessons developed out of concrete examples to develop critical appraisal of specific securities and add to working knowledge of investment issues. Principal emphasis on the most important groups of securities—railroad, industrial, public utility, and governmental issues. Prerequisites for credit: Elements of Money and Banking and Corporation Finance. Recommended to business men to whom it is open without prerequisite.

Sixteen lessons (three credits). \$10.00. Mr. Upgren.

155. Corporation Finance. A study of the organization and financial management of corporations, with reference to types of securities, conditions under which they should be issued, and facilities for marketing them. Prerequisites for credit: Principles of Economics 6 and 7, and Elements of Money and Banking.

Sixteen lessons (three credits). \$10.00. Mr. Stehman.

CHILD WELFARE

(Offered in co-operation with the Institute of Child Welfare.)

- 1c. Child Care and Training. Physical growth and care of young children. Mental development, personality, and behavior. The management of young children with reference to the establishment of desirable habits of behavior. Play, toys, games, stories, and music. Intended primarily for the parents of young children.

Sixteen lessons (no credit). \$1.00. Mrs. Cummings.

- 2c. The Older Child and Adolescent. This course follows the course in Child Care and Training. Physical, intellectual, and emotional development of older children. Influences on the personality of the child, his vocational and educational interests, his recreations and friendships discussed with a view to showing how they affect the process of growing up.

Sixteen lessons (no credit). \$1.00. Mrs. Faegre.

40. Child Training. A brief study of the physical and mental development of the young child is followed by a discussion of the training of young children. Behavior problems in their various aspects, and the techniques

of good and bad management will be considered. Prerequisites for credit: General Psychology I and II.

- Sixteen lessons (three credits). \$10.00. Mrs. Cummings.
50. The Guidance of Children's Interests. How the child's development may be furthered by directing his natural activities and interests. Stories, music, art, and dramatics, as well as the use of tools, toys, and a variety of occupational materials are discussed. The value of play and activities initiated and carried out by the children is stressed. Prerequisite for credit: Course 40.

- Sixteen lessons (three credits). \$10.00. Miss McGinnis.
82. Later Childhood and Adolescence. What it means to grow up; the effect of physical, mental, and emotional growth on the developing personality; guidance of youth's interests and social life—sex, recreation, friends, and vocation. Prerequisites for credit: Course 40 or 80 or equivalent.

Sixteen lessons (three credits). \$10.00. Mrs. Faegre.

CLASSICAL LANGUAGES

GREEK

- †1. Beginning Greek I. The declensions and conjugations and the simpler rules of syntax together with translation of sentences from Greek into idiomatic English and from English into Greek.

Twenty-seven lessons (five credits). \$17.00. Mr. Ogle.

- †2. Beginning Greek II. Course continued; general principles, inflections, word formations, syntax, elementary readings, composition. Prerequisite: Course 1.

Twenty-seven lessons (five credits). \$17.00. Mr. Ogle.

3. Beginning Greek III. Course continued. Prerequisites: Courses 1 and 2.

Twenty-seven lessons (five credits). \$17.00. Mr. Ogle.

56. Epic Poetry—Elementary Course in Homer. Selections from the *Iliad*; mythology, scansion, dialectical forms. Prerequisite: Course 14 or 15, or the equivalent.

Sixteen lessons (three credits). \$10.00. Mr. Ogle.

71. Dramatic Poetry—Elementary Course in the Drama. Euripides' *Alcestis* or *Medea*; translation, scansion, study of mythology and of Greek life. Prerequisite: Course 51 or 52.

Sixteen lessons (three credits). \$10.00. Mr. Ogle.

111. History—Herodotus. Selected readings from Herodotus' history; syntax, dialectical forms, the irregular verb; collateral work. Prerequisite for credit: Course 14 or equivalent.

Sixteen lessons (three credits). \$10.00. Mr. Ogle.

LATIN

PREPARATORY COURSE

1. Latin E. Pharmaceutical Latin. This course meets the requirements in Latin for those students only who are already in the College of Phar-

† Both courses must be completed before credit is allowed for either.

macy or who are preparing to enter the College of Pharmacy. Special registration will be considered for professional pharmacists who wish to review pharmaceutical Latin for their own self-development.

Twenty lessons. \$12.50.

Mr. Cram.

COLLEGE COURSES

Students desiring to take courses for university credit should take Courses 1, 2, 3, and 9, or their equivalent, but should omit 10 and follow 9 by 11. Courses 1, 2, 3, and 9 satisfy the Junior College requirements in Latin.

NOTE.—All lesson reports in language courses must be returned to the Correspondence Study Department before credit will be allowed for a course.

1. Beginning Latin I. Inflections; translation of easy Latin prose; the study of elementary syntax; Latin composition.
Twenty-seven lessons (five credits). \$17.00. Mr. Cram.
2. Beginning Latin II. A continuation of Course 1. Translation of selections from Eutropius; syntax; Latin composition. Prerequisite: Latin I or its equivalent.
Twenty-seven lessons (five credits). \$17.00. Mr. Cram.
3. Caesar. Translation of the campaign against the Belgians (Book II entire); and of the manners and customs of the Gauls and Germans (Book VI, chs. 9-29); syntax; composition; life of Caesar. Prerequisites: Courses 1 and 2 or equivalent.
Twenty-seven lessons (five credits). \$17.00. Mr. Cram.
9. Cicero I. Translation of the First and Second Orations against Catiline and of selected Letters; syntax; composition; life of Cicero. Prerequisites: Two years of preparatory Latin or Course 3.
Twenty-seven lessons (five credits). \$17.00. Mr. Cram.
10. Cicero II. Translation of the Oration for the Manilian Law (the equivalent of two orations) the Archias, and the Marcellus; syntax; composition. Prerequisite: Course 9.
Twenty-seven lessons (five credits). \$17.00. Mr. Cram.
11. Vergil's *Aeneid* I. Translation and interpretation of Books I and II of the *Aeneid*; syntax; principles of Latin versification; life of Vergil. Prerequisites: Three years of preparatory Latin or Course 9.
Twenty-seven lessons (five credits). \$17.00. Mr. Cram.
12. Vergil's *Aeneid* II. Translation of Books IV and VI of the *Aeneid*; a very brief consideration of Vergil's influence. Prerequisite: Course 11.
Twenty-seven lessons (five credits). \$17.00. Mr. Cram.
21. Livy. Translation of Book I; syntax, life, and literary style of Livy. Prerequisites: Four years of preparatory Latin or Course 12.
Twenty-seven lessons (five credits). \$17.00. Mr. Cram.
23. Roman Comedy. Translation of the *Menaechmi* of Plautus and the *Phormio* of Terence; syntax, literary styles of Plautus and Terence; outline of the history and technique of Roman drama. Prerequisite: Course 21.
Twenty-four lessons (four and one-half credits). \$15.00. Mr. Cram.

ECONOMICS

PREPARATORY COURSE

- 1c. Elementary Bookkeeping. The aim of this course is to present the groundwork of bookkeeping. The following topics are covered: balance sheet, and profit and loss statements, theory of debit and credit, journalizing and posting, account analysis, use of special types of journals and ledgers, trial balance, and adjusting and closing the accounts.
Twelve lessons (one-fourth entrance unit). \$7.50. Mr. Lund.

COLLEGE COURSES

3. Elements of Money and Banking. An introduction to the study of modern financial institutions; the nature and functions of money, its types and methods of control; recent efforts to change and regulate the value of money; chief emphasis upon the American financial system, including the mechanism of the money market, investment banking, the functions of trust companies, savings institutions and commercial banks, the federal reserve system including recent modifications, and agricultural credit institutions.
Twenty-seven lessons (five credits). \$17.00. Mr. Myers.
- †6. Principles of Economics I. This course traces the path of goods and services from production through exchange to the consumer. The general topics are: economical production as contrasted with unprofitable production; costs and prices as affected by inventions, growth of population, advertising and monopolies; the money and banking mechanism used for exchanging goods; the business cycle as an effect of complex economic machinery.
Twenty-seven lessons (five credits). \$17.00. Mr. Kozelka.
- †7. Principles of Economics II. A fair division of the social product among wages, rent, interest, and profits, in relation to a changing economic world; the economic aspects of taxation, the tariff, and international trade and current economic problems. Prerequisites: Principles of Economics I.
Twenty-seven lessons (five credits). \$17.00. Mr. Kozelka.
20. Elements of Accounting. The principles and methods of keeping records; form and content of the financial statements; debit and credit; journals; ledgers; use of special books; trial balance; adjusting and closing entries; the preparation of financial statements. Discussion of principles with use of a text and the working of a number of accounting problems for each assignment.
Sixteen lessons (three credits). \$10.00. Mrs. Youngs.
58. Elements of Public Finance, page 13.
155. Corporation Finance, page 14.
161. Labor Problems and Trade Unionism. Deals primarily with the labor problem in the United States. Special attention is given to current problems such as unemployment, technological and cyclical; unemployment insurance and workmen's compensation; structure, aims, policies, and methods of trade and industrial unions and employers' associations;
- † Courses 6 and 7 must be completed before credit will be allowed for either.

labor legislation relating to injunctions, yellow-dog contracts, strikes, and boycotts. Prerequisites for credit: twenty credits in social science including Principles of Economics I and II.

Sixteen lessons (three credits). \$10.00.

Mr. Graves.

TEXTILES

(See page 32.)

EDUCATION

NOTE.—See Courses 1 and 2 under Psychology.

- 1c. School Organization and Law. An introductory course with special reference to the duties of school boards and school superintendents, principals, and teachers. Laws relating to public schools, and methods of teaching. Prerequisites: Psychology I and II.
Twenty-seven lessons (five credits). \$17.00. Mr. Rankin.
- 2c. School Sanitation. Deals with conditions affecting the health of school children. Prerequisites: Psychology I and II.
Twenty-seven lessons (five credits). \$17.00. Mr. Rankin.
- 3c. Educational Sociology. The school as a social environment, its place in a general scheme of social relations. Prerequisites: Psychology I and II.
Twenty-seven lessons (five credits). \$17.00. Mr. Rankin.
- 4c. Industrial History of United States. Development of industry throughout our existence as a nation. Prerequisites: Psychology I and II.
Eleven lessons (two credits). \$7.00. Mr. Rankin.

NOTE.—This course carries credit only in the College of Education. Students desiring credit in the School of Business Administration should apply to the dean of that school.

- *51A. Introduction to Secondary School Teaching (Educational Psychology).
A survey of fundamental facts of human behavior involved in educational activities. This survey includes the following topics: psychological and educational measurements, habit formation, transfer of training. Prerequisites: Psychology I and II.
Sixteen lessons (three credits). \$10.00.
- *51C. Introduction to Secondary School Teaching III (The High School).
A comprehensive study of the modern secondary school. The course treats the origin and growth of secondary education, comparisons with modern European secondary schools, the student body, aims and objectives, present status and types of organization, the relation of the secondary school to mores and attitudes, the secondary school as a social institution, the teacher's place in the social and economic order, the program of study and activities, classification and guidance, and certain administrative features. Prerequisites: Psychology I and II and five credits in Education.
Sixteen lessons (three credits). \$10.00. Mr. Floyd.

* This course is part of a three-quarter sequence in the College of Education, credit for which is granted only when the complete sequence is taken and student has passed the qualifying examination. See the Bulletin of the College of Education.

60. Introduction to Statistical Methods. A study of elementary statistical methods. The commonly used statistical terms and methods are covered in this course. Prerequisites: 6 credits in psychology.
Sixteen lessons (three credits). \$10.00. Mr. Sorenson.
- *61A. Introduction to Elementary School Teaching (Educational Psychology). A survey of fundamental facts of human behavior involved in educational activities. This survey includes the following topics: psychological and educational measurements, habit formation, transfer of training. Prerequisites: Psychology I and II.
Sixteen lessons (three credits). \$10.00.
101. Historical Foundations of Modern Education. The history of education in ancient and medieval times. The study includes the development of educational theories and practices among the Greeks and the Romans and the ancient Hebrews and during the Middle Ages and ends with the recovery of the classical heritage in the sixteenth century. Textbook assignments and supplementary readings. Prerequisites: six credits in psychology.
Sixteen lessons (three credits). \$10.00. Miss Alexander.
102. History of Modern Secondary Education. A historical study of secondary schools in western Europe and America in modern times, including such topics as the revival of classical learning; the reorganization of secondary schools in the sixteenth century; the rise of scientific inquiry; types of secondary schools in England, France, and Germany; the American Latin grammar school and academy; the rise of the high school. Textbook assignments and supplementary readings. Prerequisites: six credits in psychology.
Sixteen lessons (three credits). \$10.00. Miss Alexander.
- †103. History of Modern Elementary Education. Theory and work of the great educators, such as Comenius, Pestalozzi, Herbart, and Froebel; the rise of state school systems in Germany, France, England, and the United States; the development of the common school and of educational practices. Textbook assignments and supplementary readings. Prerequisites: six credits in psychology.
Sixteen lessons (three credits). \$10.00. Miss Alexander.
167. Junior High School. A study of the origin and growth and the special purposes of this institution and of the appropriate reorganization to achieve those purposes, including the organization and content of the curriculum, provisions for individual differences, advisory system, social organization (extra-curricular activities), methods of teaching, departmentalization, promotion, staff, plant, etc. Comparisons with secondary schools of Europe. Prerequisites: Psychology I and II and five credits in Education.
Sixteen lessons (three credits). \$10.00. Mr. Floyd.

* This course is part of a three-quarter sequence in the College of Education, credit for which is granted only when the complete sequence is taken and student has passed the qualifying examination. See the Bulletin of the College of Education.

† Not open to those who have had History of Education 1 (Brief Course in History of Education).

ENGINEERING

In the Institute of Technology, university credit is granted only upon the satisfactory completion of a comprehensive examination given by the department concerned. Arrangements to write such an examination must be made with the proper college authorities *before* the student registers for a correspondence study course. Several engineering courses carry credit toward an extension certificate.

MECHANICAL DRAWING

1. Engineering Drawing. Elements of drafting including methods of representation, constructive geometry, lettering, sketching, projections, dimensioning, and working drawings. Prerequisite: Solid Geometry.
Sixteen lessons (three credits). \$10.00. Mr. French.
2. Engineering Drawing. Working drawings, sections, auxiliary views, conventions, standards, tolerance dimensioning, tracing and blueprinting. Prerequisite: Drawing 1.
Sixteen lessons (three credits). \$10.00. Mr. French.
44. Freehand Lettering. Practice in freehand commercial Gothic lettering as used by draftsmen and engineers and in offices, stores, hospitals, libraries, schools, etc. Complete illustrated pamphlet of instructions, prepared practice sheets, criticism. Complete outfit of material, including practice sheets, instructions, pens, etc. \$1.50.
Six lessons (one credit). \$5.00. Mr. French.

GENERAL ENGINEERING

70. Slide Rule. Practical course for engineers and office workers. Position of decimal point in computations stressed.
Six lessons (one credit). \$5.00. Mr. French.

MATHEMATICS

For additional credit courses in mathematics see pages 34-36.

- 1c. Shop Mathematics I. Arithmetic from fractions through proportion. Problems in areas, volumes, weights of materials, screw threads and gear. Practical man's course. Also valuable for the teacher who is preparing to teach applied mathematics under the Smith-Hughes Act.
Sixteen lessons (no credit). \$10.00. Mr. Edwards.
 - 2c. Shop Mathematics II. Logarithms, algebra, and geometry from a shop standpoint. Practical problems.
Sixteen lessons (no credit). \$10.00. Mr. Edwards.
 - 9c. Higher Algebra. Review of elementary algebra, linear equations, determinants, ratio and proportion, variation, quadratic equations, graphs, progressions, binomial theorem. Prerequisite: one year of elementary algebra.
Twenty-seven lessons (one-half entrance unit). \$17.00.
Mr. Priester.
 - 10c. Solid Geometry. Standard theorems and exercises. Practice in special proofs and original exercises to develop imagination and initiative. Prerequisite: one year of plane geometry.
Twenty lessons (one-half entrance unit). \$12.50. Mr. Edwards.
- Note.—Courses 9c and 10c meet the entrance requirements in mathematics of the Institute of Technology.

11. College Algebra. Theory of quadratic equations, interpretation of complex results, graphical representation, indeterminate equations, ratio, proportion, variation, progressions, series, undetermined coefficients, binomial theorem, logarithms, theory of equations, Horner's method. Prerequisite: Course 9c.
Twenty-seven lessons (five credits). \$17.00. Mr. Priester.
12. Trigonometry. Graphical representation of functions, computation by logarithms and slide rule. Trigonometric functions, plane right triangles, reduction formulas, fundamental relations, addition formulas, double angles, half angles, identities and equations, inverse functions, oblique triangles, DeMoivre's theorem, spherical right triangles. Prerequisite: Course 11.
Twenty-seven lessons (five credits). \$17.00. Mr. Edwards.
13. Analytical Geometry—Plane and Solid. Co-ordinate systems, locus and equation, straight line, circle, parabola, ellipse and hyperbola. Transformation of co-ordinates and simplification of equations. Polar co-ordinates, higher plane curves, tangents, normals. Prerequisites: Courses 11 and 12.
Thirty-two lessons (six credits). \$20.00. Mr. Edwards.
24. Differential Calculus. Discussion of limit and continuity of a function, derivative of algebraic and transcendental function. Simple application of derivatives, maxima and minima, differentials, rates, velocities and acceleration, radius of curvatures. Law of the mean, indeterminate forms, partial differentiation, series. Prerequisites: Courses 11, 12, and 13.
Twenty-seven lessons (five credits). \$17.00. Mr. Edwards.
25. Integral Calculus. Integration of standard elementary forms, definite integral, rational fractions, integration by substitution, by parts, reduction formulas, application to areas, surfaces, and volumes. Use of integral tables. Prerequisite: Course 24.
Twenty-seven lessons (five credits). \$17.00. Mr. Edwards.

MECHANICS

- 1c. Elementary Mechanics. Short practical course in elementary mechanics for those who have not had calculus. Numerical and simple graphical calculations of the action of forces on machines. Components of forces; analysis of stresses in simple structure; centroids and moments of inertia of plane areas. Prerequisites: Shop Mathematics I and II or Trigonometry.
Sixteen lessons (three credits toward extension certificate only). \$10.00. Mr. Priester.
26. Technical Mechanics; Statics. Characteristics of a force, parallelogram law, moments, couples, resultant of a force system, equilibrium of a force system, frictions, centroids, moments of inertia, catenary. Prerequisite: Integral Calculus.
Twenty-seven lessons (five credits). \$17.00. Mr. Priester.
127. Technical Mechanics: Dynamics. Force, mass acceleration, translation and rotation, gyroscope, governors, work, energy, power, conservation of energy, impulse, momentum, loss of kinetic energy, conservation of momentum. For those who wish to apply the principles of dynamics

and kinematics to engineering problems. Prerequisite: Technical Mechanics: Statics.

Twenty-seven lessons (five credits toward extension certificate only). \$17.00. Mr. Priester.

128. Strength of Materials. Mechanical and elastic properties of materials of construction, beams, shafts, columns, combined stresses, hollow cylinder rollers, plates, curved bars, springs, dynamic stresses, true stresses. Prerequisites: Courses 25 and 26.

Twenty-seven lessons (five credits). \$17.00. Mr. Priester.

AERONAUTICAL ENGINEERING

- 1c. Elementary Aeronautics. This course offers the basic principles of aviation in an elementary way. History of aviation; principles of aerodynamics; theory of flight; theoretical study of construction and operation of airplanes. No prerequisite of mathematics is required tho it will be helpful if the student has a knowledge of high school algebra.

Sixteen lessons (no credit). \$10.00. Mr. Barlow.

CIVIL ENGINEERING

- 1c. Elementary Structural Steel Design. An introductory course covering the analysis of simple structures and their design. Algebraic and graphical methods of analysis of the treatment of dead, live, and moving loads; the design of simple tension and of compression members, beams, girders, and riveted and welded connections. Application of these principles is made to roof and bridge trusses. While this course is a complete unit, it would be advisable for the student to follow up his work by taking Courses 2c or 5c or both. Prerequisites: Mechanics 26 and 128, or satisfactory evidence of ability to do the work of this course.

Sixteen lessons (three credits). \$10.00. Mr. Wise.

- 2c. Steel Bridge Design. A course in the theory and practice of the design of statically determinate bridges. Stress analysis of parallel and curved chord trusses, trusses with subdivided panels, K-trusses, Whipple trusses, cantilevers, three-hinged arches, and skew trusses; and of the design of floor systems; riveted and pin-connected trusses; lateral and sway bracing; portals and end bearings. Prerequisite: Elementary Structural Steel Design or its equivalent. Courses 1c and 2c should provide a satisfactory elementary training for draftsmen, mechanics, and others who desire to enter the field of bridge design.

Sixteen lessons (three credits). \$10.00. Mr. Wise.

- 5c. Steel Building Design. A course in the theory and practice of the design of the structural steel framework of buildings—shop, factory, office buildings, and warehouses. The various systems of framing, and connections, balconies, roof framing, footings, fire protection and erection. Prerequisites: Elementary Structural Steel Design or equivalent. Courses 1c and 5c should provide a satisfactory training for draftsmen, mechanics, and others who wish to obtain a start in building design work. Equivalent to lecture portions of C.E. 35 and 36.

Sixteen lessons (three credits). \$10.00. Mr. Wise.

- 46c. Plain Concrete. Properties of concrete and concrete materials. Subjects discussed include portland cement, special cements, aggregates, proportioning, mixing, placing, field control, admixtures, durability,

volumetric changes, tests and testing procedure, cold weather construction, etc. Prerequisite: knowledge of arithmetic.

Sixteen lessons (three credits). \$10.00.

Mr. Hughes.

- 49c. Advanced Reinforced Concrete Design. A course intended for civil engineers who are thoroly familiar with elementary reinforced concrete design. It takes up in detail the exact design of continuous beams and rigid frames as applied to reinforced concrete structures, the theory and design of flat slabs, and of retaining walls, footings and mat foundations by the more exact methods based on recent studies in the elasticity and strength of materials. Prerequisite: Satisfactory evidence of familiarity with elementary reinforced concrete design.

Sixteen lessons (three credits). \$10.00.

Mr. Wise.

ELECTRICAL ENGINEERING

- 1c. Direct Current Machinery I. An elementary study of magnetism and electricity. Simple laws of magnetism, and the relation of magnetism to direct current electricity are developed. Series and parallel circuits, and combinations of both, simple wiring and armature winding are taken up. A knowledge of arithmetic such as is given by Shop Mathematics I is necessary.

Sixteen lessons (three credits toward extension certificate only).

\$10.00.

Mr. Edwards.

MECHANICAL ENGINEERING

- 1c. Steam Power Plants I. A course for boiler operators. Combustion; coal; firing methods; boiler construction and fittings; power and care of boilers; pipes and pipe covering; steam tables.

Sixteen lessons (three credits toward extension certificate only)

\$10.00.

Mr. Martenis.

- 2c. Steam Power Plants II. A course for operating engineers. Principles of energy, motion, steam; classes of steam engines; steam action; valve-setting; governing; reversing gears; indicators and cards; calculating horse-power; pumps, condensers, lubrication; engine troubles.

Twenty lessons (four credits toward extension certificate only).

\$13.50.

Mr. Martenis.

NOTE.—For those engaged in boiler room work and who may wish to take an examination for a chief engineer's license, Shop Mathematics, Courses 1c and 2c are of the utmost importance.

- 6c. Heating and Ventilating. A course for those who wish to know about the principles and installation of heating and ventilating apparatus. Introduction and study of heat; heat losses; ventilation practice; air conditioning; heating systems of various kinds; piping systems; central station heating; and heating accessories.

Sixteen lessons (three credits). \$10.00.

Mr. Martenis.

- 16c. Refrigeration. A comprehensive study written in style that can readily be understood. Study of heat; cooling processes; principles of refrigeration; refrigerants; compression and absorption; systems; automatic and domestic machines; theory of refrigeration; heat insulation, ice-making; cold storage; air conditioning; brine systems and piping; prime movers; economics of refrigeration; problems in refrigeration.

Sixteen lessons (three credits). \$10.00.

Mr. Martenis.

ENGLISH

PREPARATORY COURSES

1. English Composition A. This course, and the three following, are suited to the needs of those persons who do not have a good foundation in English, and hence need training in the correct use of the language. It covers that part of the work in composition usually given in the freshman year in high schools. It gives practice in writing compositions on simple subjects, with special attention to the development of sentence structure and a unified paragraph; special drill to overcome errors in grammar, spelling, punctuation, etc.; training in the use of the dictionary.
Twenty lessons (one-half entrance unit). \$12.50. Mrs. Wettleson.
2. English Composition B. This course is a continuation of the work of the first year, and covers the equivalent of the sophomore work in composition in high schools. Prerequisite: Course 1 or equivalent.
Twenty lessons (one-half entrance unit). \$12.50. Mrs. Wettleson.
3. English Composition C. This course is a continuation of Courses 1 and 2, but it is more advanced and presupposes the ability to do more thoughtful work, as it covers the composition work of the junior year of the high school. Composition forms a large part of the course. In it emphasis is placed on gathering material and organizing it into longer themes than those of the first year. Drill in spelling, punctuation, etc., includes more difficult points than those covered in the first year. Prerequisites: Courses 1 and 2 or equivalent.
Twenty lessons (one-half entrance unit). \$12.50. Mrs. Wettleson.
4. English Composition D. This course is a continuation of Course 3, and corresponds to high school senior English composition. Prerequisites: Courses 1, 2, and 3 or their equivalent.
Twenty lessons (one-half entrance unit). \$12.50. Mrs. Wettleson.
5. English Literature A. The object of this course is to arouse in the student an interest in the reading of good literature and to assist him to a knowledge and appreciation of some of the masterpieces in the various forms of literature. It includes the study of a volume of short stories, a volume of poetry, Shakespeare's *Merchant of Venice*, and Scott's *Ivanhoe*. The reading of an additional volume of each type is required of the student and questions set to assist as well as to test his understanding of the works read. The course corresponds to the literature part of high school freshman English.
Twenty lessons (one-half entrance unit). \$12.50. Miss Grandy.
6. English Literature B. The aim of this course is similar to that of English Literature A but the material studied is more difficult and the standard of work higher. The works studied are Poe's *Tales*, Shakespeare's *Julius Caesar*, Dickens' *Tale of Two Cities*, Lowell's *Vision of Sir Launfal*, and Coleridge's *Rime of the Ancient Mariner*. Outside reading from literature of each type is also required. This course corresponds to the literature part of high school sophomore English. Prerequisite: Course 5 or equivalent.
Twenty lessons (one-half entrance unit). \$12.50. Miss Grandy.
7. English Literature C. This is a course in American literature. The works of well-known American authors, including those of recent date, are studied according to type rather than in chronological order. Some

Knowledge of the authors' lives as well as of their works is required. The course corresponds to the literature half of high school junior English. Prerequisites: Courses 5 or 6 or equivalent.

Twenty lessons (one-half entrance unit). \$12.50. Miss Grandy.

8. English Literature D. This course, which corresponds to high school senior English literature, consists of a chronological study of the outstanding writers of English literature, their chief works and the periods in which they lived. It aims to establish standards of appreciation for the student's later reading, and to stimulate him to further reading of good literature. Prerequisites: Courses 5, 6, and 7 or equivalent.

Twenty lessons (one-half entrance unit). \$12.50. Miss Grandy.

COLLEGE COURSES

Literature

1. Freshman Literature I. Intended for students who have had work in composition equivalent to that of A-B-C, but who have not had the study of English classics included in that course. This course carries university credit for the work in literature of English A. It includes a study of the drama as illustrated by Shakespeare's *Henry IV*, Part I, *Romeo and Juliet*, and several plays of modern dramatists. Prerequisites for credit: Composition 4. May be taken simultaneously with Composition 4.

Sixteen lessons (three credits). \$10.00. Miss Grandy.

2. Freshman Literature II. This course carries university credit for the work in literature (prose writers) of English B. It includes a study of the works of Macaulay, Huxley, Newman, and Stevenson. Prerequisites for credit: Composition 4, 5, and Freshman Literature I. May be taken simultaneously with Composition 5.

Sixteen lessons (three credits). \$10.00. Miss Grandy.

3. Freshman Literature III. This course carries university credit for the work in literature of English C. It includes a study of various types of poetry from early ballads to dramatic monologs and free verse. Prerequisites for credit: Composition 4, 5, 6, and Freshman Literature II and III. May be taken simultaneously with Composition 6.

Sixteen lessons (three credits). \$10.00. Miss Grandy.

- *21. Introduction to Literature I. An intensive study of the leading writers of poetry and prose and of their historical background. The entire course of three terms begins with Marlowe and ends with Arnold. A knowledge of English history from Elizabeth to Edward VII is required. The first term includes Marlowe, Spenser, Bacon, Browne, Milton, Bunyan, and Dryden. Prerequisites for credit: Composition 4, 5, 6.

Twenty-seven lessons (five credits). \$17.00. Miss Kerr.

- *22. Introduction to Literature II. A continuation of 21. Addison and Steele, Swift, Pope, Fielding, Johnson, Boswell, and Sheridan.

Twenty-seven lessons (five credits). \$17.00. Miss Kerr.

* Students must take either 21 and 22 or 22 and 23 to receive credit. Two quarters are required as a prerequisite for a major sequence; the second and third quarters are required for a teacher's certificate.

- *23. Introduction to Literature III. A continuation of 22. Wordsworth, Lamb, Byron, Shelley, Keats, Carlyle, Browning, and Arnold.
Twenty-seven lessons (five credits). \$17.00. Miss Kerr.
- †31. The English Novel I. The development of the novel from Defoe to Scott. Emphasis on the reading of a number of important novels and excerpts from others, supplemented by biographical and literary information obtained from a textbook and from one of the ordinarily accessible encyclopedias. The following novels are read: *Robinson Crusoe*, *Joseph Andrews*, *Humphrey Clinker*, *Evelina*, *Pride and Prejudice*, and *The Heart of Midlothian*. Prerequisites: Composition 4, 5, 6.
Sixteen lessons (three credits). \$10.00. Mr. Hillhouse.
- †32. The English Novel II. Method as in Course 31, except that no excerpts will be read. The reading consists of *Bleak House*, *Vanity Fair*, *Jane Eyre*, *Wuthering Heights*, *Adam Bede*, *Barchester Towers*, *Mary Barton*, *Richard Feverel*. Prerequisites: Composition 4, 5, 6, and English Novel I.
Sixteen lessons (three credits). \$10.00. Mr. Hillhouse.
33. Later English Novel. The course covers ten of the masterpieces of English fiction written in the last fifty years,—*Tess of the D'Urbervilles* by Hardy, *The Way of All Flesh* by Butler, *The Master of Ballantrae* by Stevenson, *Lord Jim* by Conrad, *The Old Wives' Tale* by Bennett, *The Man of Property*, *In Chancery*, and *To Let* by Galsworthy, *Tono Bungay* by Wells, and possibly one novel by a later writer.
Sixteen lessons (three credits). \$10.00. Mr. Hillhouse.
- †55. Shakespeare I. Shakespeare's development as a dramatist. A careful study of the Comedies. Prerequisites: Composition 4, 5, 6, and six additional credits in English.
Sixteen lessons (three credits). \$10.00. Mr. Nichols.
- †56. Shakespeare II. A continuation of Course 55, with emphasis on Tragedy.
Sixteen lessons (three credits). \$10.00. Mr. Nichols.
- †73. American Literature I. A survey of American literary development in the seventeenth, eighteenth, and early nineteenth centuries. Prerequisites for credit: Composition 4, 5, 6, and six additional credits in English.
Sixteen lessons (three credits). \$10.00. Mr. Nichols.
- †74. American Literature II. A continuation of 73. A survey of American literary development from Hawthorne to the end of the nineteenth century.
Sixteen lessons (three credits). \$10.00. Mr. Nichols.

Composition

NOTE.—All lesson reports in English composition must be returned to the Correspondence Study Department before credit will be allowed for a course.

- A. Subfreshman Composition. A course in the simple fundamentals of correct English, intended to give additional drill to high school graduates who need further preparation for college English.

Twelve lessons (no credit). \$7.50. Mrs. del Plaine.

* Students must take either 21 and 22 or 22 and 23 to receive credit. Two quarters are required as a prerequisite for a major sequence; the second and third quarters are required for a teacher's certificate.

† Both Parts I and II must be completed before credit will be allowed for either.

4. Composition IV. Practical training in the art of writing, the principles of structure, and analysis of specimens of good prose. Practice in writing papers, mainly expository in character. Composition 4, 5, 6 fulfill the freshman English requirement.
Sixteen lessons (three credits). \$10.00. Miss Kerr.
5. Composition V. Continuation of Course 4. This is the second quarter of the required work in English. It includes careful study of the paragraph and further work in theme writing. Prerequisite for credit: Composition 4.
Sixteen lessons (three credits). \$10.00. Mrs. McFadyen.
6. Composition VI. Continuation of Course 5. Study of diction, and practice in writing exposition and narration. Completion of this course satisfies the university requirement in English composition. Prerequisites for credit: Composition 4 and 5.
Sixteen lessons (three credits). \$10.00. Mrs. McFadyen.
- †27. Advanced Writing I—Exposition. Study and writing of essays with emphasis on structure and organization. Prerequisites for credit: English A-B-C or Composition 4, 5, 6, or exemption from requirement.
Sixteen lessons (three credits). \$10.00. Mr. Avery.
- †28. Advanced Writing II—Narration and Description. Study of principles of description and narration with analysis of specimens and exercises in writing. Prerequisites for credit: Composition 27.
Sixteen lessons (three credits). \$10.00. Mr. Avery.
- †69. Short Story Writing I. A study of short story technique with careful analysis of typical stories. Exercises in plot, setting, and characterization. Prerequisites for credit: Composition 4, 5, 6, 27, and 28.
Sixteen lessons (three credits). \$10.00. Mr. Mallam.
- †70. Short Story Writing II. A continuation of Short Story Writing I, with analysis of stories and emphasis upon the student's completion of several stories of his own composition. Prerequisite for credit: Short Story Writing I.
Sixteen lessons (three credits). \$10.00. Mr. Mallam.
- 80c. Independent Writing. Specifically designed for the student who neither needs nor desires the formal restrictions of a traditional composition course. The student is given complete freedom. The instructor will criticize any writing which the student submits and will offer individual suggestions for study and reading calculated to aid the writer in his particular problems. No prerequisites; but mastery of the fundamentals of composition is assumed. It is to the student's advantage that he submit a sample of his writing for the approval of the instructor before actually registering for this course.
Sixteen installments of a total of approximately 15,000 words (no credit). \$10.00. Mr. Avery.
86. Versification I. A study of the nature of poetry, and a detailed analysis of English meters and the various English verse forms. Theory accompanied by criticism of poetry and practice in writing verse. Prerequisites: Composition 4, 5, 6, and six additional credits in English.
Sixteen lessons (three credits). \$10.00. Mr. Nichols.
87. Versification II. A continuation of Course 86. Prerequisite for credit: Course 86.
Sixteen lessons (three credits). \$10.00. Mr. Nichols.
- † Both Parts I and II must be completed before credit will be allowed for either.

ESPERANTO

1. **Beginning Esperanto.** Grammar and simple composition. The course aims to give the student sufficient knowledge of elementary Esperanto to enable him after a few months' study to read, write, and speak simple Esperanto. A feature of the course will be an early correspondence with foreign Esperantists.

Sixteen lessons (no credit). \$10.00. Dr. Wendell.

2. **Advanced Esperanto.** A continuation of Course 1. Designed for those who wish to write and speak Esperanto, not merely sufficiently well to be understood, but in good style. The student will continue to correspond, and will do more original work in connection with a study of the best Esperanto literature, in order to acquire the style and elegance of expression which the language, like national languages, has in its own way. Prerequisite: Course 1.

Sixteen lessons (no credit). \$10.00. Dr. Wendell.

GEOLOGY

8. **Dynamic and Structural Geology.** An introductory treatment of the materials of the earth and of geologic processes; principles of earth sculpture, glaciation, volcanic activity, mountain building, etc., as a key to the interpretation of the surface features and the history of the earth. No prerequisites.

Twenty-seven lessons (five credits). \$17.00. Mr. Thiel.

GERMAN

NOTE.—All lesson reports in language courses must be returned to the Correspondence Study Department before credit will be allowed for a course.

- *1. **Beginning German I.** Grammar and easy composition. The course aims to give the student a knowledge of the elements of German grammar, the facility to read easy German, and to write simple German sentences.

Twenty-seven lessons (five credits). \$17.00. Mr. Burkhard.

- *2. **Beginning German II.** A continuation of Course 1. Prerequisite: Course 1.

Twenty-seven lessons (five credits). \$17.00. Mr. Burkhard.

- *3. **Beginning German III.** Grammar and composition continued; selected readings in easy prose and verse. Prerequisites: Courses 1 and 2 or equivalent.

Twenty-seven lessons (five credits). \$17.00. Mr. Burkhard.

- *4. **Intermediate German.** Selections from modern narrative and descriptive prose. Assigned outside readings and reports. Prerequisites: Courses 1, 2, and 3 or equivalent.

Twenty-seven lessons (five credits). \$17.00. Mr. Downs.

- 4a. **Intermediate German.** This course is intended primarily for medical students. Selections from narrative and descriptive prose including articles on biology, chemistry, physics. Prerequisite: Course 3.

Twenty-seven lessons (five credits). \$17.00. Mr. Burkhard.

* May be taken for one entrance unit.

24. Introduction to Chemical German. Introduction to German grammar. Vocabulary and grammatical exercises. No prerequisites.
Twenty lessons (four credits). \$13.50. Mr. Davies
- 25-26. Chemical German. Review of grammar. Reading of works on chemistry. Vocabulary exercises. Prerequisites: Course 24, 1, or one year of preparatory German.
Course 25—Twenty lessons (four credits). \$13.50. Mr. Davies.
Course 26—Twenty lessons (four credits). \$13.50. Mr. Davies.
30. Medical German I. This course is intended primarily for medical students. Articles on anatomy, biology, embryology, comparative anatomy, surgery, and other fields of medicine. Prerequisite: German 3a, given in the College of Science, Literature, and the Arts. No credit is given until Courses 31 and 32 are completed.
Sixteen lessons (three credits). \$10.00. Mr. Burkhard.
31. Medical German II. A continuation of Course 30 or 4a. No credit is given until Course 32 is completed.
Sixteen lessons (three credits). \$10.00. Mr. Burkhard.
32. Medical German III. A continuation of Course 31.
Sixteen lessons (three credits). \$10.00. Mr. Burkhard.
- †50. Elementary Composition I. Translation of short English selections. Paraphrasing of simple poems. Free narration. Exercises based on topical grammar review. Open to those who are taking or have taken Course 4 or equivalent.
Sixteen lessons (three credits). \$10.00. Mr. Lussky.
- †52. Elementary Composition II. Translation and grammar review. Prerequisite: Course 50.
Sixteen lessons (three credits). \$10.00. Mr. Lussky.
63. Drama I. Study of the present-day drama in Germany. Selected plays of Hebbel, Hauptmann, or Sudermann, with assigned readings and reports. Open to those who have completed Courses 1, 2, 3, and 4.
Twenty-four lessons (four and one-half credits). \$15.00.
Mr. Davies.
64. Drama II. Study of the German drama of the eighteenth century and through the classic period. Selected plays of Lessing, Goethe, or Schiller, with assigned readings. Prerequisites as in Course 63.
Twenty-four lessons (four and one-half credits). \$15.00.
Mr. Davies.

GREEK

(See Classical Languages.)

HISTORY

PREPARATORY COURSES

1. American History. Similar to the third or fourth year of high school course. The following topics are treated with especial fullness: Part A—Social and economic life of the colonists, English colonial policy, the Revolution, the establishment of the new government, the West in national growth. Part B—Rise of sectional interests and the resultant

† Both courses must be completed before credit is allowed for either.

conflict, economic development after the Civil War, and awakening interest in foreign affairs. The causes and relationships of these events are stressed.

Part A, twenty lessons (one-half entrance unit). \$12.50.

Mr. Eggertsen.

Part B, twenty lessons (one-half entrance unit). \$12.50.

Mr. Eggertsen.

2. World History. Corresponds to the second or third year of high school course. Survey of the development of civilization from prehistoric man to the present. Part A through 1815, stresses oriental, Greek, Roman, and medieval civilizations, the Reformation, rise of national states, colonial rivalry, the French Revolution, Napoleon, and the Congress of Vienna. Part B stresses the Industrial Revolution, modern democracy in the various countries of Europe, imperialism, the World War, post-war problems and social, economic, and political conditions in the world today.

Part A, twenty lessons (one-half entrance unit). \$12.50.

Mr. Eggertsen.

Part B, twenty lessons (one-half entrance unit). \$12.50.

Mr. Eggertsen.

COLLEGE COURSES

- †1. Modern World I (1450-1789). This course covers the Renaissance, Reformation, Counter Reformation, great religious wars, exploration and colonization, and the beginning of national development.

Twenty-seven lessons (five credits). \$17.00. Mrs. Mudgett.

- †2. Modern World II (1789 to present). This course covers the French Revolution and Napoleonic eras, unification of Germany and Italy, and destruction of the Second French Empire. It also includes the summary of Europe 1870 to 1914, development of "new imperialism," World War, and a survey of Europe since the war.

Twenty-seven lessons (five credits). \$17.00. Mrs. Mudgett.

- †4. English History I—England in the Middle Ages. A survey of English history from the earliest times to 1485. Special attention is paid to the growth of English nationalism and of such national institutions as the monarchy, the common law courts, and parliament.

Sixteen lessons (three credits). \$10.00. Mrs. Mudgett.

- †5. English History II—Expansion of England 1485-1748. The Reformation and the growth of the modern state; the constitutional struggle and the development of the overseas empire; the beginning of the wars with France.

Sixteen lessons (three credits). \$10.00. Mrs. Mudgett.

- †6. English History III—The Modern Empire and the Commonwealth of Nations. The Seven Years War and the dissolution of the First Empire; the Industrial Revolution; the struggle with Napoleon and the growth of the Second Empire; the development of democracy and of the Commonwealth of Nations.

Sixteen lessons (three credits). \$10.00. Mrs. Mudgett.

† All parts of the sequence to which this course belongs must be completed before credit is allowed for any part of it.

- †7. American History I (1763-1815). This course covers the period from 1763 to the close of the War of 1812, and includes the background of the Revolution, the War for Independence, and the formation of the national government, the growth of parties, and the conflicts over foreign policies, the development of democracy and of nationalism. Prerequisites: ten credits in history for freshmen; others, no prerequisites.
Sixteen lessons (three credits). \$10.00. Mr. Kane.
- †8. American History II (1815-1865). A survey of the development of the United States from the close of the War of 1812 to the close of the Civil War. Special emphasis upon the westward movement, the new democracy, the tariff and public land questions, sectionalism and slavery conflicts, and the background of the Civil War. Careful study of the social and economic changes of the period. Prerequisites: ten credits in history for freshmen; others, no prerequisites.
Sixteen lessons (three credits). \$10.00. Mr. Kane.
- †9. American History III (1865-1917). A survey of American history from the close of the Civil War to the entry of the United States into the World War. Special emphasis is laid on the economic changes of the period and their reaction upon politics. Prerequisites: ten credits in history for freshmen; others, no prerequisites.
Sixteen lessons (three credits). \$10.00. Mr. Kane.
17. Europe in the Middle Ages (800-1500). A study of western European history from the fall of the Roman Empire to the rise of the modern states. Prerequisites: ten credits in history for freshmen; others, no prerequisites.
Twenty-seven lessons (five credits). \$17.00. Mr. Kane.
- †50. Ancient History I. The Ancient Near East. Survey of the stages of human existence in the pre-historic ages, the development of organized societies and great civilizations in Egypt and Mesopotamia, the formation of the great world empires of Assyria and Persia. Prerequisites: nine credits in history. Open to juniors and seniors without prerequisites.
Sixteen lessons (three credits). \$10.00. Mr. Kane.
- †51. Ancient History II. Greece. Prerequisite: History 50. Open to juniors and seniors without prerequisites.
Sixteen lessons (three credits). \$10.00. Mr. Kane.
- †52. Ancient History III. Rome. Prerequisite: History 51. Open to juniors and seniors without prerequisites.
Sixteen lessons (three credits). \$10.00. Mr. Kane.
- †83. American Economic History I—Colonial Period. Two sets of influences meet to produce the early economic history of America; the first, what the colonist brought with him from Europe; the second, what he found here upon arrival. The origins and development of colonial economic life. Prerequisites: fifteen credits in history or ten credits in economics, political science, or sociology.
Sixteen lessons (three credits). \$10.00. Mrs. Mudgett.
- †84. American Economic History II—Early National Period. The struggle for political and economic independence, the protection of economic interests afforded by the new Constitution, the influence of the Supreme

† All parts of the sequence to which this course belongs must be completed before credit is allowed for any part of it.

Court upon economic development, and the early westward movement.
Prerequisite: History 83.

- Sixteen lessons (three credits). \$10.00. Mrs. Mudgett.
- †85. American Economic History III—Later National Period. The economic history of the Civil War and the expansion of American business at home and abroad; the recent history of the Supreme Court. Prerequisite: History 84.

Sixteen lessons (three credits). \$10.00. Mrs. Mudgett.

HOME ECONOMICS

(For courses in Interior Decoration see Art Education.)

- 1c. Household Budget. Budget making; household accounting; foods and marketing; home ownership; clothing costs; principles of arrangement of furnishings and utensils. A practical course for the home-maker.

Sixteen lessons (three credits). \$10.00. Miss Kelley.

- 2c. Textiles. A course for store people and consumers. Study of materials in the store as used in garments and home furnishings. Rayon and other synthetics, wool, silk, cotton, and linen. Woven and knitted materials—processes of manufacture, features of construction and finish which affect the price, appearance, and serviceability of the fabric. Tests to show the composition of suspected materials applicable to ready-to-wear as well as yardage. Trade terms used in newspaper and magazine advertising. Access to a compound microscope desirable but not imperative. A laboratory fee of \$1.00 required, payable at time of registration.

Sixteen lessons (three credits). \$10.00. Miss Caplin.

HYGIENE

- 1c. Maternal and Child Hygiene. Prepared by the Division of Child Hygiene of the Minnesota Department of Health. The lessons take up personal hygiene and home hygiene with special emphasis on maternal and child welfare; diseases of infancy and childhood and care of sick in the home; prenatal hygiene, care of the mother, common complications and how to avoid them, preparation for confinement and after-care of the mother and child; infant care and feeding, weaning and later feeding, growth, development, and training. This course is given in co-operation with state agencies without charge. Offered to residents of Minnesota only.

Sixteen lessons (no credit). Free. Dr. Hartley.

INTERIOR DECORATION

(See Art Education)

JOURNALISM

- 1c. Rural Community Reporting. Gathering and writing news of the rural neighborhood for the local community newspaper, sometimes called country correspondence; analysis of rural neighborhood groups and

† All parts of the sequence to which this course belongs must be completed before credit is allowed for any part of it.

their news interests; study of the obligations of the rural reporter, to his neighborhood, and to his newspaper; practical exercises in the gathering and writing of rural news.

Sixteen lessons (three credits). \$10.00. Mr. Barnhart.

- †13. Newspaper Reporting I. Study of the newspaper audience; structure and writing of the news story; study of news values; exercises in journalistic style; analysis of newspapers; news gathering and reporterorial methods. Numerous writing assignments.

Sixteen lessons (three credits). \$10.00. Mr. Charnley.

- †14. Newspaper Reporting II. Continued study of the news gathering and of writing the "straight" news story; the human interest or feature story; analysis of newspaper; special types of reporting; "made" news and advanced interviewing. Numerous writing assignments.

Sixteen lessons (three credits). \$10.00. Mr. Charnley.

- †15. Newspaper Reporting III. Study of newspaper law, including libel, rights of the press, study of "privilege," and so on; advanced reporting; the interpretative story; the series news story. Numerous writing assignments.

Sixteen lessons (three credits). \$10.00. Mr. Charnley.

- 16c. Press Contacts—News Gathering for Clubs and Organizations. A specially prepared course designed to assist the publicity committees of clubs and similar organizations to understand the newspaper, recognize news, and prepare it.

Sixteen lessons (three credits). \$10.00. Mr. Steward.

73. Newspaper and Magazine Articles I. A study in the writing of facts and opinion articles, interviews and expository articles, both serious and feature, for newspapers and magazines. Main emphasis is laid on the journalistic type of article rather than the essay type.

Sixteen lessons (three credits). \$10.00. Mr. Steward.

74. Newspaper and Magazine Articles II. A continuation of Course I, including a study of typical first-class magazines and newspapers, both of specialized and general interest, including trade publications.

Sixteen lessons (three credits). \$10.00. Mr. Steward.

82. The Supervision of School Publications. A practical consideration of the problems which face the high school teacher who supervises the newspaper, magazine, or yearbook. Editorial content, staff organization, editing, headlines, typography, make-up, business management, publication costs, engraving, photography, and other subjects are considered.

Sixteen lessons (three credits). \$10.00. Mr. Kildow.

- 104c. Editorial Writing I. Study of the style and structure of editorials; practice in writing various types of editorials. Prerequisite: English A, B, C, or Composition IV, V, VI, or exemption from English requirement.

Sixteen lessons (three credits). \$10.00. Mr. Kildow.

- 105c. Editorial Writing II. The writing of editorials is continued with the study of the editorial page, its functions, and special problems.

Sixteen lessons (three credits). \$10.00. Mr. Kildow.

† No credit will be given until Courses 13, 14, and 15 are completed.

LATIN

(See Classical Languages.)

LETTERING

(See page 20.)

LIBRARY TRAINING

52. Elementary Cataloging. The forms and principles involved in making a dictionary card catalog. Based primarily upon the Cataloging Rules of the American Library Association, with reference to other codes. Directions for the use of the printed Library of Congress cards.
Sixteen lessons (three credits). \$10.00. Miss Penrose.
54. Elementary Classification. Based on the unabridged edition of the Dewey Decimal Classification. Aims to give an understanding of the standard classification scheme and its use in a library. Considerable attention is given to modifications and adaptations useful in various types of libraries. Includes Cutter book numbers, accession, and card shelf-list records.
Sixteen lessons (three credits). \$10.00. Miss Wood.
62. Elementary Reference. Use and selection of general reference books. A first-class library should be available for study purposes.
Sixteen lessons (three credits). \$10.00. Miss Greer.

MATHEMATICS

PREPARATORY COURSES

1. Elementary Algebra A. A beginning course. Treats positive and negative numbers; addition, subtraction, multiplication, and division of monomials and polynomials; simple equations in one unknown quantity; elementary special products and factoring; highest common factor and lowest common multiple. Prerequisite: common school arithmetic.
Twenty lessons (one-half entrance unit). \$12.50. Mr. Edwards.
2. Elementary Algebra B. Treats addition, subtraction, multiplication, and division of fractions including complex fractions; equations in one unknown quantity which involve fractions; graphical representation; simultaneous equations of the first degree; square roots and quadratic surds; quadratic equations in one unknown quantity. Prerequisite: Course 1.
Twenty lessons (one-half entrance unit). \$12.50. Mr. Edwards.
3. Plane Geometry A. The work of this course is elementary geometry, Books I and II. Rectilinear figures and the circle, with the miscellaneous original exercises and some elementary construction problems. Prerequisites: Courses 1 and 2.
Twenty lessons (one-half entrance unit). \$12.50. Mr. Edwards.
4. Plane Geometry B. This course treats proportion, similar triangles, proportional properties of line segments, proportional properties of chords and secants, trigonometric ratios, areas of polygons, regular polygons and circles. Prerequisite: Course 3.
Twenty lessons (one-half entrance unit). \$12.50. Mr. Edwards.
5. Solid Geometry. Standard theorems and exercises. Practice in special

proofs and original exercises to develop imagination and initiative. Prerequisites: Courses 3 and 4, or equivalent.

Twenty lessons (one-half entrance unit). \$12.50. Mr. Edwards.

COLLEGE COURSES

Courses for certificate credit, or as basis for comprehensive examinations for the Institute of Technology, are found on pages 20-21.

- *1. Higher Algebra. A review and a collegiate treatment of the topics of elementary algebra for those who have had one year of elementary algebra. Not open for credit to those who presented higher algebra for entrance.

Twenty-seven lessons (five credits). \$17.00. Miss Carlson.

- †6. Trigonometry. A beginning course of collegiate grade in plane trigonometry and logarithms. Solutions of triangles with applications to surveying and physics. Emphasis on properties of trigonometric functions, identities, and equations. Prerequisite: Course 1, or high school higher algebra.

Twenty-seven lessons (five credits). \$17.00. Miss Thorp.

- †7. College Algebra. Quadratic equations, simultaneous quadratic equations, progressions, mathematical induction, the binomial theorem, permutations, combinations, probability, determinants, the theory of equations, infinite series, and partial fractions. Prerequisite: Course 6.

Twenty-seven lessons (five credits). \$17.00. Miss Gibbens.

- †8. Commerce Algebra. Logarithms and selected topics in college algebra. A preparatory course for Course 20. Prerequisite: Mathematics 1 or high school higher algebra.

Twenty-seven lessons (five credits). \$17.00. Miss Gibbens.

- †9c. Logarithms. Definition and fundamental properties of logarithms. Use of logarithms in computing. Prerequisite: Mathematics 1 or high school higher algebra.

Five lessons (one credit). \$5.00. Miss Gibbens.

20. Mathematics of Investment. The mathematical theory of simple interest, simple discount, compound interest and annuities certain. The applications deal with promissory notes, banking practice in the lending of money, the discharge of debts by periodic payments, depreciation funds, perpetuities, capitalization problems, and bonds. Prerequisites: Mathematics 6 and 7, or 7 and 9c, or 8.

Twenty-seven lessons (five credits). \$17.00. Miss Gibbens.

30. Analytic Geometry. The elements of plane analytic geometry including the geometry of the conic sections, with a brief introduction to solid analytic geometry. Prerequisites: Courses 6 and 7.

Twenty-seven lessons (five credits). \$17.00. Mr. Underhill.

50. Calculus I. Differential Calculus. Limits, continuity, differentiation. Maxima and minima. Applications to geometry and physics. Differentials, law of the mean, indeterminate forms, convergence of series, series expansions. Partial differentiation. Prerequisites: Courses 6, 7, 30.

Twenty-seven lessons (five credits). \$17.00. Mr. Underhill.

* May be taken for one-half entrance unit.

† No student may receive credit for both Course 6 and Course 9c, or both Course 8 and Course 9c, or both Courses 7 and 8.

51. Calculus II. Integral Calculus. Indefinite integrals, definite integrals, convergence of improper integrals, the definite integral as the limit of a sum, multiple integrals, applications to geometry and mechanics. Prerequisites: Courses 6, 7, 30, 50.
Twenty-seven lessons (five credits). \$17.00. Mr. Underhill.
62. Theory of Equations I. Complex numbers, the general solution of cubic and quadratic equations, numerical solution of equations, relations between algebraic equations and geometric constructions by ruler and compasses. Prerequisites: Mathematics 6, 7, 30, 50.
Sixteen lessons (three credits). \$10.00. Miss Carlson.
106. Differential Equations. Prerequisites: Mathematics 6, 7, 30, 50, 51.
Sixteen lessons (three credits). \$10.00. Mr. Underhill.

MUSIC

4. Harmony I. Sixteen lessons (three credits). \$10.00. Miss Malcolm.
5. Harmony II. Sixteen lessons (three credits). \$10.00. Miss Malcolm.
6. Harmony III. Sixteen lessons (three credits). \$10.00. Miss Malcolm.

These courses are the equivalent of those given at the University of Minnesota for resident students in the Department of Music. Consist of the study of scales, intervals, chords, their structure and progression, harmonization of given basses, and melodies.

Registration accepted only upon approval of previous preparation in music, which must be fully stated in the application.

65. Instrumentation and Orchestration. A practical study of the standard instruments of band and orchestra; their compass, key, particular difficulties, characteristic passages, effective use in combinations, substitution for missing parts; reading and writing of scores and individual parts; all with reference particularly to the small orchestra and to school organizations. Prerequisites: Music 3, 4 (Harmony) or its equivalent.
Part I. Sixteen lessons (three credits). \$10.00. Mr. Pepinsky.
Part II. Sixteen lessons (three credits). \$10.00. Mr. Pepinsky.

PHYSICS

PREPARATORY COURSES

NOTE.—These preparatory courses in physics are without laboratory work; hence carry no entrance credit.

1. Elementary Physics A. Weights and measures, simple machines, mechanics of liquids, mechanics of gases, non-parallel forces, elasticity and strength of materials, accelerated motion, force and acceleration, energy and momentum, heat—expansion and transmission—water, ice, and steam, heat engines.
Sixteen lessons (no credit). \$10.00. Mr. Edwards.
2. Elementary Physics B. Magnetism, the elements of electricity, battery currents, measuring electricity, induced currents, electric power, alternating current machines; sound; lamps and reflectors, lenses and optical instruments, spectra and color, electric waves, Roentgen rays.
Sixteen lessons (no credit). \$10.00. Mr. Edwards.

COLLEGE COURSE

3. Elements of Mechanics. An elementary university course in the fundamental principles of mechanics. Theoretical course without laboratory work. Prerequisites: Trigonometry and one year of high school physics.

Sixteen lessons (three credits toward graduation in the College of Science, Literature, and the Arts). \$10.00.

Mr. Erikson.

NOTE.—Elements of Mechanics may be taken for credit toward a degree only when it is to be counted as purely elective. It is not accepted for credit in any professional course, nor in any course where physics is a required subject or is prerequisite to any other subject. All applications for physics are subject to approval by the Department of Physics.

POLISH

- 1c. Beginning Polish. An introductory course for students with no previous knowledge of Polish. Pronunciation, grammar, vocabulary drill, questionnaires, and easy conversation. No prerequisite.

Sixteen lessons (no credit). \$10.00. Miss Krolowna.

- 2c. Advanced Polish. Intended for prospective teachers of Polish in secondary schools. Review of grammar, written composition, and book reports, suggestions on methods of teaching Polish. Prerequisites: two years of high school Polish or the equivalent, or 1c and 2c.

Sixteen lessons (no credit). \$10.00. Miss Krolowna.

POLITICAL SCIENCE

1. American Government and Politics I. Introductory study of the American system of government—national, state, and local. Constitutional basis; forms of government and their historical development; participation in politics; parties and elections; legislatures and legislation.

Sixteen lessons (three credits). \$10.00. Mr. Starr.

2. American Government and Politics II. Units and areas of government and their interrelations; problems of administration; the civil service; expenditures and revenue; judicial organization and procedure; citizenship and private rights. Prerequisite for credit: Course I.

Sixteen lessons (three credits). \$10.00. Mr. Christensen.

3. American Government and Politics III. Law and law enforcement; government and business; social services and planning; national defense; American dependencies; foreign relations. Prerequisites for credit: Courses 1 and 2.

Sixteen lessons (three credits). \$10.00. Mr. Christensen.

7. Comparative European Government. A descriptive and comparative study of the governments of the greater European powers: Great Britain, France, Italy, Germany, and Russia. Constitutions; electorates and elections, parliaments (structure and procedure); executives; civil services; political parties; courts; local government; economic constitutions. The emphasis is upon the present day structure and functioning of the European governments, not their historical development. Prerequisite for credit: Course 1.

Twenty-seven lessons (five credits). \$17.00.

Mr. Starr.

15. Elements of Political Science. An analysis of the character and purpose of government, of the principles which underlie adequate political activity, and of the practices and organization which make for sound political conditions in the modern world. The course deals with both principles and practices, purposes and institutions. It endeavors to determine the place which the modern state should occupy in society and the means for the attainment of that position. Prerequisite for credit: Course 1.
Twenty-seven lessons (five credits). \$17.00. Mr. Starr.
25. World Politics, 1878-1929. The foreign policy of the principal European powers since the Congress of Berlin. The pre-war and post-war periods are equally stressed, the continuity of development being emphasized, and each nation being studied separately. Prerequisite for credit: Course 1 or History 1-2.
Twenty-seven lessons (five credits). \$17.00. Mr. Sibley.
147. American Parties and Politics. The policies, composition, organization, activities, and functions of the political parties of today; suffrage, elections, and related subjects; evaluation of the party as a force in American government. Prerequisites for credit: Courses 1, 2, 3, or equivalent.
Sixteen lessons (three credits). \$10.00. Mr. Starr.
181. International Law. A survey of the generally accepted principles of international law. The lessons cover the relations between sovereign states during both peace and war. Attention is paid to the chief problems of the law including those arising out of the World War, also to the principal agencies of international organization. Specific problems are treated by case work. Prerequisite for credit: Courses 1, 2, 3, or equivalent.
Twenty-seven lessons (five credits). \$17.00. Mr. McLaughlin.

PREVENTIVE MEDICINE AND PUBLIC HEALTH

50. Personal and Community Health. Elementary systemic physiology in relation to personal health; hereditary and environmental influences upon health; infection and body resistance; facilities and agencies for the control of disease; physical and mental health problems of the individual and community. Prerequisites for credit: 10 credits in biological science or by permission.
Sixteen lessons (three credits). \$10.00. Dr. Hinckley.
52. Health Care of the Family. Health protection of the family; care of the mother during pregnancy and childbirth; physical and mental health of the infant and preschool child; sickness in the family; mental health of family relationships. Course includes practical instruction in home care of maternity and of the sick person in the home.
Sixteen lessons (three credits). \$10.00. Dr. Bullard.
53. Elements of Preventive Medicine. Causes, methods of spread, nature and prevention of communicable disease; immunity; epidemiology; organization, administration, function of public health programs; sanitation; vital statistics; school health programs, industrial health problems; noncommunicable disease. This course is planned to meet the professional needs of nurses preparing for public health work. Prerequisite: Course 50 or by permission.
Sixteen lessons (three credits). \$10.00. Dr. Ellis.

PSYCHOLOGY

- †1. General Psychology I. The purpose of this course is to acquaint the student with the general characteristics and laws of mental life and with the aims and methods of modern psychology.
Sixteen lessons (three credits). \$10.00. Mr. White.
- †2. General Psychology II. The study of mental development in its relation to heredity and training, with an investigation of the facts and theories of childhood and adolescence with special reference to their bearing on education. Prerequisite: Course I.
Sixteen lessons (three credits). \$10.00. Mr. White.
3. Psychology Applied to Daily Life. A course in the use of psychological methods in solving such problems as come up in the treatment of ill health, in the courtroom, in business offices and factories, in advertising, in education, in social and political life, in artistic creation and esthetic enjoyment. Prerequisites: General Psychology I and II.
Sixteen lessons (three credits). \$10.00. Mr. White.

EDUCATIONAL PSYCHOLOGY

(See page 18.)

ROMANCE LANGUAGES

FRENCH

NOTE.—All lesson reports in language courses must be returned to the Correspondence Study Department before credit will be allowed for a course.

- *†1. Beginning French I. French grammar and reader; modern texts.
Twenty-seven lessons (five credits). \$17.00. Mr. Frelin.
- *†2. Beginning French II. A continuation of Course 1, which is prerequisite to it.
Twenty-seven lessons (five credits). \$17.00. Mr. Frelin.
- *3. Intermediate French I. Review of grammar; composition; reading of representative authors. Prerequisites: Courses 1 and 2 or equivalent.
Twenty-seven lessons (five credits). \$17.00. Mr. Frelin.
- *4. Intermediate French II. A continuation of Course 3. Prerequisite: Course 3.
Twenty-seven lessons (five credits). \$17.00. Mr. Frelin.
8. Scientific French I. Readings from general works on scientific subjects. Particularly valuable to pre-medical students and others who expect to take up courses in science. Prerequisites: Courses 1, 2, and 3.
Sixteen lessons (three credits). \$10.00. Mr. Frelin.
9. Scientific French II. A continuation of Course 8.
Sixteen lessons (three credits). \$10.00. Mr. Frelin.
53. Elementary French Composition. Translations of passages of connected prose dealing with everyday life in France. Prerequisites: Courses 3 and 4.
Sixteen lessons (three credits). \$10.00. Mr. Frelin.

* May be taken for one entrance unit.

† Both courses must be completed before credit will be allowed for either.

63. Advanced French Composition. A continuation of Course 53. It affords practical exercises in prose composition. Prerequisite: Course 53 or equivalent.

Sixteen lessons (three credits). \$10.00.

Mr. Frelin.

SPANISH

- *†1. Beginning Spanish I. Grammar and reading. In this course stress will be laid upon grammar, accurate translation, and composition.

Twenty-seven lessons (five credits). \$17.00.

Mr. Cleifton.

- *†2. Beginning Spanish II. A continuation of Course 1.

Twenty-seven lessons (five credits). \$17.00.

Mr. Cleifton.

- *3. Intermediate Spanish I. Review of grammar; composition, reading of modern Spanish texts. Prerequisites: Courses 1 and 2 or equivalent.

Twenty-seven lessons (five credits). \$17.00.

Mr. Cleifton.

- *4. Intermediate Spanish II. A continuation of Course 3. Prerequisites: Courses 1, 2, and 3.

Twenty-seven lessons (five credits). \$17.00.

Mr. Cleifton.

53. Elementary Spanish Composition. Connected prose composition dealing with everyday life in Spain. The aim is the ability to write Spanish. Prerequisites: Courses 1, 2, 3, and 4 or equivalent.

Sixteen lessons (three credits). \$10.00.

Mr. Cleifton.

60. Advanced Spanish Composition. A continuation of Course 53, which is prerequisite.

Sixteen lessons (three credits). \$10.00.

Mr. Cleifton.

SCANDINAVIAN

NOTE.—All lesson reports in language courses must be returned to the Correspondence Study Department before credit will be allowed for a course.

NORWEGIAN

- *1. Beginning Norwegian I. Complete survey of Norwegian grammar. Composition, reading of easy prose.

Twenty-seven lessons (five credits). \$17.00.

Mr. Madsen.

- *2. Beginning Norwegian II. Study of short stories and Björnson's *En Glad Gut*. Reading and composition. Prerequisite: Course 1 or equivalent.

Twenty-seven lessons (five credits). \$17.00.

Mr. Madsen.

- *3. Intermediate Norwegian. Continuation of Course 2. Based on Björnson's *Synnöve Solbakken*. Reading and composition. Prerequisite: Course 2.

Twenty-seven lessons (five credits). \$17.00.

Mr. Madsen.

- *4. Advanced Norwegian. Based on *Norge Gjennem Tiderne IV*. Reading of representative poetry and prose, literary and historical. Prerequisite: Course 3 or equivalent.

Twenty-seven lessons (five credits). \$17.00.

Mr. Madsen.

25. Introduction to Norwegian Literature. Brief view of the entire field of Norwegian literature. Reading of four representative plays or books. Prerequisite: Course 3 or 4 or equivalent.

Twenty-seven lessons (five credits). \$17.00.

Mr. Madsen.

* May be taken for one entrance unit.

† Both courses must be completed before credit will be allowed for either.

51. Modern Norwegian Literature. History of Norwegian literature. A rapid survey of the earlier periods of Norwegian literature and the reading of representative works by later and modern authors, including Holberg, Asbjørnsen and Moe, Ibsen, Björnson, Lie, and Kielland. Prerequisite: Course 5 or reading knowledge of Norwegian.
Twenty-seven lessons (five credits). \$17.00. Mr. Madsen.
62. Ibsen. This course is given entirely to the study of the life and works of Henry Ibsen. Selected dramas read and interpreted. Emphasis on the chronological order and historical setting of his works. Prerequisite: Course 3 or 25 or reading knowledge of Norwegian-Danish.
Sixteen lessons (three credits). \$10.00. Mr. Madsen.
63. Björnson. Study of the life and works of Björnsterne Björnson. Reading of selected plays, novels, and poems. Prerequisite: Course 3 or 25 or reading knowledge of Norwegian-Danish.
Sixteen lessons (three credits). \$10.00. Mr. Madsen.

SWEDISH

- *7. Beginning Swedish I. Grammar and composition; select readings in easy prose and verse.
Twenty-seven lessons (five credits). \$17.00. Mr. Stomberg.
- *8. Beginning Swedish II. A continuation of Course 7, which is prerequisite.
Twenty-seven lessons (five credits). \$17.00. Mr. Stomberg.
- *9. Intermediate Swedish. Grammar; composition; easy reading. Prerequisites: Courses 7 and 8.
Twenty-seven lessons (five credits). \$17.00. Mr. Stomberg.
10. Advanced Swedish I. The reading of selected authors in prose and poetry. Prerequisites: Courses 7, 8, and 9, or equivalent.
Twenty-seven lessons (five credits). \$17.00. Mr. Stomberg.
11. Advanced Swedish II. A continuation of Course 10, which is prerequisite.
Twenty-seven lessons (five credits). \$17.00. Mr. Stomberg.
107. Swedish Literature I. A history of Swedish literature from the seventeenth century to the present time. Selections from representative authors are studied. Prerequisites: Courses 7, 8, 9, 10, and 11 or equivalent.
Sixteen lessons (three credits). \$10.00. Mr. Stomberg.
108. Swedish Literature II. A continuation of Course 107.
Sixteen lessons (three credits). \$10.00. Mr. Stomberg.
109. Swedish Literature III. A continuation of Course 108.
Sixteen lessons (three credits). \$10.00. Mr. Stomberg.

SOCIAL SCIENCE

PREPARATORY COURSE

- I. Social Science A. Aim is to give citizens an insight into the world in which they are living—an insight which will enable them to understand the economic, social, and political happenings of everyday existence and through their understanding to live more useful lives. Historical survey of man's progress up through the industrial revolution and present economic organization of society. Production, consumption, exchange, and

* May be taken for one entrance unit.

transportation are taken up in turn. Much attention is given to certain fundamental principles which should underlie all business dealings.

- Twenty lessons (one-half entrance unit). \$12.50. Mr. Lundquist.
2. Social Science B. Community Life and Civic Problems. Aims to give an insight into governmental activities as they affect the life of individuals in everyday contacts. Group life and community problems; brief survey of industrial society; exchange, transportation, labor, and capital; the machinery of government as a controlling factor in the township, village, municipality, county, state, and nation. In a good social organization the citizens are given a chance to express themselves when they do their civic duty to their respective communities. The activities emphasized in this course represent the main items in that duty.
- Twenty lessons (one-half entrance unit). \$12.50. Mr. Lundquist.

SOCIOLOGY

1. Introduction to Sociology. A study of the culture of the group. An objective analysis of culture with special attention to social change. A survey of culture patterns, cultural processes, and social interaction. The evolution of typical social institutions, such as the family, industry, and the state; the influence of the biological and environmental (both physical and social) factors upon man in his social relationships; an introductory analysis of some of the leading social problems of the time; a study of the methods of social organization and control, especially from the standpoints of tradition, custom, and science. This course is intended to serve (1) as an introduction to other more specialized courses in sociology, (2) as a background for a better understanding of the society in which we live and of its problems.

Twenty-seven lessons (five credits). \$17.00. Mr. Monchesi.

14. Rural Sociology. A study of rural society, dealing with the relationships of rural and urban individuals and groups. A presentation of such factual data as may be considered fundamental to the understanding of the problems of rural life. Prerequisite: Sociology 1 or special permission of instructor.

Sixteen lessons (three credits). \$10.00. Mr. Murchie.

49. Social Pathology. The scientific approach to the study of poverty, physical diseases and defectiveness, feeble-mindedness, insanity, vagrancy, etc. Prerequisites: ten credits in sociology or Sociology 1 and ten credits in social sciences or psychology.

Sixteen lessons (three credits). \$10.00. Mrs. Fenlason.

60. Social Protection of the Child. Study of social obligations to the child, covering the period from prenatal development down through adolescence; development of the child-saving movement in the United States. Prerequisites: Courses 1 and 49 or their equivalent.

Sixteen lessons (three credits). \$10.00. Mrs. Doyle.

90. The Field of Social Work. A study of the historical background and development of the major movements for social betterment. Attention will be focused on such aspects of professional social work as can be studied on local and nearby communities. Prerequisites: Sociology 1 and 49.

Sixteen lessons (three credits). \$10.00. Mrs. Doyle.

Registrations accepted after May 1, 1937.

101. Social Organization. Study of the organization and structure of social groups; development of social ideals; and basic social processes of integration and disintegration of social institutions such as business units, church, family, local political institutions, school, and welfare institutions. Prerequisite: Course 1 or equivalent.
Sixteen lessons (three credits). \$10.00. Mr. Chapin.
- 105c. History and Philosophy of Co-operative Movement. This course is designed to present in concise form a general introduction to the study of the co-operative movement. The social and economic backgrounds of co-operation; early experiments and their difficulties; the rise of consumer co-operation; how the scope of co-operative movements broadened; history of development of the movement in many countries; essential differences between producer and consumer co-operatives; the movement in America, especially in the Northwest; present trends in co-operative philosophy—political, economic, and social.
Sixteen lessons (no credit). \$10.00. Mr. Murchie.
110. Rural Community Organization. This course is intended for those working in the rural community and small towns and considers more technical problems than those discussed in the course in Rural Sociology. The subjects covered include co-operation, organization for health and sanitation, the social work of the church and schools, organized recreation, clubs, social centers, the organization and co-operation of rural social agencies, small town and county organization, social surveys. Should be preceded by Course 14 (Rural Sociology), but may be taken independently by those who have a special interest in the subject.
Sixteen lessons (three credits). \$10.00. Mr. Lundquist.
119. The Family. Origin and forms of mating and family life; historical origins of the modern family; experiences and problems of the average person during his or her life cycle in the family situation; theories of family change. Prerequisite: Course 1 or its equivalent.
Sixteen lessons (three credits). \$10.00. Mr. Kirkpatrick.
120. Social Progress. A study of the conditions, causes, and criteria of social progress, with the probable limits thereto. Besides the lessons based on the assigned reading, the student will be expected to prepare a paper, either in fundamental criticism of some work on social progress, or in the nature of an original study based on the critical use of library materials. This course is open only to those who have taken Introduction to Sociology and Social Organization, either by correspondence study or in residence.
Sixteen lessons (three credits). \$10.00. Mr. Lundquist.

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The Bulletin *of the University of* **Minnesota**

Instructions for Registration of New *Freshmen and Advanced Standing* *Students*

Spring Quarter, 1936-1937

Saturday, March 27, 1937 (8:30 a.m. to 12:00 noon)

Monday, March 29, 1937 (8:30 a.m. to 4:30 p.m.)



Vol. XL

No. 2

January 4 1937

Entered at the post office in Minneapolis as second-class matter
Minneapolis, Minnesota

Accepted for mailing at special rate of postage provided for in section 1103,
Act of October 3, 1917, authorized July 12, 1918

REGISTRATION INSTRUCTIONS

NEW FRESHMEN AND ADVANCED STANDING STUDENTS

SPRING QUARTER, 1936-37

Saturday, March 27, 1937 (8:30 a.m. to 12:00 noon)

Monday, March 29, 1937 (8:30 a.m. to 4:30 p.m.)

COLLEGE OF SCIENCE, LITERATURE, AND THE ARTS:

1. Report at 8:30 a.m. Saturday, March 27, to the Students' Health Service, University of Minnesota Hospitals, for physical examination.
2. Report to the University Armory, 17th and University Avenues, for matriculation.

Freshmen present admission certificate, aptitude test card, English assignment card and physical examination appointment slip.

Advanced standing students present admission certificate, record of advanced standing, aptitude test card and physical examination appointment slip.

You will receive a Combined Class Schedule. Fresh., soph., and unclassified will receive registration blanks. Juniors and seniors will receive registration blanks when they report for registration.

3. Report for registration:
Freshmen and Sophomores, 113 Folwell Hall.
Juniors and Seniors, 219 Folwell Hall.
Unclassified, 219 Administration Building.
4. Report to 106 Folwell Hall to have your registration blank tallied.
5. Report to a fee statement table in the University Armory to turn in your registration blank. You will be required to present your admission certificate, and will be given a statement of your spring quarter fees.
6. Report to Bursar's Office, Administration Building, and pay fees before 4:30 p.m. Monday, March 29. Fees may be paid by mail and should be post-marked on or before March 29 to avoid late fees. When paying by mail, enclose your fee statement (all three copies) and your check or money order for the exact amount payable to the University of Minnesota. Envelopes should be addressed to the Bursar, University of Minnesota, Minneapolis, Minn.
7. Report to classes Tuesday, March 30. Receipts for payments received by mail will be placed in the post office box assigned, the number of which will be posted in the basement of the Administration Building about the third day after mailing. Students should save their fee receipts throughout the quarter and have them available to present to instructors and others upon request.

COLLEGE OF EDUCATION:

1. Report at 8:30 a.m. Saturday, March 27, to the Students' Health Service, University of Minnesota Hospitals, for physical examination.

2. Report to the University Armory, 17th and University Avenues, for matriculation.

Freshmen present admission certificate, aptitude test card, English assignment card and physical examination appointment slip.

Advanced standing students present admission certificate, record of advanced standing and physical examination appointment slip.

You will receive registration blank, a Combined Class Schedule, and memorandum of year's registration. Advanced standing students who wish to register for practice teaching should request a practice teaching card and instructions.

3. Report to your major adviser for registration. Department major advisers' names and offices are listed on your memorandum of year's registration. Your registration blank must be approved by an adviser.
4. Report to Checking Desk outside 204 Burton Hall. Make an appointment to take the educational psychological examination which is required of all students entering the College of Education.
5. Report to Tally Desk, 106 Folwell Hall (unless registration blank was stamped tallied at Checking Desk).
6. Report to fee statement table in the University Armory to turn in your registration blank. You will be asked to present your admission certificate, and will receive a statement of your spring quarter fees.
7. Report to Bursar's Office, Administration Building, and pay fees before 4:30 p.m. Monday, March 29. Fees may be paid by mail and should be post-marked on or before March 29 to avoid late fees. When paying by mail, enclose your fee statement (all three copies) and your check or money order for the exact amount payable to the University of Minnesota. Envelopes should be addressed to the Bursar, University of Minnesota, Minneapolis, Minn.
8. Report to classes Tuesday, March 30. Receipts for payments received by mail will be placed in the post office box assigned, the number of which will be posted in the basement of the Administration Building about the third day after mailing. Students should save their fee receipts throughout the quarter and have them available to present to instructors and others upon request.
A passing grade in qualifying examinations is required of all students as a prerequisite to the work in the senior year in the College of Education. All registrations in student teaching, or courses involving student teaching or faculty supervision, are tentative and subject to cancellation for all students who have not received a passing mark in all four of these examinations. Watch Official Bulletin, *Minnesota Daily*, for announcement of time and place of examinations.

COLLEGE OF PHARMACY:

1. Report at 8:30 a.m. Saturday, March 27, to the Students' Health Service, University of Minnesota Hospitals, for physical examination.
2. Report to the University Armory, 17th and University Avenues, for matriculation, and to obtain statement of fees.

Freshmen present admission certificate, aptitude test card, English assignment card and physical examination appointment slip.

Advanced standing students present admission certificate, record of advanced standing and physical examination appointment slip.

3. Report to Bursar's Office, Administration Building, and pay fees.
4. Report to 101 Pharmacy Building for registration. You will be asked to present your paid fee receipt before registering. Registration and payment of fees should be completed before 4:30 p.m., Monday, March 29, to avoid late fees.

COLLEGE OF AGRICULTURE, FORESTRY, AND HOME ECONOMICS:

1. Report at 8:30 a.m. Saturday, March 27, to the Students' Health Service, University of Minnesota Hospitals, for physical examination.
2. Report to 203D Administration Building, University Farm, for registration.
Freshmen present admission certificate, aptitude test card, and physical examination appointment slip.
Advanced standing students present admission certificate, record of advanced standing, aptitude test card and physical examination appointment slip.
3. Pay fees at Cashier's Office, University Farm, before 4:30 p.m., Monday, March 29, to avoid late fees.

GENERAL COLLEGE:

1. Report at 8:30 a.m. Saturday, March 27, to the Students' Health Service, University of Minnesota Hospitals, for physical examination.
2. Report to the University Armory, 17th and University Avenues, for matriculation, and to obtain registration material.
Freshmen present admission certificate, aptitude test card, and physical examination appointment slip.
Advanced standing students present admission certificate and physical examination appointment slip.
3. Report to 200 Wesbrook Hall for registration. Your registration blank must be approved by an adviser.
4. Report to one of the fee statement tables in the Armory to turn in your registration blank and receive a statement of your spring quarter fees. When you turn in your registration blank, you will be asked to present your admission certificate.
5. Report to Bursar's Office, Administration Building, and pay fees before 4:30 p.m. Monday, March 29. Fees may be paid by mail and should be postmarked on or before March 29 to avoid late fees. When paying by mail, enclose your fee statement (all three copies) and your check or money order for the exact amount payable to the University of Minnesota. Envelopes should be addressed to the Bursar, University of Minnesota, Minneapolis, Minn.
6. Report to classes Tuesday, March 30. Receipts for payments received by mail will be placed in the post office box assigned, the number of which will be posted in the basement of the Administration Building about the third day after mailing.

Students should save their fee receipts throughout the quarter and have them available to present to instructors and others upon request.

DENTAL HYGIENE:

1. Report at 8:30 a.m. Saturday, March 27, to the Students' Health Service, University of Minnesota Hospitals, for physical examination.
2. Report to the University Armory, 17th and University Avenues, for matriculation, and to obtain statement of fees.
Freshmen present admission certificate, aptitude test card, and physical examination appointment slip.
Advanced standing students present admission certificate, record of advanced standing and physical examination appointment slip.
3. Report to Bursar's Office, Administration Building, and pay fees.
4. Report to 106 Medical Sciences Building for registration. You will be asked to present your paid fee receipt before registering. Registration and payment of fees should be completed before 4:30 p.m. Monday, March 29, to avoid late fees.

SCHOOL OF NURSING:

1. Report at 8:30 a.m. Saturday, March 27, to the Students' Health Service, University of Minnesota Hospitals, for physical examination.
2. Report to the University Armory, 17th and University Avenues, for matriculation.
Freshmen present admission certificate, aptitude test card, and physical examination appointment slip.
Advanced standing students present admission certificate, record of advanced standing, aptitude test card and physical examination appointment slip.
Freshmen will receive fee statements which should be paid at the Bursar's Office, Administration Building before reporting for registration.
3. Report to 125 Medical Sciences Building for registration. Advanced standing students will turn in their approved registration at the Armory to obtain statement of fees.
4. Report to Bursar's Office, Administration Building, and pay fees before 4:30 p.m. Monday, March 29. Fees may be paid by mail and should be postmarked on or before March 29 to avoid late fees. When paying by mail, enclose your fee statement (all three copies) and your check or money order for the exact amount payable to the University of Minnesota. Envelopes should be addressed to the Bursar, University of Minnesota, Minneapolis, Minn.
5. Report to classes Tuesday, March 30. Receipts for payments received by mail will be placed in the post office box assigned, the number of which will be posted in the basement of the Administration Building about the third day after mailing. Students should save their fee receipts throughout the quarter and have them available to present to instructors and others upon request.

INSTITUTE OF TECHNOLOGY:

1. Report at 8:30 a.m. Saturday, March 27, to the Students' Health Service, University of Minnesota Hospitals, for physical examination.

- Report to the University Armory, 17th and University Avenues, for matriculation, and to obtain statement of fees.

Freshmen present admission certificate and physical examination appointment slip.

Advanced standing students present admission certificate, record of advanced standing and physical examination appointment slip.

- Report at 8:30 a.m. Monday, March 29, to 206 Main Engineering Building, for identification photograph. Obtain receipt.

- Report for registration (8:30 a.m. to 12:00 noon, Monday, March 29). Present fee statement and receipt for photograph.

Engineering and Architecture	135 Main Engineering Building
Chem., Ch. Eng., Physics	127 Chemistry Building
Mines and Metallurgy	103 Mines Building

- Report to Bursar's Office, Administration Building, and pay fees before 4:30 p.m. Monday, March 29. Fees may be paid by mail and should be postmarked on or before March 29 to avoid late fees. When paying by mail, enclose your fee statement (all three copies) and your check or money order for the exact amount payable to the University of Minnesota. Envelopes should be addressed to the Bursar, University of Minnesota, Minneapolis, Minn.

- Report to classes Tuesday, March 30. Receipts for payments received by mail will be placed in the post office box assigned, the number of which will be posted in the basement of the Administration Building about the third day after mailing. Students should save their fee receipts throughout the quarter and have them available to present to instructors and others upon request.

LAW, DENTISTRY, BUSINESS ADMINISTRATION (Advanced standing students only):

- Report at 8:30 a.m. Saturday, March 27, to the Students' Health Service, University of Minnesota Hospitals, for physical examination.
- Report to the University Armory, 17th and University Avenues, for matriculation and to obtain statement of fees. Present admission certificate, record of advanced standing and physical examination appointment slip.
- Report to Bursar's Office, Administration Building, to pay fees.
- Report to college office and complete registration by 4:30 p.m. Monday March 29:

Law School	214 Law Building
School of Dentistry	149 Medical Sciences Building
School of Business Administration	113 Business Administration

MEDICAL SCHOOL, MEDICAL TECHNOLOGY (Advanced standing students only):

- Report at 8:30 a.m. Saturday, March 27, to the Students' Health Service, University of Minnesota Hospitals, for physical examination.
- Report to the University Armory, 17th and University Avenues, for matriculation and to obtain registration material. Present admission certificate, record of advanced standing and physical examination appointment slip.
- Report to 136 Medical Sciences Building for registration.

4. Report to a fee statement table in the University Armory to turn in your registration blank and obtain statement of fees.
5. Report to Bursar's Office, Administration Building, and pay fees before 4:30 p.m. Monday, March 29. Fees may be paid by mail and should be postmarked on or before March 29 to avoid late fees. When paying by mail, enclose your fee statement (all three copies) and your check or money order for the exact amount payable to the University of Minnesota. Envelopes should be addressed to the Bursar, University of Minnesota, Minneapolis, Minn.
6. Report to classes Tuesday, March 30. Receipts for payments received by mail will be placed in the post office box assigned, the number of which will be posted in the basement of the Administration Building about the third day after mailing. Students should save their fee receipts throughout the quarter and have them available to present to instructors and others upon request.

UNIVERSITY COLLEGE:

1. Report at 8:30 a.m. Saturday, March 27, to the Students' Health Service, University of Minnesota Hospitals, for physical examination.
2. Report to the University Armory, 17th and University Avenues, for matriculation and to obtain registration material. Present admission certificate, record of advanced standing and physical examination appointment slip.
3. Report to 143 Physics Building for registration.
4. Report to tally desk, 106 Folwell Hall.
5. Report to Window 19, Registrar's Office for fee statement.
6. Report to Bursar's Office, Administration Building, and pay fees before 4:30 p.m. Monday, March 29. Fees may be paid by mail and should be postmarked on or before March 29 to avoid late fees. When paying by mail, enclose your fee statement (all three copies) and your check or money order for the exact amount payable to the University of Minnesota. Envelopes should be addressed to the Bursar, University of Minnesota, Minneapolis, Minn.
7. Report to classes Tuesday, March 30. Receipts for payments received by mail will be placed in the post office box assigned, the number of which will be posted in the basement of the Administration Building about the third day after mailing. Students should save their fee receipts throughout the quarter and have them available to present to instructors and others upon request.

READ THE FOLLOWING ITEMS CAREFULLY—THEY MAY SAVE YOU UNNECESSARY DELAY AND INCONVENIENCE.

- a. You are strongly advised to take the required tests and obtain your admission certificate before coming to the University.
If you have not written the tests, arrange to come to the University before the registration period begins, if possible, to write these tests. Appointments for the tests may be made at 310 Northrop Memorial Auditorium at any time.
- b. If you do **not** have your admission certificate, but one has been issued to you, a duplicate may be obtained at Windows 18-20, Registrar's Office, first floor, Administration Building.
- c. If you have **not** received an admission certificate, and have had your credits forwarded from the last school attended, report to the Board of Admissions,

Windows 18-20, Registrar's Office, first floor, Administration Building, for an admission certificate.

- d. If you have **lost your aptitude test card**, a duplicate may be obtained in Room 310 Northrop Auditorium.
- e. If you need to write the college aptitude test, English placement test, and English theme (either the first two tests or all three) make appointment at 310 Northrop Auditorium to take these tests, preferably during the winter. If it is not convenient to report earlier these tests may be taken Saturday, March 27 at 9:00 a.m. in Room 133 Physics Building.
If you have taken the college aptitude test and need only to write the English theme make appointment to write the theme at 310 Northrop Auditorium during the winter. If it is not convenient to report earlier the theme may be written at 136 Physics Building at 9:00, 10:00, or 11:00 a.m. Saturday, March 27.
- f. If these tests are not written before coming to the University, some delay must be expected due to the time necessary for scoring the tests, reading the theme, and classifying you for your English course. As soon as you have completed the tests, you may receive your admission certificate, but **BEFORE** you report to the Armory and **not less than 36 hours** after the theme has been written, you must report to 219 Folwell Hall for your English classification.
- g. If you received an English classification card by mail and need a duplicate, report to Room 219 Folwell Hall.
- h. If you wish special advice before proceeding with your registration, members of the faculty will be available for consultation in the University Armory, and the Committee on Vocational Counseling will be available in Room 310 Northrop Auditorium.

PLEASE NOTE ESPECIALLY

Do not report to the Armory without the credentials referred to in the instructions.

Do not report to the Registrar's Office for an admission certificate until after you have written the tests if required.

Do not report for your program for the spring quarter without your card for assignment in English.

Do not report for your assignment in English until you have written the college aptitude test, the English placement test, and the English theme, and at least 36 hours have elapsed to permit the English classification to be made.

DURING REGISTRATION DAYS BULLETINS AND GENERAL INFORMATION MAY BE OBTAINED AT THE TICKET BOOTH, EAST ENTRANCE (17th AVENUE) ADMINISTRATION BUILDING.

If your credentials are not on file in the Registrar's Office, immediate arrangements (by telephone or telegraph) should be made to have credits and honorable dismissal forwarded. Provisional admission may be arranged on Tuesday, March 30 on payment of the usual fee for late registration provided adequate assurance can be given that credentials will be received within a reasonable period and will prove satisfactory.

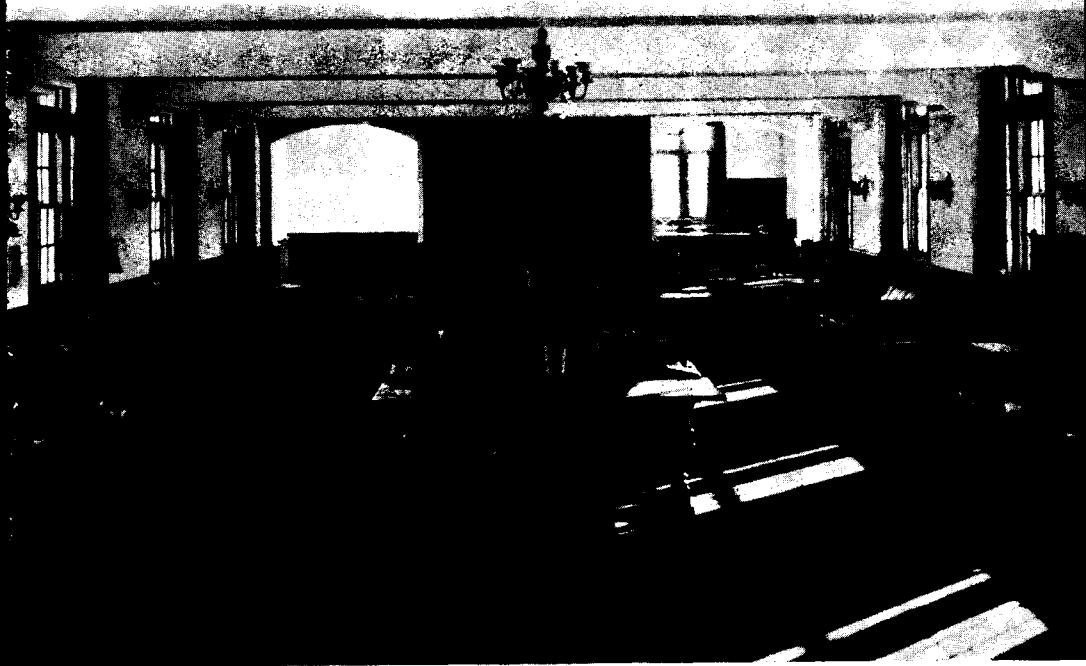
R. M. WEST, Registrar.

Bulletin of the
University of Minnesota

Center for Continuation Study

Preliminary Announcement
of the

Postgraduate Medical Institute
1936-37



The Lounge, Center for Continuation Study

Vol. XL No. 3

January 5, 1937

Entered at the post office in Minneapolis as second-class matter, Minneapolis, Minnesota. Accepted for mailing at special rate of postage provided for in section 1103, Act of October 3, 1917, authorized July 12, 1918

Announcement

The Center for Continuation Study of the University of Minnesota in co-operation with the Medical School and the Minnesota State Medical Association will offer a series of postgraduate medical courses for practicing physicians from January 18 to February 13, 1937. For some time the University has provided opportunities for extended graduate instruction through the facilities of the Graduate School and for short courses on the campus and throughout the state through the agency of the Extension Division. These medical courses which will be offered by the Center for Continuation Study are the first of their kind. They are planned primarily for practicing physicians who desire to spend a short period of time in serious and intensive study in internal medicine, surgery, pediatrics, obstetrics, and gynecology. The Center for Continuation Study on the campus makes it possible for the first time for postgraduate students to attend school in their own building with their own living quarters, faculty, curriculum, and library facilities. In the past, it was necessary for practicing physicians in the Northwest to travel great distances and with considerable expense to obtain the type of instruction which will now be offered near their homes. Everyone is urged to read this announcement with care so that there will be no disappointment through failure to properly enroll and profit from the instruction.

Subjects

The first week, from January 18 to January 23, will be devoted exclusively to instruction in Traumatic Surgery; the second week, from January 25 to January 30, to Obstetrics and Gynecology; the third week, from February 1 to February 6, to Pediatrics; and the fourth week, from February 8 to February 13, to Internal Medicine. It will be possible for any postgraduate student to enroll in one or more of these courses. Preference will be given to those enrolling in the entire series although single week reservations will be welcomed. Students are urged to live in the building which provides excellent facilities for both instruction and living accommodations. In addition to the full-time enrolment, a limited number of physicians from the Twin Cities and vicinity may be accepted for part-time enrolment. Registration details will be found in this bulletin.

Program

In planning the courses, the program has been divided on the basis of regions, systems, or types of disorders. New chairmen will be in charge of each day's program and the faculty which will assist them will function as a unit. In this way, each day's program will represent a complete practical survey of one subject. The courses will consist of lectures, clinics, demonstrations, ward walks, seminars, and practical work. A special feature will be the opportunity for each student to

present his own problems to the group of specialists who are co-operating in this project. The faculty has been selected from the Medical School and the Mayo Foundation. While the fundamental phases of each subject will be discussed, the main emphasis will be placed on the availability of the material to the needs of the general practitioner.

Special Features

New registrations must be completed prior to the start of the week's work for those who have made advance reservations. Students are urged to come at this time and receive their programs and room assignments. The exercises will start each day at 8:00 a.m. and continue until 5:00 p.m. Three nights of each week, namely Monday, Wednesday, and Friday, will be given over to special lectures in the Center. It is to be noted that all meals will be served in the Center. Altho a garage is attached, the use of an automobile will not be necessary as all of the instruction will be given in the Center, at the University of Minnesota Hospitals, or the Minneapolis General Hospital which can be easily and quickly reached by streetcar or cab. Prospective students are urged not to plan any other activities while taking the courses, as in addition to their own schedule they will be expected to attend the regular university medical seminars, conferences, and other meetings which do not conflict with their special program.

The following advance program is submitted for consideration. The complete schedule, including the names of all the instructors, their subjects, and the general university exercises will be issued at the time of registration.

Traumatic Surgery

January 18 to January 23

Courses

8:00 a.m. to 5:00 p.m.

Day	Subject	Faculty
Monday	Spine, Rib, and Pelvic Injuries	W. H. COLE and staff
Tuesday	Shoulder, Arm, and Elbow Injuries	O. J. CAMPBELL and staff
Wednesday	Forearm, Wrist, and Hand Injuries	R. R. CRANMER and staff
Thursday	Head Injuries	A. A. ZIEROLD and staff
Friday	Hip, Thigh, and Knee Injuries	E. T. EVANS and staff
Saturday	Leg, Ankle, and Foot Injuries	E. A. REGNIER and staff

Lectures

7:00 p.m. to 9:00 p.m.

Monday	First Aid in Fractures	C. C. CHATTERTON
	Abdominal Injuries	O. H. WANGENSTEEN
Wednesday	Treatment of Shock	H. A. CARLSON
	Treatment of Infected Wounds and Fractures	M. H. MANSON
Friday	Treatment of Jaw Fractures	C. W. WALDRON
	Nerve Injuries	W. T. PEYTON

Obstetrics and Gynecology

January 25 to January 30

Courses

8:00 a.m. to 5:00 p.m.

Day	Subject	Faculty
Monday	Diseases Complicating Pregnancy	R. T. LAVAKE and staff
Tuesday	Diseases of the Urinary Tract in Pregnancy	R. E. SWANSON and staff
Wednesday	The Toxemias of Pregnancy	R. E. SWANSON and staff
Thursday	Genital Tract Tumors	S. B. SOLHAUG and staff
Friday	Cancer of Genital Tract	J. A. URNER and staff
Saturday	Difficult Labor	L. A. LANG and staff

Lectures

7:00 p.m. to 9:00 p.m.

Monday	Endocrinology in Obstetrics and Gynecology	J. C. LITZENBERG
	Questions and Answers	Staff
Wednesday	Relief of Pain in Labor	R. D. MUSSEY
	Questions and Answers	Staff
Friday	Obstetric Problems in Country Practice	M. BERGHEIM, Hawley, Minn.
	Questions and Answers	Staff

Pediatrics

February 1 to February 6

Courses

8:00 a.m. to 5:00 p.m.

Day	Subject	Faculty
Monday	Clinical Disorders of the Blood Diagnosis and Treatment of Diseases of the Heart Including Rheumatic Fever	W. H. THOMPSON, P. F. DWAN, and staff
Tuesday	Newer Aspects of Nutrition and Metabolism	A. E. HANSEN and staff
Wednesday	Care of the Premature Infant and Special Problems of the Neonatal Period	W. R. SHANNON, ROBERT ROSENTHAL and staff
Thursday	Diseases of the Upper Respiratory Tract and Lungs	E. J. HUENEKENS, A. V. STOESSER, L. R. BOIES, and staff
Friday	Nervous Conditions and Behavior Problems in Childhood	J. E. ANDERSON, B. BRYNGELSON, S. A. CHALLMAN, H. S. LIPPMAN, M. SEHAM, and staff
Saturday	Contagious Diseases—Their Prevention and Treatment	E. S. PLATOU, C. A. STEWART, and staff

Lectures

7:00 p.m. to 9:00 p.m.

Monday	Pathogenesis and Treatment of Edema	I. McQUARRIE
Wednesday	Control of Infections of the Urinary Tract	H. F. HELMHOLZ
Friday	Convulsive Disorders in Childhood Including Epilepsy	I. McQUARRIE

Internal Medicine

February 8 to February 13

Courses

8:00 a.m. to 5:00 p.m.

Day	Subject	Faculty
Monday	Modern Concepts of the Diagnosis and Treatment of Heart Disease	M. BARRON and staff
Tuesday	Diseases of the Respiratory Tract Including the Modern Treatment of Pneumonia	R. JOHNSON and staff
Wednesday	Gastrointestinal Disorders Gastroscopy	J. B. CAREY and staff
Thursday	Common Errors in the Treatment of Diseases of the Skin	H. E. MICHELSON and staff
Friday	Practical Considerations in Endocrinology. Treatment of Diabetes	A. H. BEARD and staff
Saturday	Diseases of the Blood Including the More Simple Laboratory Procedures Available to the General Practitioner	F. J. HECK and staff

Lectures

7:00 p.m. to 9:00 p.m.

Monday	Psychiatric Pitfalls for the General Practitioner—in the Neuroses —in the Psychoses	J. C. MCKINLEY R. W. AHRENS
Wednesday	Arthritis	To be announced
Friday	Significant Therapeutic Advances	Eight speakers, to be announced

Facilities of the Center

The cost of room per person is given below:

	Room Only per Day	Room Only per Week
Double room, without bath.....	\$1.00	\$ 5.00
Single room, without bath.....	1.25	6.25
Double room, with bath.....	1.25	6.25
Large bay-window double room, with bath.....	1.50	7.50
Suite for four persons (two bedrooms, living room, and bath).....	1.50	7.50
Suite for two persons (bedroom, living room, and bath).....	1.75	8.75
Special suite for two persons (bedroom, living room, and bath).....	2.00	10.00

This does not include the tuition fee for each course. Meals may be obtained separately.

Registration and Tuition Fees

The tuition fee for each week's course will be \$15 for full-time enrolment. An advance registration fee of \$3 must be sent with the application. This registration fee will be deducted from the tuition after the registration is completed. The enrolment is limited to thirty students for each week. After the enrolment is completed for any one week, applications which have not been filled will be given preference on succeeding weeks if the student so desires.

The student's registration fee of \$3 will be retained in the event of cancellation of the registration at any time. The full amount of tuition will be refunded for cancellation during the first day of an institute in the case of all institutes of a week or more. For cancellation of registration after the first day of any institute the refund will equal 10 per cent less than the actual time elapsed. No refund of tuition will be granted after the completion of half or more of the course.

Certificate

Upon satisfactory completion of any one or more weeks of full-time enrolment a certificate of attendance will be issued by the University of Minnesota upon the recommendation of the director of the Center and the chairman of the Postgraduate Medical Institute.

Information

Address all applications or requests for information to the Director of the Center for Continuation Study, University of Minnesota, Minneapolis, Minnesota.

The Bulletin of the University of Minnesota

Combined Class Schedule for 1937-1938

One copy of this schedule is issued without charge to each student in the Colleges of Science, Literature, and the Arts; Education; Agriculture, Forestry, and Home Economics; and the School of Business Administration. Additional copies are obtainable at the Engineers Book Store—17, 18 Engineering Building.

Vol. XL

No. 4

January 7 1937

*Entered at the post office in Minneapolis as second-class matter
Minneapolis, Minnesota*

*Accepted for mailing at special rate of postage provided for in section 1103,
Act of October 3, 1917, authorized July 12, 1918*

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UNIVERSITY CALENDAR

1937-38

Fall Quarter

1937

September	13	Monday	Extension registration first semester begins
September	16	Thursday	Payment of fees closes, except for new students ¹
September	20	Monday	Entrance tests
September	20-21		Registration for Freshman Week for all new students entering the freshman class
September	20-24		Examinations for removal of conditions Physical examinations
September	20-25		Registration days ² for the Institute of Technology Payment of fees for new students closes ¹ at 4:30 p.m.
September	21-24		Registration period, ² College of Science, Literature, and the Arts
September	22-25		Freshman Week
September	23-24		Registration days ² for all colleges not included above except the Institute of Technology
September	27	Monday	Fall quarter classes begin 8:30 a.m. ³ First semester extension classes begin ⁴
October	2	Saturday	Last day for extension registration without penalty
October	14	Thursday	Senate meeting, 4:30 p.m.
November	11	Thursday	Armistice Day Convocation
November	13	Saturday	Dad's Day
November	20	Saturday	Homecoming Day
November	25	Thursday	Thanksgiving Day; a holiday
December	2	Thursday	State Day Convocation
December	13-18		Final examination period
December	16	Thursday	Commencement Convocation
December	18	Saturday	Senate meeting, 4:30 p.m. Fall quarter ends, 6:00 p.m.

Winter Quarter

December	23	Thursday	Payment of fees closes for all students in residence fall quarter ¹
1938			
January	3	Monday	Entrance tests

See footnotes on page 5.

January	3-4		Registration ² and payment of fees ¹ for new students in all colleges except the Institute of Technology Registration and payment of fees close at 4:30 p.m. on January 4
January	4	Tuesday	Registration day ² for all students in the Institute of Technology. Registration closes at 3:00 p.m.
January	5	Wednesday	Winter quarter classes begin 8:30 a.m. ³
January	24	Monday	Extension registration second semester begins
February	5	Saturday	First semester extension classes close
February	7	Monday	Second semester extension classes begin ⁴
February	11	Friday	Last day for extension registration without penalty
February	12	Saturday	Lincoln's Birthday; a holiday (except for extension)
February	17	Thursday	Senate meeting, 4:30 p.m.
February	22	Tuesday	Washington's Birthday; a holiday (except for extension)
February	24	Thursday	Charter Day Convocation
March	14-19		Final examination period
March	17	Thursday	Commencement Convocation Payment of fees closes for all students ¹ in residence winter quarter
March	19	Saturday	Winter quarter ends, 6:00 p.m.

Spring Quarter

March	26	Saturday	Entrance tests
March	26-28		Registration ² and payment of fees ¹ for new students in all colleges except the Institute of Technology Registration and payment of fees close at 4:30 p.m. on March 28
March	28	Monday	Registration day ² for all students in the Institute of Technology. Registration closes at 3:00 p.m.
March	29	Tuesday	Spring quarter classes begin, 8:30 a.m. ³
April	15	Friday	Good Friday; a holiday (except for extension)
May	7	Saturday	Mother's Day
May	12	Thursday	Cap and Gown Day Convocation
May	19	Thursday	Senate meeting, 4:30 p.m.
May	30	Monday	Memorial Day; a holiday
June	3	Friday	Second semester extension classes close
June	3-4 & 6-10		Final examination period
June	11	Saturday	Spring quarter ends, 6:00 p.m.
June	12	Sunday	Baccalaureate service
June	13	Monday	Sixty-sixth annual commencement

Summer Quarter

June	13-14		Registration, first term
June	15	Wednesday	First term Summer Session classes begin 8:00 a.m.
July	4	Monday	Independence Day; a holiday
July	21	Thursday	Commencement Convocation
July	23	Saturday	First term closes
			Registration and payment of fees for second term close at 12 m.
July	25	Monday	Second term classes begin 8:00 a.m.
August	27	Saturday	Second term closes

¹ New students must pay fees on dates announced for registration. Fees of graduate students are due one week after their registration is approved by the dean of the Graduate School.

² Registration subsequent to the date specified will necessitate the approval of the college concerned. See also late fees for late registration, page 52 Bulletin of General Information. No student will be allowed to register in the University after one week from the beginning of the quarter excepting in unusual cases wherein special circumstances shall justify the appropriate committee of the college concerned permitting registration at a later date.

³ First hour classes begin at 8:15 a.m. at University Farm.

⁴ This date does not refer to correspondence study courses, which may be started at any time during the year.

DIRECTORY OF ADMINISTRATIVE OFFICES

ADMINISTRATION

Lotus D. Coffman, Ph.D., LL.D., President.....	Adm202
Anne Dudley Blitz, M.A., LL.D., Dean of Women.....	ShH
Edward E. Nicholson, M.A., Dean of Student Affairs.....	Adm213
Rodney M. West, B.A., Registrar.....	Adm105

COLLEGE OF SCIENCE, LITERATURE, AND THE ARTS

John T. Tate, Ph.D., Dean and Professor of Physics.....	Adm219
Joseph M. Thomas, Ph.D., Assistant Dean for the Senior College and Professor of English.....	F219
William H. Bussey, Ph.D., Assistant Dean for the Junior College and Professor of Mathematics.....	F106
Royal R. Shumway, B.A., Assistant Dean for Students' Work and Asso- ciate Professor of Mathematics.....	Adm219

COLLEGE OF EDUCATION

Melvin E. Haggerty, Ph.D., Dean and Professor of Educational Psychology.....	Bu204
Alvin C. Eurich, Ph.D., Assistant Dean and Professor of Education.....	Bu202
Charles W. Boardman, Ph.D., Director of Student Teaching.....	Ed105
Homer J. Smith, Ph.D., Chairman of the Students' Work Committee and Professor of Industrial Education.....	Bu222
Oliver R. Floyd, Ph.D., Principal of the High School and Assistant Pro- fessor of Education.....	Ed103
Horace T. Morse, M.A., Director of Bureau of Recommendations and Instructor in Education.....	Bu208

COLLEGE OF AGRICULTURE, FORESTRY, AND HOME ECONOMICS

Walter C. Coffey, M.S., LL.D., Dean and Director of the Department of Agriculture.....	Ad(UF)201
Edward M. Freeman, Ph.D., Dean of the College of Agriculture, For- estry, and Home Economics.....	PP(UF)200

SCHOOL OF BUSINESS ADMINISTRATION

Russell A. Stevenson, Ph.D., Dean.....	B113
John J. Reighard, M.A., C.P.A., Assistant Dean and Associate Professor of Accounting.....	B106
Frederic B. Garver, Ph.D., Chairman of the Curriculum Committee and Professor of Economics.....	B206
Alvin H. Hansen, Ph.D., Chairman of the Graduate Committee and Pro- fessor of Economics.....	B203
Harry J. Ostlund, B.A., Chairman of the Students' Work Committee and Assistant Professor of Accounting.....	B106

DIRECTORY OF DEPARTMENTAL OFFICES

Administration (Educational) 202,224Bu	Latin 118F
Agricultural Biochemistry 214BCh(UF)	Library Methods 107Lib
Agricultural Economics 303aHH(UF)	Mathematics 119F
Agricultural Education 209Ad(UF)	Methods and Directed Teaching 105Ed, 220,206Bu
Agricultural Engineering 201En(UF)	Military Science and Tactics..... 105A
Agronomy and Plant Genetics 102Ag(UF)	Music 106Mu
Animal and Poultry Husbandry 8LsPav(UF)	Music Education 106Mu
Anthropology 108WeH	Natural Science (College of Education) 15Ed
Architecture 315E	Nursery School and Kindergarten Education 100CWI
Art Education 209J	Nursing Education 125MeS
Astronomy 359Ph	Philosophy 323F
Bacteriology 228MH	Physical Education for Men..... 208Ath
Botany 209Bo	Physical Education for Women 101WGm
Business Administration 113B	Physics 147Ph
Center for Continuation Study CCS	Plant Pathology and Botany..... 200PP(UF)
Chemistry 127C	Political Science 205Bu
Child Welfare 101bPt	Preventive Medicine and Public Health HS
Classics 118F	Professional Education of Teachers 216,220Bu
Clinical Psychology 112Psy	Psychology 112Psy
Commercial Education 102Ed	Public Health Nursing..... HS
Dairy Husbandry 207HH(UF)	Publications and Rural Journalism 113Ad(UF)
Drawing and Descriptive Geometry 208E	Registrar's Office, University Farm 203dAd(UF)
Economics 113B	Rhetoric 309En(UF)
Educational Administration 224Bu	Romance Languages 200F
Educational Psychology 113Psy	Scandinavian 122F
Educational Sociology 222Bu	School Health Work HS
Elementary Education 216,220Bu	Science and Civilization (formerly Orientation) 26F
English 219F	Secondary Education 218Bu
Entomology and Economic Zoology 300Ad(UF)	Social Studies (College of Education) 226Bu
Fine Arts 101J	Sociology and Social Work..... 108J
Forestry 205Hr(UF)	Soils 100aSo(UF)
Geography 101aBu	Speech 309F
Geology and Mineralogy 108P	Supervision (College of Education) 218,220Bu, 105Ed
German 216F	Teachers of Subnormal Children 358Psy
Greek 118F	University Testing Bureau..... 310NMA
History 102Bu	Veterinary Medicine 119Ve(UF)
History of Education 206,226Bu	Zoology 308Z
Home Economics 215HE(UF)	
Home Economics Education 215HE(UF)	
Horticulture 111Hr(UF)	
How To Study 108Psy	
Human Anatomy 201 IA	
Human Physiology 306MH	
Industrial Education 222Bu	
Journalism 13P	

EXPLANATIONS

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

Examples:

1f-2w, a two-quarter course given in the fall and winter.

1w-2s, the same course given in the winter and spring.

3f,w,s, a one-quarter course given each quarter.

Junior College courses in the College of Science, Literature, and the Arts (primarily for freshmen and sophomores) are numbered from 1 to 49. Senior College courses in the College of Science, Literature, and the Arts are numbered as follows: courses primarily for juniors and seniors, from 50 to 99; for juniors, seniors, and graduates, from 100 to 199; for graduates only, from 200 up. This system is not uniformly followed by departments in other colleges than Science, Literature, and the Arts.

Certain courses numbered under 50 are restricted to juniors and seniors. They are not technically Senior College courses and cannot be used in major or minor sequences in the College of Science, Literature, and the Arts.

Statement of credits.—The number of credits stated for two- and three-quarter courses is the number for the entire course, not the number for each quarter.

OTHER ABBREVIATIONS AND SYMBOLS

I, II, III, etc. Main campus, first hour (8:30 to 9:20), second hour (9:30 to 10:20), third hour (10:30 to 11:20), fourth hour (11:30 to 12:20), fifth hour (12:30 to 1:20), sixth hour (1:30 to 2:20), seventh hour (2:30 to 3:20), eighth hour (3:30 to 4:20), ninth hour (4:30 to 5:20).

University Farm, first hour (8:15 to 9:05), second hour (9:15 to 10:05), etc., to 1:05; sixth hour (1:30 to 2:20), etc.

Ar. To be arranged or assigned.

Aud. Auditorium.

Cred. Credits.

Lab. Laboratory.

Lect. Lecture.

MTWThFS Monday, Tuesday, etc.

Prereq. Prerequisite.

Rec. Recitation.

Sec. Section.

† To receive credit for any part of this course, a student must complete the parts preceding the dagger.

‡ There is a fee (amount to be specified) for this course.

A parenthetical statement after the title of each course gives the following information: the number of credits the course carries, the classes to whom it is open, and the courses prerequisite to it. *Abbreviated statement:* (5 cred.; jr., sr.; prereq. 6). *Expanded statement:* This course carries five credits, is open to juniors and seniors only, and has for a prerequisite, Course 6 in the same department.

Buildings

- A, Armory
 Ad, Administration, University Farm
 Adm, Administration
 Ag, Agronomy Bldg., University Farm
 Ath, Athletic Bldg.
 B, School of Business Administration
 BB, Bull Barn, University Farm
 BCB, Beef Cattle Barn, University Farm
 BCh, Biochemistry, University Farm
 BFH, Botany Field House, University Farm
 Bo, Botany
 BoG, Botany Greenhouse
 Bot, Botany, University Farm
 Bu, Burton Hall
 C, Chemistry Bldg.
 CCS, Center for Continuation Study
 CGD, Colleges Girls' Dormitory, University Farm
 CS, Carpenter Shop, University Farm
 CSP, Cold Storage Plant, University Farm
 CWI, Child Welfare Institute
 DB, Dairy Barn, University Farm
 DeH, Dexter Hall, University Farm
 DH, Dining Hall, University Farm
 DHD, Dining Hall Dormitory, University Farm
 E, Main Engineering
 Ed, University High School
 EE, Electrical Engineering
 En, Engineering Bldg., University Farm
 Ex, Experimental Engineering
 F, Folwell Hall
 FCFH, Farm Crops Field House, University Farm
 FdH, Field House
 G, Greenhouse (13th and University Ave. S.E.)
 Gy, Gymnasium, University Farm
 H, Hospitals
 CI, Cancer Institute
 EMH, Elliot Memorial Hospital
 EH, Eustis Hospital
 HS, Health Service
 PW, Psychiatric Ward
 TM, Todd Memorial Hospital
 UD, University Dispensary
 HB, Horse Barn, University Farm
 HE, Home Economics, University Farm
 HH, Haecker Hall, University Farm
 HMH, Home Management Houses, University Farm
 HP, Heating Plant
 Hr, Horticulture, University Farm
 HS, Health Service, University Farm
 IA, Institute of Anatomy
 J, Jones Hall
 L, Law Bldg.
 Lib, Library Bldg.
 LsPav, Livestock Pavilion, University Farm
 M, Mines Bldg.
 MB, Music Bldg., University Farm
 ME, Mechanical Engineering
 MeS, Medical Sciences
 MEx, Mines Experiment Station
 MH, Millard Hall
 MiU, Minnesota Union
 MS, Machinery Shop, University Farm
 MtH, Meat House, University Farm
 Mu, Music Bldg.
 NH, Nurses' Hall
 NMA, Northrop Memorial Auditorium
 O, Observatory
 OD, Old Dairy, University Farm
 P, Pillsbury Hall
 Pe, Pendergast Hall, University Farm
 PG, Poultry Group, University Farm
 Ph, Physics
 PH, Power House, University Farm
 Phm, Pharmacy
 PiH, Pioneer Hall
 Psy, Psychology
 Pt, Pattee Hall
 S, Stadium
 SaH, Sanford Hall
 SB, Swine Barn, University Farm
 SBH, State Board of Health
 SGD, School Girls' Dormitory, University Farm
 SH, Seed House, University Farm
 ShH, Shevlin Hall
 So, Soils, University Farm
 SpB, Sheep Barn, University Farm
 SS, Storehouse and Shops
 TRL, Technological Research Laboratory
 VB, Veterinary Barn, University Farm
 Ve, Veterinary, University Farm
 WeH, Westbrook Hall
 WGM, Women's Gymnasium
 Z, Zoology Bldg.

LIBRARY INSTRUCTION

Library Methods 1 is not a part of the professional curriculum of the Division of Library Instruction. Library Methods 51 to 126 are professional courses open only to senior students or graduates (except for a minor in the College of Education). A full four-year course of preparation instead of three is advised wherever practicable but Library Methods 126 is the only one carrying graduate credit. The completion of a full year in Library Methods is accepted for graduation in the College of Science, Literature, and the Arts, the College of Education, and the University College. Senior students from other colleges may be admitted on approval by the dean of the college concerned and the director of the Division of Library Instruction.

The fees for Library Methods (51-126) are \$3 per credit hour or \$40 per quarter (\$3.50 per credit hour or \$50 per quarter for nonresidents). Students with programs in other colleges or divisions (except those registered in Library Methods 1), must pay the special fee for all library instruction courses taken.

A course for hospital library training will also be given in the spring quarter. It will include 12 credit hours of class work, followed by six weeks practice, or internship, in an approved hospital library. Requirements for admission are the satisfactory completion of at least two quarters of work in an approved library school and courses in Essentials of Medicine for Social Workers (Soc. 136f, 6 cred.) and Abnormal Psychology (Psy. 144f-145w, 6 cred.) or equivalent approved courses. Candidates for admission to this course should apply for a bulletin giving more detailed information regarding the course.

No.	Title	Hour	Day	Bldg.	Instructor
1f,w,s*	Use of Books and Libraries (2 cred.; fr., soph. only; no prereq.)				
	Sec. 1	II	MW	3Lib	Mr. Russell, Miss Moen
	2	IV	MW	3Lib	Mr. Fleming, Miss Miller
	3	VI	MW	5Lib	Miss Runne- strand
<i>Professional Courses</i>					
51f	Bibliography (3 cred.; no prereq.)	III	MWF	5Lib	Mr. Fleming
52f§	Cataloging (3 cred.; no prereq.)				
	Sec. 1 (Ed. students)	I	MWF	5Lib	Miss Hutchinson
	2	IV	MWF	5Lib	Miss Hutchinson
53w	Advanced Cataloging (3 cred.; prereq. 52)				
		IV	MWF	5Lib	Miss Hutchinson
54f§	Classification (3 cred.; no prereq.)	II	TThS	5Lib	Miss Hutchinson
55w	Advanced Classification (3 cred.; prereq. 54)				
		II	TThS	5Lib	
57s	Secondary School Libraries (3 cred.; prereq. 9 cred. in library methods)	I	TThS	5Lib	Miss Greer
58s	Public Library Administration (3 cred.; prereq. 9 cred. in library methods)	II	TThS	5Lib	
60f	Library Binding (1 cred.; no prereq.)				
		III	T	5Lib	Mr. Walter
61f,w,s§	Library Practice (3 to 4½ cred.; prereq. 15 cred. in library methods)				
		Ar	Ar	Ar	Mr. Walter
62w§	Reference (3 cred.; no prereq.)	III	MWF	5Lib	Miss Hutchinson

* For students in the College of Science, Literature, and the Arts. Others may obtain a special card from the Junior College office.

§ Required of all candidates for a degree in library methods.

LIBRARY INSTRUCTION

No.	Title	Hour	Day	Bldg.	Instructor
63s	Advanced Reference (3 cred.; prereq. 62)	III	MWF	5Lib	Miss Hutchinson
64s	Selection of Books for Adolescents (3 cred.; prereq. 9 cred. in library methods)	II	MWF	5Lib	Miss McGregor
67w	Library Printing (1 cred.; no prereq.)	III	T	5Lib	Mr. Walter
68s	Circulation Work (1 cred.; prereq. 9 cred. in library methods)	III	T	5Lib	Mr. Walter
69f	Current Library Problems (3 cred.; prereq. 9 cred. in library methods or with Lib. Meth. 51, 52, 54)	II	MWF	5Lib	Mr. Walter
70w	Current Library Problems (3 cred.; prereq. 69)	I	MWF	5Lib	Mr. Walter
71w	Library Work with Children (3 cred.; prereq. 9 cred. in library methods or 6 cred. and one 3-cred. course in library training with 71)	I	MWF	5Lib	Miss McGregor
72s	Library Work with Children (3 cred.; prereq. 71)	I	MWF	5Lib	Miss McGregor
73f	Selection of Books for Adults (2 cred.; no prereq.)	III	ThS	5Lib	Miss Hutchinson
74w	Selection of Books for Adults (2 cred.; prereq. 73)	III	ThS	5Lib	Miss Hutchinson
75s	Selection of Books for Adults (2 cred.; prereq. 73, 74)	III	ThS	5Lib	Miss Hutchinson
126s	Advanced Bibliography (Prereq. sr. standing and bibliographical or research training or experience)	I	MWF	3Lib	Mr. Russell

MILITARY SCIENCE AND TACTICS

(Coast Artillery Unit *Only*)

No.	Title	Hour	Day	Bldg.	Instructor
<i>Basic Courses</i>					
1f*	First Year Basic Course (1 cred.; no prereq.)				
	Sec. 1	III	MWF	A	Ar
	2	VI	MWF	A	Ar
	3	VIII	MWTh	A	Ar
2w*	First Year Basic Course (1 cred.; no prereq.)				
	Sec. 1	III	MWF	A	Ar
	2	VI	MWF	A	Ar
	3	IX	MWF	A	Ar
3s*	First Year Basic Course (1 cred.; no prereq.)				
	Sec. 1	I	T	A	Ar
		V, IX	T	A	Ar
	2	I	M	A	Ar
		V, IX	T	A	Ar
4f*	Second Year Basic Course (1 cred.; soph.; prereq. 1-2,3, higher algebra, and plane trigonometry)				
	Sec. 1	II	TThS	A	Ar
	2	IV	MWF	A	Ar
	3	VIII	MWTh	A	Ar
5w*	Second Year Basic Course (1 cred.; soph.; prereq. 1,2,3, higher algebra, and plane trigonometry)				
	Sec. 1	II	TThS	A	Ar
	2	IV	MWF	A	Ar
	3	IX	MWF	A	Ar
6s*	Second Year Basic Course (1 cred.; soph.; prereq. 4-5)				
	Sec. 1	I	T	A	Ar
		V, IX	T	A	Ar
	2	I	M	A	Ar
		V, IX	T	A	Ar

NOTE.—Students may register for Courses 1 to 6 and substitute playing in the band for regular military work, with the understanding that this choice renders them ineligible for the Advanced Courses.

Advanced Courses

151f-152w*	First Year Advanced Course, R.O.T.C. (For cred. see note; prereq. 4,5,6) Total of five hours to be taken as follows:				
		One of the two-hour sections:			
	Sec. 1	VI-VII	M	A	Ar
	2	VI-VII	W	A	Ar
		One of the three-hour sections:			
	Sec. 1	II	MWF	A	Ar
	2	IV	MWF	A	Ar
	3	VI	MWF	A	Ar
153s*	First Year Advanced Course, R.O.T.C. (For cred. see note; prereq. 4,5,6) Total of five hours to be taken as follows:				
		II or IV or VI	MWF	A	Ar
		VI, IX	T	A	Ar
154f*	Second Year Advanced Course, R.O.T.C. (For cred. see note; prereq. 151-152, 153) Total of five hours to be taken as follows:				
		One of the two-hour sections:			
	Sec. 1	VIII-IX	W	A	Ar
	2	VIII-IX	F	A	Ar
		One of the three-hour sections:			
	Sec. 1	IV	MWF	A	Ar
	2	VI	MWF	A	Ar

* Offered on the Minneapolis campus.

No.	Title	Hour	Day	Bldg.	Instructor
155w*	Second Year Advanced Course, R.O.T.C. (For cred. see note; prereq. 151-152, 153)				
	Total of five hours to be taken as follows:				
		One of the two-hour sections:			
Sec. 1		VIII-IX	W	A	Ar
2		VIII-IX	F	A	Ar
		One of the three-hour sections:			
Sec. 1		III	MWF	A	Ar
2		IV	MWF	A	Ar
3		IV	TTh	A	Ar
		II	S	A	Ar
156s*	Second Year Advanced Course, R.O.T.C. (For cred. see note; prereq. 151-152, 153)				
	Total of five hours to be taken as follows:				
		I or IV or VI	MWF	A	Ar
		V, IX	T	A	Ar

NOTE.—The general rule regarding credit for the advanced course is: "Three credits per quarter will be allowed for work in the advanced R.O.T.C. courses with a maximum of 18 quarter credits for the two-year course."

* Offered on the Minneapolis campus.

PHYSICAL EDUCATION FOR MEN

Major advisers.—L. F. Keller, R. A. Piper.

The courses in sports education are offered by the Department of Physical Education to men students of the University for the purpose of providing instruction and practice in sports of a recreational nature in which men may participate in future years as a means of obtaining recreation, regular exercise, and social intercourse. The status of these courses in the various colleges for which these courses are offered is as follows:

1. College of Education—(all except majors and minors in physical education) required with credit.
2. General College—required.
3. The Institute of Technology—elective with credit if taken for three quarters.
4. College of Agriculture, Forestry, and Home Economics—elective with credit if all three quarters are taken.
5. University College—elective with credit.
6. All other colleges—elective without credit.

A towel and locker fee of \$1.25 per quarter is charged all students taking exercise courses.

The University furnishes uniforms to students for class work or recreational play for \$1 per quarter.

The facilities of the Department of Physical Education, including the golf course, tennis courts, gymnasiums, swimming pools, handball and squash courts, golf gymnasium, ping-pong room, and playing fields, are available for use by the general student body. All men are invited to participate in some form of physical activity. For information regarding the intramural and intercollegiate athletic programs see the physical education handbook published by the Department of Physical Education for Men or inquire at the offices in the Athletic Building.

SPORTS EDUCATION

Supervisor of Sports Education.—R. A. Piper.

No.	Title	Hour	Day	Bldg.	Instructor
1f,2w,3s	Sports Education.	All freshmen in General College	IV	and College of Education: MWF	Mr. Bartelma, Mr. Beise, Mr. Brain, Mr. Boyce, Mr. Thorpe, Mr. Otter- ness
	Fall:	Touchball, Swimming, Volleyball			
	Winter:	Boxing, Wrestling, Basketball, Handball, and Squash Racquets			
	Spring:	Soft Ball, Tennis, Golf			

No.	Title	Hour	Day	Bldg.	Instructor
1f,2w,3s	Sports Education. Elective for sophomores in the General College and any men in all other colleges:				
	Beginning Swimming	II	MWF		Mr. Thorpe,
	Intermediate Swimming	II	TThS		Mr. Boyce
	Advanced Swimming	III	MWF (w,s)		
	Lifesaving	III	TThS		
	Miscellaneous Swimming	VI	MWF		
	Boxing	VIII	MWF	(f,w)	Mr. Haislet
		IX	MWF		
		VII	MWF		
	Tennis				
	Individual Physical Education Activities (by permission of instructor only)				
		III	MWF	246S	Mr. Osell
		IV	MWF		
		VIII	MWF	(f,w)	
		VII	MWF	(s)	

Substitution of athletic team practice may be allowed by the department to men who rank sufficiently high on the introductory test.

Courses in Major and Minor Curricula in Physical Education for Men

Not open to students in Science, Literature, and the Arts (except 78 and 79).

Af-Bw-Cs	Physical Education Activities (3 cred.; fr. majoring in phys. ed. only; no prereq.)	II-III	TTh	AthGym	Mr. Piper, Mr. Bartelma, Mr. Biese
7f-8w-9s	Advanced Leaders (3 cred.; jr., sr.; prereq. 1-2-3 or A-B-C, 10, 11, 12, 19-20-21)				
	Lect.	IV	T	206Ath	Mr. Osell
	Lab.	Ar			
10f	Minor Sports—Soccer, Tennis, Golf (2 cred.; soph., jr., sr.)	IV	MWFS	206Ath	Mr. Keller, Mr. Beise, Mr. Brain
11w	Minor Sports—Hockey, Handball, and Squash (2 cred.; soph., jr., sr.)	IV	MWFS	206Ath	Mr. Keller, Mr. Thorpe, Mr. Ryman
12s	Minor Sports—Swimming (2 cred.; soph., jr., sr.)	I	MWFS	206Ath	Mr. Thorpe, Mr. Boyce
19f-20w-21s	Physical Education Activities (3 cred.; soph., jr., sr.; prereq. A-B-C)	I-II	TTh	AthGym	Mr. Piper, Mr. Bartelma, Mr. Beise
22f-23w	Kinesiology (4 cred.; jr., sr.; prereq. A-B-C, Phys. Ed. 65)	VI (fall)	TTh	206Ath	Mr. Osell
		I (winter)	TTh	206Ath	Mr. Osell
37w	Fundamental Football (1 cred.; no prereq.) (Formerly Course 37A)	III	MWF	215Ath	Mr. Beise and others
38f	Fundamental Basketball (1/2 cred.; no prereq.) (Formerly Course 38B)	III	MWF	215Ath	Mr. McMillan, Mr. Otter- ness
54w-55s‡	Methods in Physical Education (4 cred.; jr., sr.; prereq. A-B-C) (Formerly Course 24-25)	VI	TTh	206Ath	Mr. Keller
58f	Physical Examination and Normal Diagnosis (2 cred.; sr.; prereq. Physiol. 50, 51, 52) (Formerly Course 28)	III	TThS	206Ath	Ar

‡ A fee of \$1 per credit is charged for this course.

PROGRAM

No.	Title	Hour	Day	Bldg.	Instructor
59w	Adaptation of Activities in Orthopedic Procedures (2 cred.; sr.; prereq. 22-23, 28) (Formerly Course 29)	III	TThS	206Ath	Mr. Osell
60s	Athletic Training (2 cred.; jr., sr.; no prereq.) (Formerly Course 30)	III	TThS	206Ath	Ar
61f	History of Physical Education (2 cred.; sr.) (Formerly Course 31)	I	MWF	206Ath	Mr. Keller
62w	Principles of Physical Education (3 cred.; sr.) (Formerly Course 32)	I	MWF	206Ath	Mr. Keller
63s	Organization and Administration of Physical Education (3 cred.; sr.; prereq. 32) (Formerly Course 33)	III	MWF	214Ath	Mr. Piper
65s	Anatomy (4 cred.; no prereq.)	III-IV	MWF	206Ath	Ar
67s	Advanced Football and Coaching (2 cred.; sr.; prereq. 37 and one year experience on Minnesota squad) (Formerly Course 37B)	II	MWF	214Ath	Mr. Bierman
68f	Basketball (1½ cred.; sr.; prereq. 38) (Formerly Course 38B)	VI	MWF	214Ath	Mr. MacMillan
69s	Track Athletics (2 cred.; sr.; no prereq.) (Formerly Course 39)	VI	MWF	214Ath	Mr. Kelley
72w	Baseball (2 cred.; sr.; no prereq.) (Formerly Course 42)	VI	MWF	214Ath	Mr. McCormick
73f-74w-75s‡	Practice Teaching (6 cred.; sr.; prereq. A-B-C, Ed. 51-52-53 and qual. exam.) (Formerly Course 43-44-45)	I	T and ar	206Ath	Mr. Keller
78w	Elements of Scout Leadership (2 cred.; no prereq.) (Formerly Course 48)	VI	TTh	214Ath	Mr. Osell
79s	Camp Craft and Camp Administration (2 cred.; no prereq.) (Formerly Course 49)	VI	T	214Ath	Mr. Osell
	Lect.	VI, VII	Th		
133f	Special Administrative Problems in Physical Education (3 cred.; sr., grad.; prereq. 63 or equiv.)	I-II	S	206Ath	Mr. Keller, Mr. Nordly, and others
		X	Th		
134w	The Curriculum in Physical Education (3 cred.; sr., grad.; prereq. same as 133)	I-II	S	206Ath	Mr. Keller, Mr. Nordly, and others
		X	Th		
135s	Test and Measurements, and Research in Physical Education (3 cred.; sr., grad.; prereq. 10 hrs. in Phys. Ed. for Men, and Ed. Psy. 60 or Ed. Psy. 116, or equiv.)	I-II	S	206Ath	Mr. Keller
		X	Th		

Men majoring in physical education are required to complete a teaching minor in some other field of education.

‡ A fee of \$1 per credit is charged for this course.

PHYSICAL EDUCATION FOR WOMEN

Major adviser.—Professor J. Anna Norris.

Requirements by colleges and statement of credits.—

College of Science, Literature, and the Arts. Courses 1, 2, 3, 4, 5, 6—elective without credit.

Courses 43-44, 61-62-63, 71-72-73, 80, 98—elective with credit. One-half credit per quarter unless otherwise specified.

College of Education. Courses 1, 2, 3, 4, 5, 6—required with credit. A total of five credits for freshman and sophomore years; i.e., one credit each for three freshman quarters, and $\frac{2}{3}$ credit each for the three sophomore quarters.

General College. Courses 1, 2, 3, 4, 5, 6—required.

College of Agriculture, Forestry, and Home Economics. A total of three credits required, courses to be suggested by major adviser. This requirement may be completed any time during the four years of residence.

All other colleges. Courses 1, 2, 3, 4, 5, 6—elective without credit.

Statement of fees.—All activity courses, including swimming, for which registration is required, except horseback riding, \$1.75 per quarter. Maximum fee per student, \$3.50 per quarter. For methods and practice teaching courses a fee of \$1 per credit is charged as indicated in the footnote. All courses requiring a fee are starred.

No.	Title	Hour	Day	Bldg.	Instructor
1f,2w,3s, 4f,5w,6s	General Course in Physical Education				
	Archery, Elementary*				
	Sec. 1 (fall, winter)	II	MW	60WGm	Ar
	2 (fall, winter)	VI	TTh	60WGm	Ar
	3 (spring)	III	TTh	60WGm	Ar
	4 (spring)	IV	WF	60WGm	Ar
	5 (spring)	VI	WF	60WGm	Ar
	6 (spring)	VII	WF	60WGm	Ar
	Archery, Intermediate*				
	(fall, winter, spring)	I	WF	60WGm	Ar
	Baseball* (spring)				
	Sec. 1	III	TTh	151WGm	Ar
	2	VI	MW	151WGm	Ar
	Basketball, Elementary* (winter)				
	Sec. 1	I	MF	151WGm	Ar
	2	III	TTh	151WGm	Ar
	3	VII	TTh	151WGm	Ar
	4	IV	WF	151WGm	Ar
	Basketball, Intermediate* (winter)				
	Sec. 1	VI	MW	151WGm	Ar
	2	VIII	TTh	151WGm	Ar
	Canoe Paddling* (spring)	II	TTh	58WGm	Miss Starr
	Dancing, Modern*				
	Sec. 1 (fall, winter, spring)	IV	WF	151WGm	Ar
	2 (fall, winter, spring)	VII	TTh	151WGm	Ar
	Dancing, Tap, Elementary*	III	MW	151WGm	Ar
	Sec. 1 (fall, winter)	III	TTh	151WGm	Ar
	2 (fall, winter)				
	Dancing, Tap, Intermediate*	VIII	TTh	151WGm	Ar
	(fall, winter)				

* A fee of \$1.75 per quarter is charged for this course.

PROGRAM

No.	Title	Hour	Day	Bldg.	Instructor
1f,2w,3s, 4f,5w,6s	General Course in Physical Education—Continued				
	Danish Gymnastics* (winter)	VI	MW	153WGm	Ar
	Field Hockey* (fall)	VI	MW	151WGm	Ar
	Fundamentals* (fall, winter)				
	Sec. 1	III	TTh	60WGm	Ar
	2	IV	WF	60WGm	Ar
	3	VI	MW	60WGm	Ar
	Golf, Elementary*§				
	Sec. 1 (winter)	VII	MW	60WGm	Ar
	2 (spring)	I	TTh	60WGm	Ar
	3 (spring)	III	MW	60WGm	Ar
	4 (spring)	VII	TTh	60WGm	Ar
	Golf, Intermediate*§				
	Sec. 1 (fall)	VII	MW	60WGm	Ar
	2 (spring)	II	TTh	60WGm	Ar
	3 (spring)	VI	MW	60WGm	Ar
	Horseback Riding‡ (fall, spring)	IX	TTh	151WGm	Miss Starr
	Lectures in Physical Education and Health¶				
	Sec. 1 (fall, winter)	I	MW	201WGm	Ar
	2 (fall)	II	TTh	201WGm	Ar
	3 (fall, winter, spring)	VI	MW	201WGm	Ar
	Orthopedics* (fall, winter, spring)				
	Sec. 1	II	WF	153AWGm	Miss Mee
	2	III	TTh	153AWGm	Miss Mee
	3 (fall, winter)	IV	WF	153AWGm	Miss Mee
	4 (fall, winter)	VI	MW	153AWGm	Miss Mee
	Posture*				
	Sec. 1 (fall)	I	TTh	153WGm	Ar
	2 (fall)	III	TTh	153WGm	Ar
	3 (fall)	VI	MW	153WGm	Ar
	4 (winter)	II	MW	153WGm	Ar
	Recreational Games, Folk Dancing, and Gymnastics* (fall, winter)	II	MW	153WGm	Ar
	Skating* (winter)	VII	WF	151WGm	Ar
	Soccer* (fall)	IV	WF	151WGm	Ar
	Sports and Dance Appreciation Course*§§ (winter)	II	TTh	201WGm	Ar
	(movies, demonstrations, talks by experts on sports and the dance)				
	Swimming, Elementary* (fall, winter, spring)				
	Sec. 1	II	TTh	51WGm	Ar
	2	IV	MW	51WGm	Ar
	3	VII	WF	51WGm	Ar
	4	VIII	TTh	51WGm	Ar

* A fee of \$1.75 per quarter is charged for this course.

‡ For horseback riding, students will pay about \$1 per lesson, but not the regular gymnasium fee. Attendance at class hours is required for credit. Class meetings will be one hour. Groups will be arranged according to riding ability.

§ Students must supply their own equipment.

¶ This course must be taken during the first year in residence, preferably during fall quarter.

|| Students may not enter the winter quarter of elementary swimming unless they have taken elementary swimming in the fall or spring quarters, except for Sec. 3 VII WF.

§§ Open only to sophomores with permission of the department.

No.	Title	Hour	Day	Bldg.	Instructor
1f,2w,3s, 4f,5w,6s	General Course in Physical Education—Continued				
	Swimming, Advanced Elementary* (fall, winter, spring)	VI	MW	51WGm	Ar
	Swimming, Intermediate* (fall, winter, spring)				
	Sec. 1	III	TTh	58WGm	Ar
	2	VIII	MW	58WGm	Ar
	3	VIII	MW	51WGm	Ar
	Swimming, Advanced* (fall, win- ter, spring)				
	Sec. 1	VI	MW	58WGm	Ar
	2	VIII	TTh	58WGm	Ar
	Swimming, Diving* (fall, winter)	III	MW	58WGm	Ar
	Swimming, Lifesaving*				
	Sec. 1 (winter)	III	MW	51WGm	Miss Starr
	2 (spring)	II	MW	58WGm	Miss Starr
	3 (spring)	IX	MW	58WGm	Miss Starr
	Swimming, Recreational Swim- ming and Water Games* (fall)	VI	TTh	58WGm	Miss Starr
	Tennis, Elementary*‡ (spring)				
	Sec. 1	I	TTh	151WGm	Ar
	2	III	TTh	151WGm	Ar
	3	IV	WF	151WGm	Ar
	4	VI	MW	151WGm	Ar
	Tennis, Intermediate*‡ (spring)				
	Sec. 1	II	TTh	151WGm	Ar
	2	VII	WF	151WGm	Ar
	3	VIII	TTh	151WGm	Ar
	Volleyball*				
	Sec. 1 (fall)	II	MW	153WGm	Ar
	2 (winter)	III	MW	153WGm	Ar
	3 (spring)	III	MW	153WGm	Ar

Recreational Activities for Which No Registration Is Required

Elective Sports	IX	MTWThF	151WGm
Fall:	Field Hockey	Spring:	Baseball
	Horseback Riding		Track
	Volleyball		Horseback Riding
	Swimming		Tennis
	Archery		Golf
	Tap Dancing		Swimming
	Rifle Marksmanship		Archery
Winter:	Basketball		
	Swimming		
	Winter Sports		
	Tap Dancing		
	Tumbling		
	Rifle Marksmanship		

Courses in Major and Minor Curricula in Physical Education for Women

Open only to students in the College of Education, with the exception of Courses 43-44, 61-62-63, 71-72-73, 80, and 98.

36f,37w,38s*	Freshman Team Sports (½ cred.; no prereq.)			
	I(fall)	TThS	151WGm	Ar
	IV(winter)	TS	151WGm	Ar
	VII(spring)	TTh	151WGm	Ar

* A fee of \$1.75 per quarter is charged for this course.

‡ Students taking tennis must pay \$1 for tennis permit.

PROGRAM

No.	Title	Hour	Day	Bldg.	Instructor
39s	First Aid (1 cred.; fr.; no prereq.)	II	TTh	153AWGm	Miss Mee
40f,41w,42s*†	Individual Sports and Fundamentals of Movement (1 cred.; no prereq.)				
	Fall: Golf, Archery	VIII	TTh	60WGm	Ar
		III	S	60WGm	Ar
	Winter: Fundamentals of Movement	I	TThS	60WGm	Miss Christensen
	Spring: Tennis, Track	VIII	MWF	151WGm	Ar
43w-44s*	Elementary Games and Folk Dances (1 cred.; soph., jr.; no prereq.)	II	TTh	151WGm	Miss Kissock
46f,47w,48s*	Sophomore Team Sports (½ cred.; prereq. 36, 37, 38)	VIII	MW	151WGm	Ar
49As††‡	Human Anatomy (nerve, circulatory and respiratory organs, abdominal and pelvic viscera) (3 cred.; soph.; prereq. Zool. 1-2-3)	VI,VII,VIII,IX	TTh	312IA	Ar
49Bs††	Human Anatomy (bone, muscle, joint, and animal mechanics) (5 cred.; soph.; prereq. Phys. Ed. 49A and high school physics)	II,III,IV	MWF	312IA	Ar
50f,51s*†	Sophomore Individual Sports (½ cred.; soph., jr.; prereq. 40-42)	II(fall)	TThS	60WGm	Ar
		I(spring)	TThS	151WGm	Ar
54f-55w*	Danish Gymnastics (1 cred.; soph.; no prereq.)	I	MW	153WGm	Miss Christensen
56f-57w-58s*†††	Technique of Teaching Sports (3 cred.; jr.; prereq. 46, 47, 48, 50, 51)	III(fall)	MWF	151WGm	Ar
		VII(winter)	MW	151WGm	Ar
		VIII(winter)	F		
		VII(spring)	MThF	151WGm	Ar
59f-60w*	Swimming for Major (1 cred.; prereq. elem. swim. test)	II	MW	51WGm	Miss Starr
61f-62w-63s*	Modern Dance, Elementary (1½ cred.; soph., jr.; no prereq.)	VII(45 min.)	MF	151WGm	Ar
64f-65w*	Modified Swedish Gymnastics (1 cred.; jr.; prereq. 41, 54-55)	VIII	MWF	153WGm	Ar
66s	Physiology Applied to Physical Education (3 cred.; jr.; prereq. 49A, 49B)	I	TThS	201WGm	Ar
	Lect.	VI,VII,VIII	W	153WGm	Ar
	Lab.				
67s	Physical Examination (2 cred.; jr.; prereq. 49A, 49B, 66)	VI	MW	201WGm	Miss Mee
		V	W		
69f-70w*†††	Technique of Teaching Swimming (2 cred.; jr.; prereq. 59-60)	III(fall)	S	201WGm	Miss Starr
	Lect.	III(winter)	S	201WGm	Miss Starr
	Lab.	VII	TTh	58WGm	Miss Starr
71f-72w-73s*	Modern Dance, Intermediate (1½ cred.; jr.; prereq. 61-62-63)	I	WF	151WGm	Ar
74w-75s*†††	Technique of Teaching Gymnastics (1 cred. winter, 3 cred. spring; jr.; prereq. 49A, 49B, 64-65, 66)	IV(winter)	TS	153WGm	Ar
		II(spring)	TThS	153WGm	Miss Baker
		I(spring)	M	153WGm	Miss Baker

* A fee of \$1.75 per quarter is charged for this course.

† To receive credit for any part of this course a student must complete the parts preceding the dagger.

‡ Students taking tennis must pay \$1 for tennis permit.

†† A fee of \$2 is charged for 49A and B whether taken as a whole or as a part.

††† A fee of \$1 per credit is charged for this course.

§ Transfer students may take an examination for credit in 49As. Exceptions to this ruling may be recommended by the instructor in charge of the class.

No.	Title	Hour	Day	Bldg.	Instructor
76Af-76Bw	Orthopedic and Remedial Gymnastics	(3 cred.; sr.; prereq. 67)			
	Lect.	I(fall)	F	201WGm	Miss Mee
	Lab.	I(fall)	TTh	153AWGm	Miss Mee
	Lect.	I(winter)	M	201WGm	Miss Mee
	Lab.	II(winter)	M	153AWGm	Miss Mee
		(and 1 hr. ar.)			
77f*	Advanced Folk Dancing (1 cred.; jr.; prereq. 43-44)	II	TThS	151WGm	Ar
78w*‡	Technique of Teaching Folk Dancing (1 cred.; jr.; prereq. 77)	II	TThS	151WGm	Miss Baker
79s§	Massage and Therapeutic Exercises (2 cred.; prereq. 76A-76B)	I	TThS	153AWGm	Miss Mee
80s	Principles of Play (3 cred.; jr.; prereq. 43-44, Psy. 1-2)	III	MWF	201WGm	Miss Kissock
81w*	Modern Dance, Advanced (½ cred.; sr.; prereq. 71-72-73)	I	TTh	151WGm	Miss Baker
82f‡	Technique of Teaching Rhythm (1 cred.; sr.; prereq. 71-72-73)	IV(45 min.)	TS	151WGm	Miss Baker
83w	Principles of the Dance (2 cred.; sr.; prereq. 71-72-73)	II	WF	4WGm	Miss Baker
84f-85w*	Advanced Fundamentals of Movement (1 cred.; sr.; prereq. 74-75)	II(fall)	TTh	153WGm	Miss Baker
		III(winter)	MW	153WGm	Miss Baker
86s	Lifesaving and Water Front Safety§ (1 cred.; jr.; prereq. 69-70)	IV	T	201WGm	Miss Starr
	Lect.	IV	T	201WGm	Miss Starr
	Lab.	VII	TTh	58WGm	Miss Starr
87f	Trends in Physical Education (2 cred.; sr.)	III	TTh	201WGm	Miss Kissock
88f	Principles of Physical Education (2 cred.; sr.; prereq. 74-75)	II	MW	4WGm	Miss Baker
89f	Health Education in Elementary Schools (3 cred.; sr.; prereq. P.M.&P.H. 53, Phys. Ed. 74-75)	III	MWF	201WGm	Miss Starr
90s	Problems in Physical Education (2 cred.; sr.; prereq. 88)	II	MW	4WGm	Miss Baker
92f-93w-94s‡	Practice Teaching (7 cred.; sr.; prereq. 56-57-58, 69-70, 74-75, 78, 80, 81, 82, 83)	Ar	Ar	Ar	Miss Baker
97Aw-97Bs	Administration of Physical Education (3 cred.; sr.; prereq. 80, 87, 88, 89)	III(winter)	TTh	201WGm	Dr. Norris
		III(spring)	T	201WGm	Dr. Norris
98s	Camp Leadership (2 cred.; no prereq.)				
	Lect.	IX	W	201WGm	Ar
	Lab.	IX	TTh	60WGm	Ar

* A fee of \$1.75 per quarter is charged for this course.

‡ A fee of \$1 per credit is charged for this course.

§ A lifesaving certificate is a prerequisite for practice teaching in swimming.

¶ Elective for students majoring in physical education.

|| Elective, not required of students majoring in physical education.

COLLEGE OF SCIENCE, LITERATURE, AND THE ARTS

The College of Science, Literature, and the Arts distinguishes between Junior College courses, intended primarily for freshmen and sophomores, and Senior College courses, intended primarily for juniors and seniors.

Senior College courses appear in the announcement as open to "juniors and seniors" or to "juniors, seniors, and graduates."

Some Senior College courses are regularly open to Junior College students who have an average grade of at least C in the prerequisite courses. They are listed beneath the heading *Senior College Courses* in departmental statements in the Science, Literature, and the Arts section of this Combined Class Schedule Bulletin. Other Senior College courses are open to Junior College students only by special permission of the Students' Work 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. Requests for the special permission should be presented to Assistant Dean Bussey in 106 Folwell Hall. Courses which carry graduate credit may not be taken earlier than the third quarter of the student's sophomore year.

ANTHROPOLOGY

Major adviser in the College of Science, Literature, and the Arts.—Professor Jenks.

Major sequence in the College of Science, Literature, and the Arts.—At least twenty-seven credits selected from the following courses: 106, 107, 108, 110-111, 112, 113, 114, 115-116, 117, 161; History 86-87; Psychology 114.

(Prerequisites: Course 41, with fifteen additional credits from either the social or biological sciences.)

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

Junior College Courses

No.	Title	Hour	Day	Bldg.	Instructor
41f	Introduction to Anthropology—Physical characteristics of types of men; fossil men; prehistoric European archeology; primitive economic and industrial activities; religious life and social organization (3 cred.; soph., jr., sr.; prereq. 10 cred. in sci. or soc. sci.)				
		VIII	MWF	150Ph	Mr. Jenks
41s	Introduction to Anthropology (See 41f)				
		I	MWF	201WeH	Mr. Wallis

Senior College Courses

Courses 53, 54, 56, 62 are open to Junior College students who have a grade of at least C in Course 41. Other Senior College courses in this department are open to Junior College students only by special permission of the Students' Work Committee. See a statement at the top of this page.

53w	Cultural Anthropology: Technology—The arts and industries of primitive man (3 cred.; jr., sr.; prereq. 41)				
		VIII	MWF	1WeH	Mr. Wallis
54	<i>Cultural Anthropology: Social Organization</i> (3 cred.; jr., sr.; prereq. 41) (<i>Not offered</i>)				
56f	Primitive Science—The beliefs and knowledge of primitive man (3 cred.; jr., sr.; prereq. 41)				
		I	MWF	1WeH	Mr. Wallis

No.	Title	Hour	Day	Bldg.	Instructor
62w	Ethnology (3 cred.; jr., sr.; prereq. 41)	III	MWF	206WeH	Mr. Jenks
106f	Prehistoric Man (3 cred.; jr., sr., grad.; prereq. 41)	IV	MWF	1WeH	Mr. Jenks
107s	American Archeology (3 cred.; jr., sr., grad.; prereq. 41)	III	MWF	1WeH	Mr. Jenks
108w	Philippine Peoples (3 cred.; jr., sr., grad.; prereq. 41)	VII	MWF	1WeH	Mr. Jenks
110f-111w†	Physical Anthropology—Man's place in the animal kingdom. Comparison of man's structure with that of the anthropoid apes; types of prehistoric men; anthropometry (6 cred.; jr., sr., grad.; prereq. 41 or one course in human anat. or zool.)	III	TThS	1WeH	Mr. Wallis
112	<i>The American Negro</i> (3 cred.; jr., sr., grad.; prereq. 41) (<i>Not offered</i>)				
113s	Peoples of Europe (3 cred.; jr., sr., grad.; prereq. 41)	IV	MWF	206WeH	Mr. Jenks
114w	The American People (3 cred.; jr., sr., grad.; prereq. 41)	IV	MWF	206WeH	Mr. Jenks
115w-116s†	The American Indian (6 cred.; jr., sr., grad.; prereq. 41)	II	MWF	206WeH	Mr. Wallis
117f	Culture and Culture Areas (3 cred.; jr., sr., grad.; prereq. 41)	II	MWF	1WeH	Mr. Wallis
122f-123w-124s	Problems in Anthropology (Cred. ar.; jr., sr., grad.; prereq. three courses and permission of instructor. For honors course students)	Ar	Ar	1WeH	Mr. Jenks, Mr. Wallis
150*	Field Trip in Archeology (1 to 8 cred.; sr. and grad. only; prereq. one Senior College course)	Ar	Ar	Ar	Mr. Jenks
161s	Primitive Religion (3 cred.; jr., sr., grad.; prereq. 41)	II	TThS	206WeH	Mr. Wallis

For Graduate Students Only

204f-205w-206s	Seminar in Anthropology (3 cred. per qtr.; grad.)	Ar	Ar	1WeH	Mr. Jenks, Mr. Wallis
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ARCHITECTURE

INSTITUTE OF TECHNOLOGY

Major adviser in the College of Science, Literature, and the Arts.—Professor Roy Jones.

Major sequence in the College of Science, Literature, and the Arts.—Courses AD-II, 51-52-53, 54-55-56, 57-58-59.

(Prerequisites: Courses 1-2-3, 4-5-6, AD-I, DP-I, DP-II§)

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

Junior College Courses

Note.—Consult the Bulletin of the Institute of Technology for program of hours, days, buildings, and instructors.

1f-2w-3s	Introduction to Architecture (3 cred.; open only to students whose major subject is architecture or interior architecture; no prereq.) (Formerly Course 11-12-13)
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* This course may be taken for credit only once.

† To receive credit for any part of this course a student must complete the parts preceding the dagger.

§ This course, DP-II, may be postponed until the student's junior year, if necessary.

4f-5w6s	Graphic Representation (6 cred.; soph.; no prereq.) (Formerly Course 61-62-63)
DP-If,w,s†§	Drawing and Painting, Grade I (6 cred., normally 2 cred. per qtr.; all; no prereq.) (Formerly Course 21-22-23)
DP-IIIf,w,s†§	Drawing and Painting, Grade II (6 cred., normally 2 cred. per qtr.; soph., jr., sr.; prereq. DP-I) (Formerly Course 24-25-26)
M-If,w,s†§	Modeling, Grade I (6 cred., normally 2 cred. per qtr.; all; no prereq.) (Formerly Course 84-85-86)
M-Iaf,w,s§	Modeling for Architects (2 cred., normally 2 cred. per qtr.; open only to students whose major subject is architecture or interior architecture; prereq. registration in Architectural Design) (Formerly Course 81-82-83)
AD-If,w,s††§	Architectural Design, Grade I (15 cred., normally 5 cred. per qtr.; soph., jr.; prereq. registration in 4-5-6) (Formerly Course 31-32-33)

Senior College Courses

Senior College courses in this department are open to Junior College students only by special permission of the Students' Work Committee. See a statement on page 22.

Note.—Consult the Bulletin of the Institute of Technology for program of hours, days, buildings, and instructors, and for additional courses.

51f-52w-53s	History of Architecture (6 cred.; jr., sr.; prereq. consent of instructor) (Formerly Course 14-15-16)
54f-55w-56s	History of Architecture (6 cred.; jr., sr.; prereq. 53) (Formerly Course 17-18-19)
57f-58w-59s	Building Materials and Methods (6 cred.; jr., sr.; no prereq.) (Formerly Course 41-42-43 and Course 51-52-53)
105f	Housing (3 cred.; sr.; no prereq.) (Formerly Course 164)
107f-108w-109s	Furniture and Decoration (6 cred.; jr., sr.; prereq. consent of instructor) (Formerly Course 132-183)
DP-IIIIf,w,s†§	Drawing and Painting, Grade III (6 cred., normally 2 cred. per qtr.; jr., sr.; prereq. DP-II or equiv.) (Formerly Course 27-28-29)
DP-IVf,w,s§	Drawing and Painting, Grade IV (6 cred., normally 2 cred. per qtr.; jr., sr.; prereq. DP-III or equiv.) (Formerly Course 121-122-123)
IHP-If§	Illustration (2 cred., normally 2 cred. per qtr.; jr., sr.; prereq. DP-I or equiv.) (Formerly Course 90-91-92)
IHP-IIw,s§	Hand Print Processes (4 cred., normally 2 cred. per qtr.; jr., sr.; prereq. DP-I or equiv.) (Formerly Course 93-94-95)
M-IIIf,w,s†§	Modeling, Grade II (6 cred., normally 2 cred. per qtr.; jr., sr.; prereq. DP-III) (Formerly Course 87-88-89)
SD-If,w§	Stage Design (4 cred., normally 2 cred. per qtr.; jr., sr.; no prereq.) (Formerly Course 96-97)
AD-IIIf,w,s††§	Architectural Design, Grade II (18 cred., normally 6 cred. per qtr.; jr., sr.; prereq. AD-I) (Formerly Course 34-35-36)
ID-If,w,s††§	Interior Architectural Design (24 cred., normally 8 cred. per qtr.; sr.; prereq. AD-II) (Formerly Course 134-135-136)

† A fee of \$1 per quarter is charged for this course.

†† A fee of \$2 per quarter is charged for this course.

§ Completion of this course is dependent on achievement rather than time. Students will continue their registration until the course is completed and a mark reported. The number of credits earned per quarter may be larger or smaller than the amount indicated as normal.

ASTRONOMY

Major adviser in the College of Science, Literature, and the Arts.—Associate Professor Luyten.

Major sequence in the College of Science, Literature, and the Arts.—Courses 51-52-53, 101, and Mathematics 50, 51, 52.

(Prerequisites: Mathematics 1, 6-7, or physical science and Mathematics 6.)

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

Junior College Courses

No.	Title	Hour	Day	Bldg.	Instructor
11f*	Descriptive Astronomy (5 cred.; all; no prereq.)	IV	MTWFS§	150Ph	Ar
11s*	Descriptive Astronomy (5 cred.; all; no prereq.)	IV	MTWFS§	133Ph	Ar

Senior College Courses

Senior College courses in this department are open to Junior College students only by special permission of the Students' Work Committee. See a statement on page 22.

51w*	Astronomy (3 cred.; jr., sr.; prereq. Math. 6)	IV	MWF	133Ph	Ar
52w	Astrophysics (4 cred.; prereq. 51 or 11 and Math. 6)	II	MTWF	359Ph	Ar
53s	Stellar Astronomy (3 cred.; prereq. 51 or 11 and Math. 6)	II	MWF	359Ph	Ar
101f	Celestial Mechanics (3 cred.; jr., sr., grad.; prereq. Math. 51)	II	MWF	359Ph	Ar
140f	Least Squares (3 cred.; prereq. 51 or 11 and at least Math. 51)	II	MWF	359Ph	Ar

NOTE.—Courses 101 and 140 are usually offered in alternate years, and only one will be given in each year, depending largely on the demand.

BACTERIOLOGY

MEDICAL SCHOOL

Major adviser in the College of Science, Literature, and the Arts.—Mrs. Green.

Major sequence in the College of Science, Literature, and the Arts.—Sequence A. For work in medical or public health bacteriology. Courses 101-102, 114, 116, 117, 120, and Zoology 144-145-146.

(Prerequisites: Zoology 1-2-3 and 10 credits in chemistry.)

Sequence B. For work in industrial bacteriology. Courses 103, 114, 121-122, 123, 150-151.

(Prerequisites: Bacteriology 41; 4 credits in botany or zoology; 15 credits in chemistry; and 8 credits in biochemistry or organic chemistry.)

Modifications of these sequences will be permitted upon petition approved by the major adviser and the assistant dean for the Senior College.

* No student may receive credit for both Course 11 and Course 51.

§ The Saturday lecture will be replaced by an evening's observation with the telescope when the weather permits.

PROGRAM

Junior College Courses

No.	Title	Hour	Day	Bldg.	Instructor
41f,w,s†§	General Bacteriology (5 cred.; soph., jr., sr.; prereq. 10 cred. in chemistry and 4 cred. in botany or zoology)				
		VII,VIII,IX	MWF	MH	Ar

Senior College Courses

Senior College courses in this department are open to Junior College students only by special permission of the Students' Work Committee. See a statement on page 22.

101w*†§	Medical Bacteriology (5 cred.; jr., sr., grad.; prereq. 10 cred. in chem.)	Zool. 1-2-3 and 10			
	Lect.	IV	MWF	MH	Dr. Larson
	Lab. Sec. 1	I, II	MWF	MH	Dr. Henrici
	2	I, II	TThS	MH	Dr. Green
102s*†	Medical Bacteriology (4 cred.; jr., sr., grad.; prereq. 101)				
	Lect.	I	MWF	MH	Dr. Larson
	Lab. Sec. 1	II, III	M	MH	Dr. Henrici
		II	WF	MH	Dr. Green
	2	I, II	T	MH	
		I	ThS	MH	
103w	Soil Microbiology (5 cred.; jr., sr., grad.; prereq. 41, and 15 cred. in chem.)				
		I, II, III	TThS	MH	Dr. Skinner
114s	Molds, Yeasts, and Actinomycetes (4 cred.; jr., sr., grad.; prereq. 41 or 101)				
		VII, VIII	TTh	MH	Dr. Henrici
		III, IV	S		
116w	Immunity (3 cred.; jr., sr., grad.; prereq. 101, 102)				
		VI, VII, VIII	TTh	MH	Dr. Larson
117s	Pathogenic Protozoa (3 cred.; jr., sr., grad.; prereq. 101, 102)				
		VII, VIII	TTh	MH	Mrs. Green
120s	Diseases of Animals Transmissible to Man (3 cred.; jr., sr., grad.; prereq. 101, 102)				
		VI	MWF	MH	Dr. Green
121f-122w†	Physiology of Bacteria (6 cred.; jr., sr., grad.; prereq. Bact. 41 and 8 cred. in org. chem. or biochem.)				
		III	TThS	MH	Dr. Halvorson, Dr. Green
123s	Applied Bacteriology (3 cred.; jr., sr., grad.; prereq. 121-122)				
		III	TThS	MH	Dr. Halvorson
124f	Filterable Viruses (4 cred.; jr., sr., grad.; prereq. 102)				
	Lect.	VI	MF	MH	Dr. Green
	Lab.	VI, VII	W	MH	
		VII	MF	MH	
150f-151w†	Advanced Bacteriology (6 cred.; jr., sr., grad.; prereq. 101-102 or 41, 103, 114)				
		VI,VII,VIII,IX	TTh	MH	Dr. Henrici, Dr. Halvorson
153f,w,s	Problems in Bacteriology (Cred. to be arranged; prereq. permission of chairman of department)				
		Ar	Ar	Ar	Staff

BOTANY

Major adviser in the College of Science, Literature, and the Arts.—Professor Burr.

Major sequences in the College of Science, Literature, and the Arts.—

A. In Botany, Courses 62, 63, 113, 118, 119, 131, 140, and 8 additional credits in approved courses to make a total of 31 credits in Senior College courses.

* Both Courses 101 and 102 must be completed before credit will be given for either.

† To receive credit for any part of this course a student must complete the parts preceding the dagger.

‡ Microscope required. Student (except medical) may obtain use of microscope by purchasing \$1.50 microscope card from bursar.

§ No student may receive credit for both Course 41 and Course 101.

B. In special fields, such as morphology, taxonomy, physiology, ecology, or phycology, a major will consist of the respective courses with numbers over 100 and additional credits in approved courses to make a total of 30 credits in Senior College courses.

C. In Biometry, Courses 101, 145, 153, and 15 credits in related courses approved by Mr. Treloar.

(Prerequisites: *For sequences A and B:* Courses 1, 2, 5, 7, 21, 22. If possible, beginning chemistry and at least one year of French or German should be completed as part of the Junior College work.)

(Prerequisite: *For sequence C:* Permission of Mr. Treloar.)

Modifications of these sequences will be permitted upon petition approved by the major adviser and the assistant dean for the Senior College.

Major adviser in the College of Education.—Professor Rosendahl.

Requirements for a teacher's certificate.—Major recommendation, 30 credits in botany including Courses 1, 2, 5, 7, 21, 22, 62 and 8 credits of electives.

Minor recommendation, 19 credits in botany including Courses 1, 2, 7, 21, 22 and three additional credits.

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

Junior College Courses

No.	Title	Hour	Day	Bldg.	Instructor
1f	General Botany—A survey lecture course on plants and their human interest, contributing to liberal culture; characteristics of living matter; fundamental facts of structure, growth, and reproduction; relation of plants to their environment and to each other; principles underlying inheritance, variation, plant breeding, and organic evolution (4 cred.; all; no prereq.)				
	Lect. Sec. 1	III	TThS	BoAud	Mr. Huff
	2	{ VI	W	BoAud	Mr. Huff
		{ VI, VII	F	BoAud	Mr. Huff
	3 (Agr. stud. only)	{ VI	T	BoAud	Mr. Huff
		{ VI, VII	Th	BoAud	Mr. Huff
	Quiz Sec. 1	I	T		
	2	II	T		
	3	II	Th		
	4	III	M		
	5	III	W		
	6	IV	T		
	7	V	T		
	8	V	Th		
	9	VI	M		
	10	VII	M		
	11 (Agr. stud. only)	VII	T		
	12 (Agr. stud. only)	VIII	Th		
1w,s	General Botany (See 1f)				
	Lect.	III	TThS	BoAud	Mr. Huff
	Quiz Sec. 1	I	T		
	2	II	T		
	3	II	Th		
	4	III	M		
	5	IV	M		
	6	IV	T		
2f‡	Elementary General Morphology of Plants (3 cred.; all; prereq. 1)				
	Lect.	VI, VII	M	BoAud	Mr. Huff
	Lab.	VI, VII	WF	1,4,5,8Bo	

‡ A fee of \$1 is charged for this course.

PROGRAM

No.	Title	Hour	Day	Bldg.	Instructor
2w,s†	Elementary General Morphology of Plants (3 cred.; all; prereq. 1)				
	Lect.	III, IV	M	BoAud	Mr. Huff
	Lab.	III, IV	WF	1,4,5,8Bo	
3su	Forest Botany (1 cred.; students in agriculture and forestry; no prereq. Given at Itasca Park)				Mr. Rosendahl
5w‡	Elementary Plant Histology (3 cred.; all; prereq. 1)				
		VI, VII, VIII	WF	1,4,5,8Bo	Mr. Butters
7f‡	Taxonomy of Flowering Plants (3 cred.; all; prereq. 1)				
		I, II	MWF	1,4,5,8Bo	Mr. Butters
7s‡	Taxonomy of Flowering Plants (See 7f)				
	Sec. 1	I, II	MWF	1,4,5,8Bo	Mr. Abbe
	2	VI, VII, VIII	TTh	1,4,5,8Bo	Mr. Butters
12‡	<i>Morphology of Algae</i> (3 cred.; all; prereq. 1) (<i>Not offered</i>)				
21f‡	Elementary Ecology (3 cred.; all; prereq. 1)				
		III, IV	MWF	1,4,5,8Bo	Mr. Cooper
21w‡	Elementary Ecology (See 21f)				
	Lect.	VII	TTh	BoAud	Mr. Cooper
	Lab. Sec. 1 (Agr. stud. only)	V, VI	TTh	1,4,5,8Bo	
	2 (Agr. stud. only)	VIII, IX	TTh	1,4,5,8Bo	
	3	I, II	ThS	1,4,5,8Bo	
21s‡	Elementary Ecology (See 21f)				
	Lect.	VII	TTh	BoAud	Mr. Cooper
	Lab. Sec. 1	V, VI	TTh	1,4,5,8Bo	
	2	VIII, IX	TTh	1,4,5,8Bo	
22f,w,s‡	Elementary Plant Physiology (3 cred.; all; prereq. 1 and high school or college chem. or registration in college chem.)				
	Lect.	VII	TTh	4Bo	Mr. Burr
	Lab. Sec. 1	V, VI	TTh	104Bo	
	2	VIII, IX	TTh	104Bo	

Senior College Courses

Senior College courses in this department are open to Junior College students only by special permission of the Students' Work Committee. See a statement on page 22.

51w‡	Histological Methods (5 cred.; jr., sr.; prereq. 15 cred.)				
		I, II	MTWThF	01Bo	Mr. Abbe
62w‡	Bryophytes and Pteridophytes (3 cred.; jr., sr.; prereq. 10 cred. incl. 2)				
		VI, VII, VIII	MW	8Bo	Mr. Huff
63s‡	Gymnosperms and Angiosperms (3 cred.; jr., sr.; prereq. 7 and either 2 or 62)				
		III, IV	MWF	215Bo	Mr. Butters
108w	Pteridophytes (5 cred.; sr., grad.; prereq. 18 cred. incl. 7 and 62)				
		Ar	Ar		Mr. Butters
110	<i>Gymnosperms</i> (5 cred.; sr., grad.; prereq. 18 cred. incl. 7 and 63) (<i>Not offered</i>)				
113f-114w-115s*	Advanced Taxonomy of Flowering Plants (9 cred.; jr., sr., grad.; prereq. 10 cred. incl. 7)				
		VI, VII, VIII	TTh	215Bo	Mr. Rosendahl
118f‡	Cytology I—Cytoplasmic Phenomena (3 cred.; jr., sr., grad.; prereq. 15 cred. in bot. including Bot. 5 and an elem. course in chem.)				
		III-IV	MWF	215Bo	Mr. Moyer
119w‡	Cytology II—Nuclear Phenomena (3 cred.; jr., sr., grad.; prereq. 15 cred. in bot. including Bot. 5 and an elem. course in chem.)				
		III-IV	MWF	215Bo	Mr. Abbe
124-125-126*	<i>Morphology and Taxonomy of Algae: Algal Types</i> (3 to 5 cred.; jr., sr., grad.; prereq. 10 cred. incl. 12) (<i>Not offered</i>)				
127f	Anatomy of Vascular Plants (5 cred.; jr., sr., grad.; prereq. 18 cred. incl. 5)				
	Lect.	II	TThS	215Bo	Mr. Butters
	Lab.	Ar	Ar		

* Any quarter may be taken separately, except 115s, which requires either 113f or 114w as a prerequisite.

‡ A fee of \$1 is charged for this course.

No.	Title	Hour	Day	Bldg.	Instructor
131f	Field Ecology (5 cred.; jr., sr., grad.; prereq. 10 cred. incl. 21)				
		VI, VII, VIII	MWF	214Bo	Mr. Cooper
132w†	Ecological Anatomy (5 cred.; jr., sr., grad.; prereq. 10 cred. incl. 5 and 21)				
		V, VI, VII, VIII	MWF	214Bo	Mr. Cooper
133	<i>Plant Geography of North America</i> (5 cred.; jr., sr., grad.; prereq. 10 cred. incl. 21) (Not offered)				
134s†	Research Methods in Ecology (5 cred.; jr., sr., grad.; prereq. 18 cred. incl. 21)				
		VI, VII, VIII	MWF	214Bo	Mr. Cooper
136s	Physiology of the Cell (3 cred.; jr., sr., grad.; prereq. 20 cred. in chem. or biochem.)				
		II	TThS	215Bo	Mr. Moyer
140w	General Plant Physiology (3 cred.; jr., sr., grad.; prereq. 22, elem. inorg. chem.)				
		III	MWF	5Bo	Mr. Burr
141f†	Physico-chemical Principles and Measurements in Plant Physiology (3 or 5 cred.; jr., sr., grad.; prereq. 20 cred. chem. or biochem.)				
	Lect.	7:55		MWF 5Bo	Mr. Burr
	Lab.	Ar		Ar 104Bo	Mr. Miller
142w†	Photosynthesis and Other Effects of Radiation (3 or 5 cred.; jr., sr., grad.; prereq. same as for 141)				
	Lect.	7:55		MWF 5Bo	Mr. Burr
	Lab.	Ar		Ar 104Bo	Mr. Miller
143s†	Plant Metabolism (3 or 5 cred.; jr., sr., grad.; prereq. same as for 141)				
	Lect.	7:55		MWF 5Bo	Mr. Burr
	Lab.	Ar		Ar 104Bo	Mr. Miller
144f†	Applied Spectroscopy in Biology (3 to 5 cred.; jr., sr., grad.; prereq. 20 cred. in chem. or biochem.)				
	Lect.	Ar		MWF 1Bo	Mr. Miller
	Lab.	Ar		MWF	
149-150-151*	<i>Advanced Phycology</i> (3 to 5 cred. per qtr.; sr., grad.; prereq. 124 or 125 or 126) (Not offered)				

BIOMETRY

101f†	Biometric Principles (5 cred. Three credits may be taken by special arrangement with the instructor; jr., sr., grad.; prereq. 18 cred. biological science or mathematics through analytic geometry)				
	Lect.	III		TThS 4Bo	Mr. Treloar
	Lab.	Ar		Ar 202Bo	
101s†	Biometric Principles (See 101f)				
	Lect.	I		TThS 4Bo	Mr. Treloar
	Lab.	Ar		Ar 202Bo	
145w†	Correlational Analysis (3 or 5 cred. Three credits for lectures and two credits for laboratory. Lectures may be taken separately only with permission of the instructor; sr., grad.; prereq. 101 or consent of instructor)				
	Lect.	III		TThS 4Bo	Mr. Treloar
	Lab.	Ar		Ar 202Bo	
146f,w,s	Topics in Biometry (3 cred.; sr., grad.; prereq. 145 and 153, or consent of instructor)				
		Ar		Ar Ar	Mr. Treloar
153s†	Statistical Interpretation (3 or 5 cred.; sr., grad.; prereq. 101 or consent of instructor)				
	Lect.	III		TThS 4Bo	Mr. Treloar
	Lab.	Ar		Ar 202Bo	

For graduate courses given during 1937-38 consult the department.

PLANT PATHOLOGY AND BOTANY

Students in this college may elect courses in Plant Pathology and Botany by arrangement with the department. But before registering for any courses they should get the approval of Assistant Dean Shumway in 219 Administration Building. See the program of the College of Agriculture, Forestry, and Home Economics in this bulletin.

* Any quarter may be taken separately, except 115s, which requires either 113f or 114w as a prerequisite.

† A fee of \$1 is charged for this course. No fee is charged for Botany 101, 141, 142, 143, 145, or 153, 3 credits, lectures only.

CHEMISTRY

INSTITUTE OF TECHNOLOGY

Major adviser in the College of Science, Literature, and the Arts.—Professor Sneed.

Major sequence in the College of Science, Literature, and the Arts.—Analytical Chemistry 1-2; Organic Chemistry 51-52-153; Physical Chemistry 101-102-103.

(Prerequisites: Inorganic Chemistry. 13 with its prerequisites; physics, with the prerequisite mathematics.)

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

Major adviser in the College of Education.—Palmer O. Johnson.

Requirements for a teacher's certificate.—Major recommendation: Inorganic Chemistry 9-10, 12; Analytical Chemistry 7; Organic Chemistry 51-52 and 10 additional credits in chemistry.

Minor recommendation: Inorganic Chemistry 9-10, 12; Analytical Chemistry 7 and 6 additional credits in chemistry.

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

Note.—Analytical Chemistry 1-2 and all courses numbered above 50 count as Senior College courses.

INORGANIC CHEMISTRY

No.	Title	Hour	Day	Bldg.	Instructor
1f-2w†-3s	General Inorganic Chemistry (12 cred.; primarily for premedical and preidental students; no prereq.)				
	Lect.	VI	MWF	225C	Mr. Pervier
	Lab.	VII, VIII, IX	T	290C	
	Quiz	VI	T	ArC	
1f-2w†-3s	General Inorganic Chemistry (12 cred.; open only to Agriculture, Forestry, and Home Economics students; no prereq.)				
	Lect.	VII	MWF	225C	Mr. Barber
	Lab. (fall, winter)	VIII, IX	MW	210C	
	(spring)	VIII, IX	MF	210C	
4f-5w†	General Inorganic Chemistry (8 cred.; for premedical students only; prereq. entrance cred. in chem.)				
	Lect.	VI	MWF	100C	Mr. Stephens
	Lab.	VII, VIII, IX	T	210C	
	Quiz	VI	T	100C	
4f-5w†	General Inorganic Chemistry (8 cred.; primarily for preidental and medical technology students; prereq. entrance cred. in chem.)				
	Lect.	VII	MWF	325C	Mr. Stephens
	Lab.	VII, VIII, IX	Th	210C	
	Quiz	VI	Th	100C	
6f-7w†	General Inorganic Chemistry (10 cred.; all; no prereq. A continuation of this course is 8s)				
	Lect.	II	MWF	225C	Miss Cohen
	Quiz	I	S	410C(f), 225C(w)	
	Lab. Sec. 1	I, II	TTh	210C	
		II	S	210C	
	2	I, II, III	Th	210C	
	II, III	S	210C		

† To receive credit for any part of this course a student must complete the parts preceding the dagger.

No.	Title	Hour	Day	Bldg.	Instructor
8s*	Qualitative Chemical Analysis (5 cred.; all; prereq. 7)				
	Lect.	II	MWF	225C	Miss Cohen
	Lab. Sec. 1	I, II	TThS	210C	
	2	I, II, III	ThS	210C	
9f-10w†	General Inorganic Chemistry (10 cred.; all; prereq. entrance cred. in chem.)				
	Lect.	II	MWF	100C	Mr. Sneed
	Lab. Sec. 1	I, II	TThS	290C	
	2	I, II, III	ThS	290C	
9f-10w†	General Inorganic Chemistry (10 cred.; open only to Agriculture, Forestry, and Home Economics students; prereq. entrance cred. in chem.)				
	Lect.	VII	MWF	100C	Mr. Reyerson
	Lab.	VIII, IX	MWF	110C	
9w-10s†	General Inorganic Chemistry (10 cred.; all; prereq. entrance cred. in chem.)				
	Lect. Sec. 1	III	MWF	225C	Miss Cohen
	2	III	MWF	100C	
	Lab.	VI, VII	MWF	Ar	
11f	Qualitative Chemical Analysis (4 cred.; primarily for premedical and pre dental students; prereq. 3 or 5)				
	Lect.	IV	MWF	225C	Miss Cohen
	Lab.	VI, VII, VIII, IX	F	210C	
11s	Qualitative Chemical Analysis (4 cred.; for premedical students only; prereq. 3 or 5)				
	Lect.	VI	MWF	100C	Mr. Stephens
	Lab.	VI, VII, VIII, IX	T	210C	
11s	Qualitative Chemical Analysis (4 cred.; primarily for pre dental and medical technology students; prereq. 3 or 5)				
	Lect.	VII	MWF	100C	Mr. Stephens
	Lab.	VI, VII, VIII, IX	Th	210C	
12f-13w¶	Qualitative Chemical Analysis (10 cred.; all; prereq. 10)				
	Fall Lect.	I	TThS	225C	Mr. Maynard
	Lab.	I, II, III	MW	290C	
	Winter Lect.	VI	WF	325C	Mr. Heisig
	Quiz	VI	M	335EE	
	Lab.	VII, VIII, IX	WF	290C	
		VII, VIII	M	290C	
12s¶	Qualitative Chemical Analysis (See 12f-13w)				
	Lect.	II	MWF	100C	Mr. Sneed
	Lab.	I, II, III	ThS	290C	
13f¶	Qualitative Chemical Analysis (See 12f-13w; prereq. 12 or 8)				
	Lect.	VI	WF	325C	Mr. Heisig
	Quiz	VI	M	335EE	
	Lab.	VII, VIII, IX	WF	290C	
		VII, VIII	M	290C	
17s§	Glass Blowing (1 cred.; all; no prereq.)				
		VII, VIII, IX	W	10C	Mr. Stephens
101s	History of Chemistry (2 cred.; sr., grad.; prereq. Org. Chem. 52 or consent of instructor)				
		Ar	Ar	Ar	Miss Cohen
102w	Advanced Qualitative Chemical Analysis (2 or 3 cred.; jr., sr., grad.; prereq. Anal. Chem. 1-2, Org. Chem. 52)				
		Ar	Ar	290C	Mr. Sneed
103f-104w-105s	Advanced Inorganic Chemistry (3 to 9 cred.; jr., sr., grad.; prereq. Anal. Chem. 1-2, Org. Chem. 52)				
		I	TThS	215C	Mr. Sneed
106f-107w-108s	Theories of Inorganic Chemistry (3 cred. per qtr.; jr., sr., grad.; prereq. Phys. Chem. 103 or permission of instructor)				
		Ar	Ar	Ar	Mr. Glockler
109w-110s	Synthetic Inorganic Chemistry (3 to 5 cred. per qtr.; jr., sr., grad.; prereq. 13)				
		Ar	Ar	Ar	Mr. Heisig

* Course 8 may be taken as a substitute for Course 11 by premedical and pre dental students who have completed Course 6-7. No student may receive credit for both Course 8 and Course 11. Also Course 8 is substantially equivalent to Course 12. See the footnote for Course 12-13.

† To receive credit for any part of this course student must complete parts preceding dagger.

‡ Carries credit only for juniors and seniors majoring in natural science.

¶ Students who have completed Course 8 should omit Course 12 and take Course 13.

|| Students who have failed in 1f, 4f, 6f, or 9f may register in section 2 for this course without further prerequisite.

PROGRAM

ANALYTICAL CHEMISTRY

No.	Title	Hour	Day	Bldg.	Instructor
1w-2s*	Quantitative Analysis (10 cred.; soph., jr., sr.; prereq. Inorg. Chem. 13)				
	Lect.	VI	M	325C	Mr. Geiger
	Quiz	VI	F	410C	
	Rec.	VI or VII	W	111C	
	Lab. Any 9 hrs. selected from	VI-IX	MWF	410C	
7f	Quantitative Analysis (4 cred.; primarily for premedical students; prereq. any course in qualitative chemistry)				
	Sec. 1 and 2				
	Lect.	VI	M	325C	Mr. Geiger
	Rec. (Limit 35 in each sec.)	VI or VII	W	111C	
	Quiz	VI	F	410C	
	Lab. Any other eight hrs. selected from	VI-IX	MWF	310C	
	Sec. 3				
	Lect.	VI	T	325C	Mr. Sarver
	Rec.	VI	Th	325C	
	Lab.	VII, VIII, IX	TTh	310C	
		I, II, III	S	310C	
		or			
		II, III, IV	S	310C	
7s	Quantitative Analysis (4 cred.; primarily for premedical students; prereq. any course in qualitative chemistry)				
	Lect.	VI	T	325C	Mr. Sarver
	Rec.	VI	Th	325C	
	Lab.	VII, VIII, IX	TTh	310C	
		I, II, III	S	310C	
		or			
		II, III, IV	S	310C	
103f	Quantitative Inorganic Microanalysis (3 cred.; jr., sr., grad.; prereq. Anal. Chem. 1-2)				
		Ar	Ar	Ar	Mr. Sandell
104s	Microchemistry (3 cred.; jr., sr., grad.; prereq. Anal. Chem. 1-2)				
		Ar	Ar	Ar	Mr. Sandell
123f	Advanced Analytical Chemistry (3 cred.; jr., sr., grad.; prereq. Anal. Chem. 1-2 or permission of instructor)				
	Lect.	Ar	Ar	Ar	Mr. Sarver
	Lab.	Ar	Ar	310C	
127w	Use of Organic Reagents in Analytical Chemistry (3 cred.; jr., sr., grad.; prereq. Anal. Chem. 1-2 and Org. Chem. 52)				
		Ar	Ar	Ar	Mr. Sarver
131f	Application of Indicators (3 cred.; jr., sr., grad.; prereq. Anal. Chem. 1-2 and Phys. Chem. 101-102-103)				
	Lect.	VI	MW	315C	Mr. Kolthoff
	Lab.	Ar	Ar	Ar	
132w	Electrometric Titrations (3 cred.; jr., sr., grad.; prereq. Anal. Chem. 1-2 and Phys. Chem. 101-102-103)				
	Lect.	VI	MW	315C	Mr. Kolthoff
	Lab.	Ar	Ar	Ar	
140w	Water Analysis (2 cred.; jr., sr., grad.; prereq. Anal. Chem. 1-2)				
		Ar	Ar	Ar	Mr. Sandell

ORGANIC CHEMISTRY

1f-2w†	Elementary Organic Chemistry (8 cred.; primarily for premedical and pre dental students; prereq. Inorg. Chem. 11)				
	Lect. (all secs.)	I	MWF	100C	Mr. Arnold
	Lab. conference (all secs.)	II	T	225C	Mr. Arnold
	Quiz (all secs.)	I	T	Ar	Ar
	Lab. Sec. 1	VI-IX	T	390C	
	2	VI-IX	W	390C	
	3	I-IV	S	390C	

* Course 2s may precede 1w, if desired.

† To receive credit for any part of this course a student must complete the parts preceding the dagger.

No.	Title	Hour	Day	Bldg.	Instructor
1w-2s†	Elementary Organic Chemistry (See 1f-2w)				
	Lect. (all secs.)	IV	MWF	100C	Mr. Koelsch
	Lab. conference (all secs.)	IV	T	100C	Mr. Koelsch
	Quiz (all secs.)	V	T	Ar	Ar
	Lab. Sec. 1	VI-IX	W	390C	
	2	VI-IX	Th	390C	
	3	I-IV	S	390C	
51f-52w†-153s	Elementary Organic Chemistry (5 cred. per qtr.; open to all except premedical, pre-dental, and pharmacy students; required of all chemical engineers, chemists, and S. L. and A. majors; prereq. 15 cred. in college chemistry. Course 153 is prerequisite to all other advanced courses in organic chemistry)				
	Lect.	III	MWF	100C	Mr. Lauer(f,w), Mr. Smith(s)
	Lab. conference (fall, winter)	III	ThS	325C	Mr. Arnold
	Lab. conference (spring)	III	Th	100C	Mr. Arnold
		I	S	100C	
	Lab. Sec. 1	II, III, IV	T	390C	
		VI, VII, VIII	T	390C	
	2	VI, VII, VIII	TTh	390C	
	3	VI, VII, VIII	WF	390C	
54f-55w†-156s	Elementary Organic Chemistry—Lectures only. The lectures are the same as those in Course 51f-52w-153s, together with general discussions of organic laboratory practice. (3 cred. per qtr.; open to all except premedical, pre-dental, and pharmacy students and students majoring in chemistry; prereq. 15 cred. in college chemistry)				
		III	MWThF	100C	Mr. Lauer(f,w), Mr. Smith(s)
105f-106w-107s	Advanced Organic Chemistry (3 cred. per qtr.; jr., sr., grad.; prereq. 153)				
		I	MWF	225C	Mr. Smith

For advanced courses in Organic Chemistry see the Bulletin of the Institute of Technology.

PHYSICAL CHEMISTRY

101f-102w-103s	Physical Chemistry (9, 12, or 15 cred.; jr., sr., grad.; prereq. two yrs. college chemistry, one yr. college physics. A knowledge of calculus is advisable)				
	Lect.	IV	MWF	320C	Mr. MacDougall
	Lab.	VII, VIII	T	190C	
	Rec.	IV	S	325C, 225C, 410C	
	Lab. conference	VI	T	410C	
116f-117w-118s	Advanced Physical Chemistry (9 or 12 cred.; jr., sr., grad.; prereq. 103 and calculus)				
		Ar	Ar	Ar	Mr. Glockler
128f-129w-130s	Colloid Chemistry (2 cred. per qtr.; sr., grad.; prereq. 103)				
		Ar	Ar	ArC	Mr. Reyerson
131f-132w-133s	Colloid Chemistry Laboratory (Cred. ar.; sr., grad.; prereq. 129 or 130)				
		Ar	Ar	Ar	Mr. Reyerson
161f-162w	Radioactivity (2 cred. per qtr.; jr., sr., grad.; prereq. Phys. Chem. 103)				
		II	TTh	111C	Mr. Hull

AGRICULTURAL BIOCHEMISTRY

Students in this college may elect courses in Agricultural Biochemistry by arrangement with the division. But before registering for any courses they should get the approval of Assistant Dean Shumway in 219 Administration Building. See the program of the College of Agriculture, Forestry, and Home Economics in this bulletin.

CHILD WELFARE

Adviser in the College of Science, Literature, and the Arts.—Professor Anderson.

Major advisers in the College of Education.—Professors Anderson and Foster.

† To receive credit for any part of this course a student must complete the parts preceding the dagger.

For a specialized curriculum in Nursery School and Kindergarten Education, see the Bulletin of the College of Education.

Junior College Courses

No.	Title	Hour	Day	Bldg.	Instructor
40w§	Child Training (3 cred.; soph., jr., sr.; prereq. Psy. 1-2)	IV	MW	106Pt	Mrs. Foster
		and one hr. ar			

Senior College Courses

Senior College courses in this department are open to Junior College students only by special permission of the Students' Work Committee. See a statement on page 22.

60f	Modern Aspects of Child Study (2 cred.; jr., sr.; prereq. 6 cred. in psy. and 5 cred. in soc.)	IV	TTh	202Pt	Mrs. Faegre
80f,s	Child Psychology (3 cred.; jr., sr.; prereq. Psy. 1-2)	IV	MWF	202Pt	Miss McGinnis
82w	Later Childhood and Adolescence (3 cred.; prereq. 40 or 80 or equiv.)	II	MWF	202Pt	Mrs. Faegre
90s	Physical Growth and Health Care (3 cred.; jr., sr.; prereq. Zool. 1-2-3 or Psy. 1-2)	IV	MWF	202Pt	Miss Boyd
130f-131w	Child Development (2 or 4 cred.; sr., grad.; prereq. 12 cred. in psy. or equiv.)	I	TTh	202Pt	Mr. Anderson
133f-134w†	Observational and Experimental Methods (4 cred.; sr., grad.; prereq. 10 cred. in psy. or ed. psy. and Ed. Psy. 60, or Biometry 101 which may be taken simultaneously, and permission of instructor)	VI	T	202Pt	Miss Goodenough
		VI, VII	Th		
140f	Behavior Problems (2 cred.; sr., grad.; prereq. 12 cred. in psy., ed. psy., or soc.)	I, II	S	202Pt	Miss Goodenough, Miss McGinnis
141w-142s	Practicum in Behavior Problems (Cred. ar.; sr., grad.; prereq. 140, and permission of instructor)	Ar	Ar	201Pt	Miss Goodenough, Miss McGinnis
170f	Parent Education (3 cred.; sr., grad.; prereq. 15 cred. in child welfare or home economics or education or psychology or sociology or preventive medicine)	VI	MWF	202Pt	Miss McGinnis
171w	Technique of Parent Education (2 cred.; sr., grad.; prereq. 170)	III	TTh	202Pt	Miss McGinnis
172s	Field Work in Parent Education (2 cred.; sr., grad.; prereq. 170 or 171; permission of instructor)	Ar	Ar	204DPt	Miss McGinnis
190w-191s†	Mental Examination of Preschool Children (3 or 6 cred.; sr., grad.; prereq. Ed. Psy. 140-141-142 or 143-144 or equiv., and permission of instructor)	III	MWF	202Pt	Miss Goodenough

For Graduate Students Only

230f-231w-232s	Seminar in Recent Literature	Ar	Ar	202Pt	Mr. Anderson
233f-234w-235s	Research in Child Development	Ar	Ar	Ar	Mr. Anderson and others
236f-237w-238s	Seminar in Human Development--Fall: Infant; Winter: Child; Spring: Adolescent	VII, VIII	F	202Pt	Mr. Anderson, Miss Goodenough

† To receive credit for any part of this course a student must complete the parts preceding the dagger.

§ Offered fall and spring as Home Economics Education 90. See the program of the College of Education in another part of this bulletin.

No.	Title	Hour	Day	Bldg.	Instructor
240w-241s	Seminar in Behavior Problems	Ar	Ar	202Pt	Miss Goodenough
250s	Nursery School Education	VII VII-VIII	T Th	202Pt	Mrs. Foster
260w	Seminar in Physical Growth	Ar	Ar	226IA	Miss Boyd
261f-262w-263s	Statistical and Laboratory Work in Physical Growth	Ar	Ar	226IA	Miss Boyd
270f-271w-272s	Readings in Child Development	Ar	Ar	101Pt	Mr. Anderson and others
275s	Seminar in Parent-Child Relations	Ar	Ar	202Pt	Miss McGinnis

NOTE.—See also Courses Ed. T. 55-59, Ed. T. 75, 76A-76B-76C, 77A-77B-77C, and Ed. C. I. 130, offered by the Institute of Child Welfare, and listed under Methods and Directed Teaching in the program of the College of Education.

CLASSICS

Major adviser in the College of Science, Literature, and the Arts.—Professor Ogle.

Major sequences in the College of Science, Literature, and the Arts.—

GREEK

The elementary course 1f-2w-3s and twenty-seven credits in courses numbered above 50.

LATIN

Any three of the courses with numbers between 50 and 100; and one of the following combinations: (a) Any six courses numbered above 100; (b) any three courses numbered above 100, and Greek 54, 55, 56 or History 50-51-52.

Modifications of these sequences will be permitted upon petition approved by the major adviser and the assistant dean for the Senior College.

Major adviser in the College of Education.—Assistant Professor Cram.

Requirements for a teacher's certificate in Latin.—Major recommendation: Course 73f-74w-75s and any two of the courses with numbers between 50 and 100, and three courses with numbers over 100, including 111f-112w-113s.

Minor recommendation: Course 73f-74w-75s and any two of the courses with numbers between 50 and 100.

To secure a recommendation from the department to take Special Methods and Directed Teaching in Latin a student must make a grade of C or better in Course 73f-74w-75s.

GREEK

NOTE.—Students may receive credit for Greek 1-2 in addition to one other beginning language.

Junior College Courses

1f-2w†	Beginning Greek (10 cred.; all; no prereq.)	IV	MTWFS	114F	Mr. D'Arms
3s	Selections from Attic Prose (5 cred.; all; prereq. 1-2)	IV	MTWFS	114F	Mr. D'Arms

† To receive credit for any part of this course a student must complete the parts preceding the dagger.

Senior College Courses

Courses 54, 55, 56, 71, 72, 73 are open to Junior College students who have an average grade of at least C in the prerequisite courses. Other Senior College courses in this department are open to Junior College students only by special permission of the Students' Work Committee. See a statement on page 22.

No.	Title	Hour	Day	Bldg.	Instructor
54f,55w†	Survey of Greek Literature (3 cred. per qtr.; all; prereq. 1-2-3)	III	MWF	112F	Mr. D'Arms
56s	Homer (3 cred.; all; prereq. 54 or 55)	II	MWF	110F	Mr. Cram
71f	Tragedy (3 cred.; jr., sr.; prereq. any two of 54,55,56)	Ar	Ar	112F	Mr. D'Arms
72w	Comedy (3 cred.; jr., sr.; prereq. any two of 54,55,56)	Ar	Ar	112F	Mr. D'Arms
73s	Hellenistic Literature (3 cred.; jr., sr.; prereq. any two of 54,55,56)	Ar	Ar	112F	Mr. D'Arms
101f	Philosophy: Plato (3 cred.; jr., sr., grad.; prereq. any two of 71,72,73 or 54,55,56 with consent of instructor)	Ar	Ar	112F	Mr. D'Arms
102w	Philosophy: Aristotle's Ethics (3 cred.; jr., sr., grad.; prereq. 101 or any two of 71,72,73)	Ar	Ar	112F	Mr. D'Arms
103s	Lyric Poetry (3 cred.; jr., sr., grad.; prereq. any two of 71,72,73)	Ar	Ar	112F	Mr. D'Arms
111	<i>History: Herodotus</i> (3 cred.; jr., sr., grad.; prereq. any two of 71,72,73 or 54,55,56 with consent of instructor) (<i>Not offered</i>)				
112	<i>History: Thucydides</i> (3 cred.; jr., sr., grad.; prereq. 101 or 111 or any two of 71,72,73) (<i>Not offered</i>)				
113s	New Testament (3 cred.; jr., sr.; prereq. any one course numbered above 70 or 54,55,56 with consent of instructor)	Ar	Ar	112F	Mr. Ogle
121-122-123†	<i>Advanced Composition</i> (9 cred.; jr., sr., grad.; prereq. 24 credits in Greek) (<i>Not offered</i>)				

For Graduate Students Only

201f-202w-203s	Graduate Seminar: Greek Literary Bibliography and Criticism (9 cred.)	Ar	Ar	Ar	Mr. D'Arms
211-212-213	<i>Graduate Seminar: Greek Epic</i> (9 cred.) (<i>Not offered</i>)				
221-222-223	<i>Graduate Seminar: Greek Drama and Lyric Poetry</i> (9 cred.) (<i>Not offered</i>)				
231f-232w-233s	Graduate Seminar: Greek Philosophy (9 cred.)	Ar	Ar	Ar	Mr. D'Arms

Courses for Which No Knowledge of Greek Is Required

(See page 37)

LATIN

Junior College Courses

1f-2w†§	Beginning Latin (10 cred.; all; no prereq.)	IV	MTWFS	110F	Mr. Cram
3s	Caesar (5 cred.; all; prereq. 1-2, or 1 yr. of high school Latin)	III	MTWThF	110F	Mr. Cram
11f	Vergil I (5 cred.; all; prereq. 1-2, 3, or 2 yrs. of high school Latin)	III	MTWThF	110F	Mr. Cram
12w	Vergil II (5 cred.; all; prereq. 11, or 3 yrs. of high school Latin)	III	MTWThF	110F	Mr. Cram

† To receive credit for any part of this course a student must complete the parts preceding the dagger.

§ A student may not receive credit for beginning courses (two quarters, 10 credits) in more than one of the foreign languages, exclusive of Greek and Italian, except by special permission of the Students' Work Committee.

¶ Students may enter either quarter.

Senior College Courses

Courses 51, 52, 53, 63, 73-74-75, 81-82-83 are open to Junior College students who have an average grade of at least C in the prerequisite courses. Other Senior College courses in this department are open to Junior College students only by special permission of the Students' Work Committee. See a statement on page 22.

No.	Title	Hour	Day	Bldg.	Instructor	
51f	Pliny's Letters (3 cred.; jr., sr.; prereq. 12, or 3 or 4 yrs. of high school Latin)	II	TThS	109F	Mr. Ogle	
52w	Horace (3 cred.; jr., sr.; prereq. 51 or 63)	II	TThS	109F	Mr. Ogle	
53	<i>Suetonius, Selected Lives</i> (3 cred.; jr., sr.; prereq. 51 or 52 or 63) (<i>Not offered</i>)					
63s	Plautus and Terence (3 cred.; all; prereq. 12, or 4 yrs. of high school Latin)	II	TThS	109F	Mr. Ogle	
73f-74w-75s†	Prose Composition (3 cred.; all; prereq. 12, or 4 yrs. of high school Latin)	I	T	114F	Mr. Cram	
81-82-83	<i>Survey of Roman Literature</i> (9 cred.; jr., sr.; prereq. any one of Courses 51,52,53, 63) (<i>Not offered</i>)					
111f-112w-113s†	Advanced Prose Composition (3 cred.; jr., sr., grad.; prereq. 73-74-75)	I	T	109F	Mr. Ogle	
121f	Advanced Vergil (3 cred.; jr., sr., grad.; prereq.*)	II	MWF	109F	Mr. Ogle	
131	<i>Juvenal</i> (3 cred.; jr., sr., grad.; prereq.*) (<i>Not offered</i>)					
133s	Vulgar Latin (Development of Latin into Romance) (3 cred.; jr., sr., grad.; open to advanced students of Latin or a Romance language with the consent of the instructor)	II	MWF	109F	Mr. Ogle	
142	<i>Tacitus</i> (3 cred.; jr., sr., grad.; prereq.*) (<i>Not offered</i>)					
151	<i>Advanced Cicero</i> (3 cred.; jr., sr., grad.; prereq.*) (<i>Not offered</i>)					
152w	Lucretius (3 cred.; jr., sr., grad.; prereq.*)	II	MWF	109F	Mr. Ogle	
171f,172w,173s	Independent Reading Course (3 cred. per qtr.; open to students of exceptional ability with the consent of the department)		Ar	Ar	118F	Mr. Cram

For Graduate Students Only

201-202-203	Graduate Seminar: <i>Cicero</i> (9 cred.) (<i>Not offered</i>)				
211f-212w-213s	Graduate Seminar: <i>The Latin Epic</i> (9 cred.)	VIII, IX	T	339Lib	Mr. Ogle
221-222-223	Graduate Seminar: <i>Lyric Poetry</i> (9 cred.) (<i>Not offered</i>)				
231-232-233	Graduate Seminar: <i>Latin Historiography</i> (9 cred.) (<i>Not offered</i>)				
241f-242w-243s	Graduate Seminar: Introduction to Classical Philology (9 cred.)	VIII, IX	Th	110F	Mr. Cram

Courses for Which No Knowledge of Greek or Latin Is Required§

61f,62w	Greek and Latin Drama (2 cred. per qtr.; jr., sr.; no prereq.)	III	TTh	114F	Mr. Ogle
81w	Greek Mythology—The origin and development of myths (2 cred.; jr., sr.; no prereq.)	I	WF	114F	Mr. D'Arms
82s	Ancient Mythology in Relation to Literature and Art (2 cred.; jr., sr.; no prereq.)	I	WF	114F	Mr. D'Arms
92-93†	<i>Classical Literary Tradition</i> (4 cred.; jr., sr.; no prereq.) (<i>Not offered</i>)				

* Any two of the courses with numbers between 50 and 100.

† To receive credit for any part of this course a student must complete the parts preceding the dagger.

§ These courses can be used as a minor only by students who are majoring in Classics.

¶ A student who enters in the spring quarter with three years of high school Latin may, by special permission, take Course 63s.

|| Students may enter either quarter.

DRAWING AND DESCRIPTIVE GEOMETRY

INSTITUTE OF TECHNOLOGY

Junior College Courses

No.	Title	Hour	Day	Bldg.	Instructor
41-42-43f,w,s	Technical Drawing—(a) General course in the theory and practice of freehand drawing. Sketching, lettering, perspective, conventions, renderings, and industrial drawing. (b) Modification of the above course of particular interest to dental, medical, and scientific students. (6 cred.; all; no prereq.)				
	Sec. 1	I, II	MWF	411C	Mr. Doseff
	2	VI, VII	MWF		
	3	VIII, IX	MWF		
44f,w,s	Lettering—A practical course in plain lettering. (1 cred.; all; no prereq.)				
	Sec. 1	IV	T	104E(fall)	Mr. Potter
				136E(winter)	
				227E(spring)	
	2	II	Th	106E(fall)	Mr. Quaid
				22E(winter)	
				138EE(spring)	
45f,w,s	Alphabets—Construction and analysis of various types of letters and their arrangement. Exercises and reference work. (2 cred.; soph., jr., sr.; no prereq.)				
		II	TTh	205E	Mr. Levens

Senior College Courses

64f	Graphic Arts I: Elementary Principles of Design, Composition, and Techniques (3 cred.; jr., sr.; prereq. consent of instructor)	IV	MWF	206E	Mr. Doseff
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Course 64f is one of three courses related in general subject-matter of special interest to students of journalism and advertising. The other two, listed elsewhere in this bulletin, are Journalism 65w, "Graphic Arts II—Processes," and Business Administration 194s, "Advanced Advertising Procedure."

Other courses offered by the Department of Drawing and Descriptive Geometry and listed in the Bulletin of the Institute of Technology are open to students of this college only by special permission of the Students' Work Committee.

ECONOMICS

For courses, major advisers, and major sequences in Economics, see the program of the School of Business Administration, in another part of this bulletin.

ENGLISH

Major advisers in the College of Science, Literature, and the Arts.—Associate Professors Hillhouse and McDowell; Assistant Professor Jackson.

Major sequences in the College of Science, Literature, and the Arts.—

A. Courses 55-56, 62, and 75.

B. Twelve credits from the following list: 100 and 102 or 103; 105-106, 107-108, 109-110, 111-112, 126-127, 146-147, 148-149, 154-155, 157-158.

C. Six additional credits in courses numbered 50 or above. These credits may be taken in courses listed under B.

The Independent Reading Course (171-172-173) may be substituted for any part of the major sequence except the three required courses.

(Prerequisites: Courses 21-22 or 22-23.*)

* Course 22-23 is required for a teacher's certificate.

Modifications of these sequences will be permitted upon petition approved by the major adviser and the assistant dean for the Senior College.

Major advisers in the College of Education.—Associate Professor Dora Smith; Assistant Professor Nichols.

Requirements for a teacher's certificate.—

	Credits
a. English as a major subject:	
English 22-23. Introduction to Literature	10
English 55-56. Shakespeare	6
English 73-74. American Literature	6
Composition 27-28. Advanced Writing	6
Speech	6
Additional credits, all of which must be secured in courses numbered 100 or above	6
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Total credits	40
b. English as a minor subject:	
English 22-23. Introduction to Literature	10
English 55-56. Shakespeare	6
English 73-74. American Literature	6
Composition 27-28. Advanced Writing	6
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Total credits	28

Junior College Courses

No.	Title	Hour	Day	Bldg.	Instructor
Af-Bw-Cs	Freshman English	See Composition, page 42.			
21f-22w-23s§	Introduction to Literature—21f: Marlowe, Spenser, Bacon, Browne, Milton, and Bunyan; 22w: Dryden, Pope, Swift, Addison and Steele, Johnson, Boswell, Fielding, and Sheridan; 23s: Wordsworth, Byron, Shelley, Keats, Lamb, Carlyle, Brown- ing, and Arnold (15 cred.; all; prereq.¶)				
	Sec. 1	III	MTWThF	301F	Mr. Thomas
	2	VI	MTWThF	301F	Miss Jackson
31f-32w†	The English Novel—31f: The reading of novels by Defoe, Fielding, Fanny Burney, Jane Austen, Scott, Thackeray; 32w: The reading of novels by Dickens, Charlotte and Emily Brontë, George Eliot, Trollope, Meredith (6 cred.; all; prereq.¶)				
		VII	MWF	301F	Mr. Hillhouse(f), Miss Atkins(w)
33s	The Later English Novel—The reading of novels by Hardy, Butler, Conrad, Bennett, Galsworthy, Wells (3 cred.; all; prereq.¶)				
		VII	MWF	166Ph	Mr. Beach
40w-41s	The Bible As Literature (6 cred.; all; prereq.¶)				
		IV	MWF	11F	Mr. Powell

Senior College Courses

Courses 55-56, 58-59, 62, 73-74, 75, 76 are open to Junior College students who have an average grade of at least C in the prerequisite courses. Other Senior College courses in this department are open to Junior College students only by special permission of the Students' Work Committee. See a statement on page 22.

† To receive credit for any part of this course a student must complete the parts preceding the dagger.

§ Students may enter any quarter. Students must take either 21 and 22 or 22 and 23 to receive credit. Two quarters are required as prerequisite for a major sequence; the second and third quarters are required for a teacher's certificate. Three quarters are recommended.

¶ Composition 4-5-6 and 6 additional credits, or English A-B-C, or 10 credits in 21-22-23.

|| Students may enter either quarter.

No.	Title	Hour	Day	Bldg.	Instructor
55f-56w†	Shakespeare—Course 55: The reading of <i>The Comedy of Errors</i> , <i>The Two Gentlemen of Verona</i> , <i>The Taming of the Shrew</i> , <i>The Merchant of Venice</i> , <i>Much Ado About Nothing</i> , <i>Twelfth Night</i> , with collateral reading. <i>Midsummer Night's Dream</i> , <i>The Tempest</i> , to be read independently. Course 56: The reading of <i>Richard II</i> , <i>Henry IV 1 and 2</i> , <i>Henry V</i> , <i>Richard III</i> , <i>Julius Caesar</i> , <i>Hamlet</i> , <i>Macbeth</i> , with collateral reading (6 cred.; jr., sr.; prereq.§)				
	Sec. 1	I	TThS	204F	Mr. Hessler
	2	I	TThS	9F	Mr. Brown
	3	VI	MWF	209½F	Miss Atkins
	4	VI	MWF	204F	Miss Carr(f), Mr. Hessler(w)
	5	VII	MWF	205F	Mr. Dunn
55w-56s†	Shakespeare (See 55f-56w)				
	Sec. 1	IV	MWF	306F	Miss Jackson(w), Miss Carr(s)
	2	VI	MWF	205F	Mr. Dunn
55s	Shakespeare (1st qtr. of 55-56. See 55f-56w)				
	Sec. 1	I	TThS	213F	Mr. Hessler
	2	II	MWF	205F	Mr. Brown
58f-59w†	Nineteenth-Century Prose (6 cred.; jr., sr.; prereq. A-B-C or 23, or 31-32)				
		II	TThS	204F	Mr. Beach
61	<i>American Pronunciation</i> (3 cred.; jr., sr.; prereq.§) (<i>Not offered</i>)				
62f	Milton (4 cred.; jr., sr.; prereq. 21-22 or 55-56)				
		I	MTThF	205F	Mr. Stoll
62w	Milton (See 62f)	II	MTThF	205F	Mr. Stoll
63	<i>American Usage</i> (3 cred.; jr., sr.; prereq.§) (<i>Not offered</i>)				
73f-74w†	<i>American Literature</i> (6 cred.; jr., sr.; prereq.§)				
		II	TThS	301F	Mr. McDowell
75f	Chaucer (4 cred.; jr., sr.; prereq.§)	III	MTThF	205F	Miss Carr
75w	Chaucer (See 75f)	IV	MTWF	303F	Miss Carr
75s	Chaucer (See 75f)	III	MTThF	305F	Mr. Dunn
76s	American Literature since 1885 (3 cred.; jr., sr.; prereq. 73-74)				
		II	TThS	305F	Mr. McDowell
77f-78w	Classic Myths and the Classic Tradition in English Poetry (6 cred.; jr., sr.; prereq.§)				
		I	MWF	203F	Mr. Brown
81-82†	<i>Survey of Middle English</i> (6 cred.; jr., sr.; prereq.§) (<i>Not offered</i>)				
86	<i>Forms of English Verse</i> (3 cred.; jr., sr.; prereq.§) (<i>Not offered</i>)				
100f	Old English (4 cred.; jr., sr., grad.; prereq. 6 cred. above 50)				
		II	TWThF	302F	Mr. Ruud
102w	Old English Poetry (3 cred.; jr., sr., grad.; prereq. 100)				
		II	MWF	302F	Mr. Ruud
103s	Beowulf (3 cred.; jr., sr., grad.; prereq. 100)				
		II	MWF	302F	Mr. Ruud
105w-106s†	Eighteenth-Century Poetry (6 cred.; jr., sr., grad.; prereq. 6 cred. above 50)				
		VII	MWF	204F	Mr. Moore
107-108†	<i>Eighteenth-Century Prose</i> (6 cred.; jr., sr., grad.; prereq. 6 cred. above 50) (<i>Not offered</i>)				
109f-110w†	Romantic Poets (6 cred.; jr., sr., grad.; prereq. 6 cred. above 50)				
		III	TThS	204F	Mr. Beach
111w-112s†	Seventeenth-Century Prose (6 cred.; jr., sr., grad.; prereq. 6 cred. above 50)				
		IV	MWF	305F	Mr. Brown
113f	American Short Story (3 cred.; jr., sr., grad.; prereq. 73-74)				
		III	TThS	321F	Mr. McDowell
123f-124w- 125s†	Technique of the Novel (9 cred.; sr., grad.; prereq. 6 cred. above 50 and permission of instructor)				
		4:00-6:00	T	205F	Mr. Beach

† To receive credit for any part of this course a student must complete the parts preceding the dagger.

§ Composition 4-5-6 and 6 additional credits, or English A-B-C, or 10 credits in 21-22-23.

No.	Title	Hour	Day	Bldg.	Instructor
126f-127w†	Drama, 1660-1880 (6 cred.; jr., sr., grad.; prereq. 6 cred. above 50)	VI	MWF	306F	Mr. Hillhouse(f), Mr. Nichols(w)
129s	Modern Drama: 1880 to Present (4 cred.; jr., sr., grad.; prereq. 55-56)	II	MTThF	204F	Mr. Stoll
133f	Ballads (3 cred.; jr., sr., grad.; prereq. 6 cred. above 50)	III	MWF	204F	Mr. Ruud
135	<i>Spenser</i> (3 cred.; jr., sr., grad.; prereq. 6 cred. above 50) (<i>Not offered</i>)				
136s	Advanced Shakespeare (4 cred.; jr., sr., grad.; prereq. 55-56)	I	MTThF	204F	Mr. Stoll
140s	Advanced Chaucer (4 cred.; jr., sr., grad.; prereq. 6 cred. above 50, including 75)	III	MTWF	205F	Mr. Ruud
141-142-143	<i>Historical Grammar</i> (6 cred.; jr., sr., grad.; prereq. 6 cred. above 50, including 75 or 81-82) (<i>Not offered</i>)				
146-147†	<i>Metrical Romances</i> (6 cred.; jr., sr., grad.; prereq. 6 cred. above 50, including 75 or 81-82) (<i>Not offered</i>)				
148w-149s	Arthurian Romances (6 cred.; jr., sr., grad.; prereq. 6 cred. above 50)	VII	MWF	206F	Miss Carr
150f	Victorian Poetry (4 cred.; jr., sr., grad.; prereq. 6 cred. above 50)	II	MTThF	205F	Mr. Stoll
151s	Recent Poetry (4 cred.; jr., sr., grad.; prereq. 6 cred. above 50)	III	TWThF	204F	Mr. Beach
152	<i>Pre-Elizabethan Drama</i> (3 cred.; jr., sr., grad.; prereq. 55-56) (<i>Not offered</i>)				
153f	Seventeenth-Century Lyricists (3 cred.; jr., sr., grad.; prereq. 6 cred. above 50)	IV	MWF	204F	Mr. Moore
154w-155s†	American Novel (6 cred.; jr., sr., grad.; prereq. 73-74; or 31-32 and 6 cred. above 50)	III	TThS	321F	Mr. McDowell
156f	The American Drama to 1880 (3 cred.; jr., sr., grad.; prereq. 73-74)	II	MWF	301F	Mr. Nichols
157-158†	<i>Elizabethan Non-Dramatic Literature</i> (6 cred.; jr., sr., grad.; prereq. 6 cred. above 50, including 55-56 or 170) (<i>Not offered</i>)				
159s	Colonial Literature in America (3 cred.; jr., sr., grad.; prereq. 73-74)	VI	MWF	303F	Mr. Nichols
160	<i>History of the English Language</i> (2 cred.; jr., sr., grad.; prereq. 6 cred. above 50, including 100) (<i>Not offered</i>)				
162	<i>Restoration Literature</i> (3 cred.; jr., sr., grad.; prereq. 6 cred. above 50) (<i>Not offered</i>)				
165w	The Historical Study of Modern English (3 cred.; jr., sr., grad.; prereq. 6 cred. above 50)	III	MWF	204F	Mr. Ruud
168f	English Literary Criticism (3 cred.; jr., sr., grad.; prereq. 6 cred. above 50)	IV	MWF	306F	Mr. Brown
169	<i>Browning and Tennyson</i> (4 cred.; jr., sr., grad.; prereq. 6 cred. above 50) (<i>Not offered</i>)				
170	<i>Elizabethan Drama</i> (4 cred.; jr., sr., grad.; prereq. 55-56) (<i>Not offered</i>)				
171f-172w-173s	Independent Reading Course (9 cred.; jr., sr.; not open to graduate students; prereq. permission of department)				Mr. Dunn(f), Mr. Nichols(w), Mr. Brown(s)

Seminars

213f-214w-215s	Eighteenth-Century Drama	4:00 to 6:00	Th	312Lib	Mr. Moore
231f-232w-233s	Shakespeare's Tragic and Comic Art	4:00 to 6:00	W	312Lib	Mr. Stoll
237f-238w-239s	Chaucer	4:00 to 6:00	M	312Lib	Mr. Ruud
265f-266w-267s	American Romanticism II: Middle States	4:00 to 6:00	T	312Lib	Mr. McDowell

† To receive credit for any part of this course a student must complete the parts preceding the dagger.

COMPOSITION

Major advisers in the College of Science, Literature, and the Arts—Assistant Professors Nichols and Phelan.

Major sequence in the College of Science, Literature, and the Arts.—Either 67-68 or 69-70-71; and 81-82-83; and 91-92-93; and 15 credits in Senior College courses in English, 9 of which are to be chosen from Group B of the major sequence in English.

(Prerequisites: Courses 27-28 and either 29 or 65; English 21-22 or 22-23.)

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

Important note.—No student may register for any course in Freshman English without having taken a placement test.

On the basis of placement tests in English, students are:

Exempt from any requirement in English,

Permitted to choose between English A-B-C and Composition 4-5-6,

Assigned to Composition 4-5-6,

Required to make up minimum essentials as a preliminary to Composition 4-5-6.

Students who are exempt from Freshman English may register, if they wish, for English A-B-C or Composition 4-5-6, or for any Junior College courses in English, composition, or speech for which English A-B-C is the prerequisite.

Assignments to all sections in Freshman English and composition are contingent upon the student's presence in class at the first scheduled meeting. A student who is absent from the first meeting of the course forfeits his place in the section.

Freshman English is a 15-credit course consisting of 9 credits of literature and 6 credits of composition. Composition 4-5-6 is a 9-credit course in composition. Either course satisfies the requirement in English for graduation or for admission to the Senior College. Students who have already completed one or more quarters of Freshman English in another college should consult Mr. Thomas, 219 Folwell, before registering.

Any student who receives an A in composition in Course A or B or 4 or 5 is exempted from any further requirement in English.

Any student who receives an A or B in Course 4 or 5 may at his option elect the following quarter of A-B-C.

Junior College Courses

Without Writing Laboratory

No.	Title	Hour	Day	Bldg.	Instructor				
Af-Bw-Cs	Freshman English (15 cred.; all; prereq. placement test)	I	MTWThF	Ar	Ar				
		II	MTWThF						
		III	MTWThF						
		IV	MTWFS						
		VI	MTWThF						
		VII	MTWThF						
		Aw-Bs	Freshman English (2 qtrs. of A-B-C. See Af-Bw-Cs)			VI	MTWThF	Ar	Ar
						VI	MTWThF	Ar	Ar
Cf	Freshman English (3rd qtr. of A-B-C. See Af-Bw-Cs)	VI	MTWThF	Ar	Ar				
		VI	MTWThF	Ar	Ar				

With Writing Laboratory

All students who as a result of the placement tests in English are assigned to Composition 4f-5w-6s are required to register for the sections of this course with writing laboratory.

No.	Title	Hour	Day	Bldg.	Instructor
4f-5w-6s	Freshman Composition (9 cred.; all; prereq. placement test)			Ar	Ar
	Sec. 1 Rec.	I	WF		
	Lab.	I, II	M		
	Sec. 1a Rec.	I	MW		
	Lab.	I, II	F		
	Sec. 2 Rec.	II	MF		
	Lab.	I, II	W		
	Sec. 2a Rec.	II	WF		
	Lab.	I, II	T		
	Sec. 2b Rec.	II	MW		
	Lab.	I, II	Th		
	Sec. 3 Rec.	III	WF		
	Lab.	III, IV	M		
	Sec. 3a Rec.	III	MW		
	Lab.	III, IV	F		
	Sec. 3b Rec.	III	TTh		
	Lab.	II, III	S		
	Sec. 4 Rec.	IV	MF		
	Lab.	III, IV	W		
	Sec. 4a Rec.	IV	WF		
	Lab.	III, IV	T		
	Sec. 5 Rec.	V	WF		
	Lab.	V, VI	M		
	Sec. 6 Rec.	VI	MW		
	Lab.	V, VI	F		
	Sec. 6a Rec.	VI	MF		
	Lab.	V, VI	W		
	Sec. 6b Rec.	VI	WF		
	Lab.	V, VI	T		
	Sec. 6c Rec.	VI	MW		
	Lab.	VI, VII	Th		
	Sec. 7 Rec.	VII	WF		
	Lab.	VII, VIII	M		
	Sec. 7a Rec.	VII	MW		
	Lab.	VII, VIII	F		
	Sec. 7b Rec.	VII	MF		
	Lab.	VII, VIII	W		
	Sec. 7c Rec.	VII	WF		
	Lab.	VII, VIII	T		

Without Writing Laboratory

Course 4f-5w-6s, without writing laboratory, is open only to students who are eligible for Course A-B-C.

No.	Title	Hour	Day	Bldg.	Instructor
4f-5w-6s	Freshman Composition (9 cred.; all; prereq. placement test)			Ar	Ar
	Sec. 1	II	MWF		
	2	II	TThS		
	3	VI	MWF		
	4	VII	MWF		

No.	Title	Hour	Day	Bldg.	Instructor
4w-5s	Freshman Composition (2 qtrs. of 4-5-6.	See 4f-5w-6s)	Ar	Ar	
	Sec. 1	II	TThS		
	2	V	MWF		
	3	V	MWF		
4s	Freshman Composition (1st qtr. of 4-5-6.	See 4f-5w-6s)	Ar	Ar	
	Sec. 1	III	TThS		
	2	V	MWF		
6f	Freshman Composition (3rd qtr. of 4-5-6.	See 4f-5w-6s)	Ar	Ar	
		II	MWF	306F	
27f-28w†-29s	Advanced Writing—Course 27-28: In the first half of this course the writing is exposition, with stress on logical organization; in the second it consists of description and narration. Course 29: The nature of the writing is left as far as possible to the choice of the students. The instructor will divide the class into several groups according to the types of writing students wish to do (6 or 9 cred.; all; prereq. A-B-C or 4-5-6 or exemption from requirement)				
	Sec. 1 (fall, winter)	I	TThS	Ar	Ar
	2 (fall, winter, spring)	II	MWF		
	3 (fall, winter)	II	TThS		
	4 (fall, winter)	III	MWF		
	5 (fall, winter, spring)	IV	MWF		
	6 (fall, winter)	VI	MWF		
27w-28s†	Advanced Writing (2 qtrs. of 27-28-29.	See 27f-28w-29s)	Ar	Ar	
	Sec. 1	I	MWF		
	2	II	MWF		
27s	Advanced Writing (1st qtr. of 27-28-29.	See 27f-28w-29s)	Ar	Ar	
	Sec. 1	I	MWF		
	2	II	MWF		
28f	Advanced Writing (2nd qtr. of 27-28-29.	See 27f-28w-29s)	Ar	Ar	
		II	MWF		
36s	Technical Writing. Consult the Bulletin of the Institute of Technology.				

Senior College Courses

Course 65 is open to Junior College students who have an average grade of at least C in the prerequisite courses.

Courses 67-68, 69-70-71, 81-82-83 are open to Junior College students who have an average of at least B in two quarters of Courses 27-28, 29, 65.

Other Senior College courses in this department are open to Junior College students only by special permission of the Students' Work Committee. See a statement on page 22.

65f¶	The Writing of Term Papers and Theses (3 cred.; jr., sr.; prereq. A-B-C or 4-5-6 and 6 additional cred. in English, or 10 cred. in Eng. 21-22-23)	Ar	Ar	Ar	Mr. Hillhouse
67f-68w†¶	Problems of Style (6 cred.; jr., sr.; prereq. average of B in two qtrs. of 27-28, 29, 65)	IV	MWF	304F	Mrs. Phelan
69f-70w-71s†¶	Short-Story Writing (6 cred.; jr., sr.; prereq. average of B in two qtrs. of 27-28, 29, 65)	VIII, IX	W	304F	Mrs. Phelan
81f-82w-83s¶	Essay Writing (6 cred.; jr., sr.; prereq. average of B in two qtrs. of 27-28, 29, 65)	II	TTh	304F	Mr. Nichols
91f-92w-93s¶	Seminar in Writing (9 cred.; sr.; prereq. 9 cred. in Senior College courses and permission of instructor)	VII, VIII	Th	304F	Mrs. Phelan

† To receive credit for any part of this course a student must complete the parts preceding the dagger.

¶ Students may not elect for credit two Senior College courses to be taken simultaneously. This rule does not apply to Course 69-70-71.

FINE ARTS

Major sequences in the College of Science, Literature, and the Arts.—

A. History of Fine Arts. Courses 51 through 56; two of the three Courses 57, 58, 59; Architecture 51-52-53, 54-55-56; and a comprehensive examination in the history of art.

B. Drawing and Painting. Architecture DP-III; M-II or DP-IV; 9 credits from Courses 51 through 56, and 5 credits chosen from Philosophy 103, History 50-51-52, 53-54-55, 56-57-58, 59-60-61.

(Prerequisites to both sequences: Courses 1, 2, 3, Architecture DP-I, DP-II, and either History 1-2 or History 11-12-13.)

Modifications of these sequences will be permitted upon petition approved by the major adviser and the assistant dean for the Senior College.

Junior College Courses

No.	Title	Hour	Day	Bldg.	Instructor
1f	History of Architecture to 1870 (3 cred.; all; no prereq.)	III	TThS	JAud	Mr. Robb, Mr. Burke
2w	History of Modern Architecture and of Sculpture (3 cred.; all; no prereq.)	III	TThS	JAud	Mr. Robb, Mr. Burke
3s	History of Painting (3 cred.; all; no prereq.)	III	TThS	JAud	Mr. Robb, Mr. Burke
40	Travel and Study in Europe—To be undertaken only by arrangement with the instructor before the student goes to Europe (3 cred.; all; prereq. permission of chairman)				

Senior College Courses

Courses 51, 52, 53, 54, 55, 56, 57, 58, 59 are open to Junior College students who have an average grade of at least C in the prerequisite courses. Other Senior College courses in this department are open to Junior College students only by special permission of the Students' Work Committee. See a statement on page 22.

51	<i>Ancient Art</i> (3 cred.; jr., sr.; prereq. 1 and 2 and 10 cred. in approved courses in history or literature, or permission of instructor) (<i>Not offered</i>)				
52	<i>Medieval Art</i> (3 cred.; jr., sr.; prereq. as for 51) (<i>Not offered</i>)				
53	<i>The Art of the Fourteenth and Fifteenth Centuries</i> (3 cred.; jr., sr.; prereq. 1, 2, and 3, and 10 cred. in history or literature or permission of instructor) (<i>Not offered</i>)				
54f	The Art of the Sixteenth Century (3 cred.; jr., sr.; prereq. as for 53)	III	MWF	2J	Mr. Burke
55w	The Art of the Seventeenth Century (3 cred.; jr., sr.; prereq. as for 53)	III	MWF	2J	Mr. Burke
56s	Modern Art (3 cred.; jr., sr.; prereq. as for 53)	III	MWF	2J	Mr. Burke
57f	American Architecture (3 cred.; jr., sr.; prereq. 1 and 2 and Hist. 7-8-9, or permission of instructor)	II	MWF	2J	Mr. Robb
58w	American Sculpture and Painting (3 cred.; jr., sr.; prereq. 2 and 3 and Hist. 7-8-9, or permission of instructor)	II	MWF	2J	Mr. Robb
59s	History of the Graphic Arts (3 cred.; jr., sr.; prereq. 3 and 10 cred. in approved courses in history or literature, or permission of instructor)	II	MWF	2J	Mr. Robb

PROGRAM

No.	Title	Hour	Day	Bldg.	Instructor
60f-61w-62s	Tutorial Work (2 cred. per qtr.; students majoring in the department in sequence A only; prereq. permission of instructor)	Ar	Ar	Ar	Mr. Robb, Mr. Burke

See also Architecture 51-52-53, 54-55-56, History of Architecture.

GEOGRAPHY

Major adviser in the College of Science, Literature, and the Arts.—Professor Davis.

Major sequence in the College of Science, Literature, and the Arts.—Twenty-seven credits from Geography 53, 71, 101, 102, 110, 111, 120, 133, 241, 251, 252, 253; Economics 85, 172, 176; Geology 110; History 80-81-82; Botany 131. At least 20 credits must be in Geography.

(Prerequisites: Courses 11 and 41; Geology 1-2 and A-B, or 1-3 and A-C, or 8; Economics 6-7.)

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

Major adviser in the College of Education.—Professor Davis.

Requirements for a teacher's certificate.—Major recommendation: a minimum of 28 credits from the following courses in Geography: 11, 41, 43, 47, 53, 71, 101, 102, 110, 111, 120, 133, 241, 251, 252, 253.

An additional 5 credits from the following courses in Geology: 1-2, 1-3, or 8.

Minor recommendation: 18 credits from the following courses in Geography: 11 or 41, 53, 71, 101, 102, 110, 120.

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

Junior College Courses

No.	Title	Hour	Day	Bldg.	Instructor
11f*	Human Geography—A study of environmental factors as they limit human activities. Current problems in the use of our natural resources are used as illustrative material (5 cred.; 3rd qtr. fr., soph., jr., sr.; no prereq.)	II	MTWThF	103Bu	Mr. Davis
	Sec. 1	II	MTWThF	103Bu	Mr. Davis
	2	III	MTWThF	103Bu	Mr. Brown
11w*	Human Geography (See 11f)				
	Sec. 1	I	MTWThF	103Bu	Mr. Davis
	2	II	MTWThF	103Bu	Mr. Davis
	3	III	MTWThF	103Bu	Mr. Brown
11s*	Human Geography (See 11f)				
	Sec. 1	I	MTWThF	103Bu	Mr. Davis
	2	II	MTWThF	103Bu	Mr. Brown
	3	III	MTWThF	103Bu	Mr. Brown
41f	Geography of Commercial Production—Types of production and their geographic basis. Emphasis on the production of commodities of commercial significance (5 cred.; soph., jr., sr.; no prereq.; Course 11 recommended)	VII	MTWThF	133Ph	Mr. Hartshorne
41w	Geography of Commercial Production (See 41f)	II	MTWThF	133Ph	Mr. Hartshorne
41s	Geography of Commercial Production (See 41f)	II	MTWThF	166Ph	Mr. Hartshorne
43f	Political Geography—The geographic basis of problems of local and national political significance. A consideration of current problems as illustrations (5 cred.; soph., jr., sr.; no prereq.)	VI	MTWThF	103Bu	Mr. Hartshorne
47f	Geography of Minnesota (3 cred.; soph., jr., sr.; prereq. 11 or 41)	IV	MWF	103Bu	Mr. Brown

* Registration is limited. Written permission from the Junior College office, 106 Folwell Hall, is necessary for admission.

Senior College Courses

Senior College courses in this department are open to Junior College students only by special permission of the Students' Work Committee. See a statement on page 22.

No.	Title	Hour	Day	Bldg.	Instructor
53w	Historical Geography (3 cred.; jr., sr.; prereq. 11, or 15 cred. in history)	VII	MWF	103Bu	Mr. Brown
71f	Geography of North America (3 cred.; jr., sr.; prereq. 11)	I	MWF	103Bu	Mr. Davis
101w	Geography of Europe (3 cred.; jr., sr., grad.; prereq. 8 cred.)	IV	MWF	103Bu	Mr. Hartshorne
102s	Trade Routes and Trade Centers (3 cred.; jr., sr., grad.; prereq. 41)	VI	MWF	103Bu	Mr. Hartshorne
110f	Geography of South America (3 cred.; jr., sr., grad.; prereq. 8 cred.)	I	TThS	103Bu	Mr. Brown
111	<i>Cartography and Graphic Representation</i> (3 cred.; jr., sr., grad.; prereq. 10 cred.) (<i>Not offered</i>)				
120s	Geography of Asia (3 cred.; jr., sr., grad.; prereq. 10 cred.)	IV	MWF	103Bu	Mr. Davis
133w	Climatology (3 cred.; jr., sr., grad.; prereq. 10 cred. incl. 11)	VI	MWF	103Bu	Mr. Brown

Primarily for Graduate Students

241	<i>Field Course (Not offered)</i>				
251f	Seminar	Ar	Ar	Ar	Mr. Davis
252w	Seminar	Ar	Ar	Ar	Mr. Davis
253s	Seminar	Ar	Ar	Ar	Ar
301f,w,s	Research Problems	Ar	Ar	Ar	Mr. Davis, Mr. Hartshorne, Mr. Brown

GEOLOGY AND MINERALOGY

Major adviser in the College of Science, Literature, and the Arts.—Associate Professor Thiel.

Major sequences in the College of Science, Literature, and the Arts.—No major sequence in geology should be undertaken without at least two quarters of chemistry. A course in surveying is required, preferably Civil Engineering 17. (See the Bulletin of the Institute of Technology.) Course 23 should be taken as early as possible. One field trip is required of all students majoring in geology.¶

Sequence A. For general geology, federal and state surveys, etc. Courses 91-92-93, 101, 111, 112, 121, 124-125 or 144-145, 151-152-153. (Physics 3 or 1-2 is required.)

Sequence B. For petroleum geologist. Courses 91-92-93, 101, 105, 112, 137, 144-145 or 124-125, 151-152-153. (Trigonometry is required.)

Sequence C. For mining geologist and mineralographer. Courses 111, 112, 113, 121, 137, 124-125, 144-145, 166-167. (Physics 3 or 1-2 is required.)

Sequence D. For paleontologist. Courses 91-92-93, 101, 105, 106, 107-108-109, 151-152-153. (Should include general zoology.)

Sequence E. For mineralogist. Courses 61, 105, 106, 111, 121, 131-132-133, 137, 166-167. (Physics 3 or 1-2 is required.)

Sequence F. For petrographer. Courses 105, 106, 111 and 112 or 124-125, 131-132-133, 140-141. (Trigonometry is required.)

Modifications of these sequences will be permitted upon petition approved by the major adviser and the assistant dean for the Senior College.

¶ Girls may take trip only when there are enough for a separate section. They should consult the major adviser.

Major adviser in the College of Education.—Associate Professor Thiel.

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

Junior College Courses

There are three beginning courses in geology: Course 1-2 (with or without the laboratory course A-B); Course 1-3 (with or without the laboratory course A-C); Course 8, which is a one-quarter course, without laboratory, for those who do not take geology to meet a laboratory science requirement.

No.	Title	Hour	Day	Bldg.	Instructor
1f-2w*†	General Geology (Dynamic and Historical)—A synoptical treatment of the materials of the earth and of geologic processes, together with a study of the history of the earth and its inhabitants as recorded in the rocks (6 cred.; all; no prereq.)				
	Lect.	II	TThS	210P	Mr. Thiel
	Rec.	II	F	210P	Mr. Thiel
Af-Bw‡	General Geology Laboratory (Dynamic and Historical) (4 cred.; all; with or after 1-2)				
	Schedule for Af Sec. 1	I, II	MW	220P	Ar
	2	VI, VII	MW	220P	Ar
	Schedule for Bw Sec. 1	I, II	MW	220P	Ar
	2	VI, VII	TTh	220P	Ar
1f-3w*†	General Geology (Dynamic and Economic)—A synoptical treatment of the materials of the earth and the origin, distribution, and occurrence of metals, nonmetals, coal, and petroleum (6 cred.; all; no prereq.)				
	Lect.	III	TThS	110P	Mr. Emmons
	Rec.	III	F	110P	Mr. Emmons
Af-Cw‡	General Geology Laboratory (Dynamic and Economic) (4 cred.; all; with or after 1-3)				
	Sec. 1	III, IV	MW	220P	Ar
	2	VI, VII	TTh	220P	Ar
1w-2s*†	General Geology (Dynamic and Historical) (See 1f-2w)				
	Lect.	IV	MWF	110P	Mr. Hanley
	Rec.	IV	T	110P	Mr. Hanley
Aw-Bs‡	General Geology Laboratory (Dynamic and Historical) (See Af-Bw)				
		VI, VII	WF	220P	Ar
1w-3s*†	General Geology (Dynamic and Economic) (See 1f-3w)				
	Lect.	II	MWF	110P	Ar
	Rec.	II	S	110P	
Aw-Cs‡	General Geology Laboratory (Dynamic and Economic) (See Af-Cw)				
		I, II	TTh	216P	Ar
1s*	General Geology (Dynamic) (1st qtr. of 1-2 or 1-3. See 1f-2w or 1f-3w)				
	Sec. 1 Lect.	III	MWF	110P	Mr. Thiel
	Rec.	III	Th	110P	
	2 Lect.	VII	MWF	110P	Ar
	Rec.	VIII	M	110P	Ar
As‡	General Geology Laboratory (Dynamic) (1st qtr. of A-B or A-C. See Af-Bw or Af-Cw)				
	Sec. 1	III, IV	TS	220P	Ar
	2	VIII-IX	WF	220P	Ar
2f*	General Geology (Historical) (2nd qtr. of 1-2. See 1f-2w)				
	Lect.	III	MWF	208P	Mr. Hanley
	Rec.	III	Th	208P	
Bf‡	General Geology Laboratory (Historical) (2nd qtr. of A-B. See Af-Bw)				
	Lah.	III, IV	TS	216P	Ar
4s	Geology of Minnesota (5 cred.; all; prereq. 1 or 8 and consent of instructor)				
		IV	MTWFS	210P	Mr. Thiel

* For a three-quarter sequence, Course 2 may be followed by Course 3 or 4 and Course 3 by Course 2 or 4.

† To receive credit for any part of this course a student must complete the parts preceding the dagger, except that students in Forestry may take 1 and A for 5 credits without completing 2 and B.

‡ Course A-B or Course A-C must be completed if geology is offered as the required laboratory science.

No.	Title	Hour	Day	Bldg.	Instructor
8f	Introductory Geology—A short introductory course as an elective. Principles of earth sculpture; topographic changes and their causative agents; dynamic, structural, and historic geology (5 cred.; all; no prereq.)				
	Sec. 1	I	MTWThF	210P	Mr. Thiel
	2	VI	MTWThF	210P	Mr. Hanley
8w	Introductory Geology (See 8f)	IV	MTWFS	210P	Mr. Thiel
8s	Introductory Geology (See 8f)				
	Sec. 1	II	MTWThF	210P	Mr. Thiel
	2	VI	MTWThF	210P	Ar
23f-24w†	Elements of Mineralogy (8 cred.; soph., jr., sr.; prereq. a course in chemistry)				
	Schedule for 23f Lect.	I	TThS	206P	Mr. Gruner
	Rec.	IV	W	206P	
	Lab. Sec. A	III, IV	T	100P	
		VI, VII	Th	100P	
	Sec. B	VI, VII	T	100P	
		III, IV	S	100P	
	Schedule for 24w Lect.	I	TThS	206P	Mr. Gruner
	Rec.	VIII	M	206P	
	Lab. Sec. A	III, IV	T	100P	
		VI, VII	W	100P	
	Sec. B	VI, VII	M	100P	
		III, IV	S	100P	

Senior College Courses

Senior College courses in this department are open to Junior College students only by special permission of the Students' Work Committee. See a statement on page 22.

51f	Elements of Paleontology (5 cred.; jr., sr.; prereq. 1 and Zool. 1-2-3)				
	Lect.	II	MWF	208P	Mr. Stauffer
	Lab.	I, II	ThS	105P	
61f	Blowpipe Analysis (3 cred.; jr., sr.; prereq. 24)				Mr. Gruner
		Consult the Bulletin of the Institute of Technology			
85s	Field Work in Northern Minnesota (4 cred.; jr., sr.; prereq. 2, 3, or 51)				Mr. Gruner, Mr. Thiel
		Ar	Ar	Ar	
91f-92w-93s	Index Fossils of North America (9 cred.; jr., sr.; prereq. 2, 3, or 51)				Mr. Stauffer
	Lect.	I	F	208P	
	Lab.	VI, VII	MW	105P	
101f-102w	Sedimentation (6 cred.; jr., sr., grad.; prereq. 24)				Mr. Thiel
	Schedule for 101f Lect.	IV	MWF	210P	
	Schedule for 102w Lect.	VI	Th	210P	Mr. Thiel
	Lab.	VII, VIII	TTh	216P	
103w-104s	Micropaleontology (6 cred.; jr., sr., grad.; prereq. 51 or 91)				Mr. Stauffer
		II, III	TThS	103P	
105f	Rock Study (3 cred.; jr., sr., grad.; prereq. 24)				Mr. Grout
	Lect.	VI	TTh	110P	
	Lab. Sec. 1	VII, VIII	T	200P	
	2	VI, VII	M	200P	
105s	Rock Study (3 cred.; jr., sr., grad.; prereq. 24)				Mr. Grout
	Lect.	I	TS	110P	
	Lab. Sec. 1	III-IV	T	200P	
	2	III-IV	S	200P	
106w	Petrography (3 cred.; jr., sr., grad.; prereq. 105)				Mr. Grout
		VII, VIII	TTh	200P	

† To receive credit for any part of this course a student must complete the parts preceding the dagger.

‡ Not open to students who have had Course 1. Does not satisfy the Junior College requirement for science. Cannot be followed by Course 1 for credit. May be followed by Course 2 with instructor's permission.

PROGRAM

No.	Title	Hour	Day	Bldg.	Instructor
107f-108w-109s	Paleontologic Practice (9 cred.; jr., sr., grad.; prereq. 91-92-93)	Ar	Ar	105P	Mr. Stauffer
110f	Economic Geology (3 cred.; jr., sr., grad.; prereq. 24)	VI	MWF	110P	Mr. Schwartz
111f	Ore Deposits (3 cred.; sr., grad.; prereq. 2, 3, or 51, and 105)	I	TThS	110P	Mr. Emmons
112w	Geology of Petroleum (3 cred.; sr., grad.; prereq. 111)	I	TThS	110P	Mr. Emmons
113s	Problems in Ore Deposits (3 cred.; sr., grad.; prereq. 112)	VI-IX	Th	Ar	Mr. Emmons
118f	Principles of Geomorphology—A study of the fundamental principles governing the morphology of the earth's surface. The evolution of various types of valleys, shore lines, glacial and eolian land forms. A comparative study of the cycle of erosion of plains and plateaus, and a genetic analysis of different types of mountains (3 cred.; jr., sr., grad.; prereq. 2 or 3)	II	TThS	208P	Mr. Hanley
	Lect.	Ar	Ar	Ar	
119w	Geomorphology of the United States—The development of the surface features of the United States as affected by the rock structure and geologic history. Genetic analyses of the various provinces. (3 cred.; jr., sr., grad.; prereq. 118)	II	TThS	208P	Mr. Hanley
	Lect.	Ar	Ar	Ar	
	Lab.	Ar	Ar	Ar	
120	<i>Glacial Geology</i> (3 cred.; jr., sr., grad.; prereq. 2) (<i>Not offered</i>)				
121f	Crystallography (3 cred.; jr., sr.; prereq. Math. 7 and Inorg. Chem. 6-7-8 or 9-10)	Ar	Ar	100P	Mr. Gruner
124w-125s	Structural and Metamorphic Geology (6 cred.; jr., sr., grad.; prereq. 2, 3, or 51, and 105)	VI	MWF	110P	Mr. Schwartz
	Schedule for 124w	III	MTWThFS	208P	
	Schedule for 125s (to May 1)	III	MTWThFS	208P	
131f-132w-133s	Advanced Petrology (9 cred.; jr., sr., grad.; prereq. 106)	III	TThS	200P	Mr. Grout
	Schedule for 131f-132w Lect.	III	F	200P	
	Lab.	Ar	F	200P	
	Schedule for 133s Lect.	II	TThS	200P	Mr. Grout
	Lab.	Ar	Ar	200P	
137f	Testing Economic Minerals (3 cred.; jr., sr., grad.; prereq. 2, 3, or 51, and 105)	I	W	200P	Mr. Gruner
	Lect.	VI, VII, VIII, IX	T	200P	
	Lab.				
140w-141s	Applied Petrography (6 cred.; jr., sr., grad.; prereq. 131)	II	F	200P	Mr. Grout
	Lect.	I, II	MW	Ar	
	Lab.				
144w-145s	Interpretation of Geologic Maps (6 cred.; jr., sr., grad.; prereq. 2, 3, or 51, and 124)	VII, VIII, IX	MW	208P	Mr. Hanley
	Schedule for 144w	VII, VIII, IX	MW	208P	
	Schedule for 145s (to May 1)	VII, VIII, IX	MTWTh		
149s	Methods of Field Geology (No cred.; jr., sr., grad.; to be taken with 150; prereq. 2, 23-24, 106, 124-125)	Ar	Ar	Ar	Mr. Gruner
150s*	Field Geology (Black Hills) (Jr., sr., grad.)	Ar	Ar	Ar	Mr. Gruner
151f-152w-153s	Advanced General Geology (9 cred.; jr., sr., grad.; prereq. 2, 3, or 51)	III	MWF	210P	Mr. Stauffer
161w	Crystal Structure (3 cred.; jr., sr., grad.; prereq. 121, elem. phys. and anal. geom.)	Ar	Ar	Ar	Mr. Gruner
166f,w-167w,s	Mineralography (6 cred.; sr., grad.; prereq. 111, 131)	Ar	Ar	207P	Mr. Schwartz
170f,w,s	Geologic Problems (3 cred.; jr., sr., grad.; prereq. permission of major adviser)	Ar	Ar	Ar	Ar

* A maximum of 8 credits will be granted after field report is completed. The course will not be given for fewer than six students.

GERMAN

Major adviser in the College of Science, Literature, and the Arts.—Professor Kroesch.

Major sequence in the College of Science, Literature, and the Arts.—The aim of the major in German is the attainment of (1) a fair ability to speak and understand the spoken language; (2) a knowledge of German grammar and syntax, and the ability to write themes in German on cultural or literary subjects; (3) the ability to read with ease German literature of the classical and modern periods together with critical literary prose in this field; (4) a survey knowledge of the whole field of German literature, as well as some acquaintance with German history and customs, especially of the modern period. 36 credits in Senior College courses should satisfy these requirements.

The Senior College courses 50 to 60 are offered for the purpose of linguistic, grammatical, and syntactic preparation, whereas Courses 61 to 80 are intended to serve the development of the literary and cultural aspects of the major work. Major students preparing for graduate work should include in their sequence Course 120-121-122.

Before entering courses in the Senior College the student must have completed Course 4, or 31, or four years of high school German, or the equivalent.

Major adviser in the College of Education.—Professor Kroesch.

Requirements for a teacher's certificate.—Major recommendation: Courses 50-51-52, 53-54-55, 56-57, 68, 108, and 15 additional credits in courses numbered above 40.

Minor recommendations.—Courses 50-51-52, 108, and 8 additional credits in courses numbered above 40.

Sequences of courses for academic students.—Without entrance German, 1, 2, 3, 4, other courses numbered 40 or above. With one year of entrance German, 2, 3, 4, other courses numbered 40 or above. With two years of entrance German, 3, 4, other courses numbered 40 or above. With three years of entrance German, 4 and other courses numbered 40 or above. With four years of German, courses numbered 40 or above.

Sequence of courses for premedical students.—Students who have completed Courses 1, 2, 3A§ at this University may complete the German requirement for admission to the Medical School by taking Course 30-31-32. Students who have completed Course 3 at this University or its equivalent at some other institution or three years of high school German may complete the requirement by taking Courses 4A§, 31, 32, if they are in residence in the fall quarter of 1937-38, or by completing Course 30-31-32 thereafter.

Junior College Courses

No. If*	Title	Hour	Day	Bldg.	Instructor
	Beginning A (5 cred.; all; no prereq.)				
Sec. 1		I	MTWThF	207F	Ar
2		I	MTWThF	209F	Ar
3		I	MTWThF	209½F	Ar
4		I	MTWThF	108F	Ar
5		II	MTWThF	209½F	Ar
6		II	MTWThF	213F	Ar
7		III	MTWThF	209½F	Ar
8		III	MTWThF	109F	Ar
9		III	MTWThF	213F	Ar
10		VI	MTWThF	207F	Ar
11		VI	MTWThF	209F	Ar

* A student may not receive credit for beginning courses (two quarters, 10 credits) in more than one of the foreign languages, exclusive of Greek and Italian, except by special permission of the Student's Work Committee.

§ Course 3A was offered for the last time in the spring quarter of 1936-37. Course 4A will be offered for the last time in the fall quarter of 1937-38.

PROGRAM

No.	Title	Hour	Day	Bldg.	Instructor
1w*	Beginning A (See 1f)				
	Sec. 1	I	MTWThF	125F	Ar
	2	I	MTWThF	205F	Ar
	3	II	MTWThF	209F	Ar
1s*	Beginning A (See 1f)				
	Sec. 1	II	MTWThF	213F	Ar
	2	II	MTWThF	101F	Ar
	3	VI	MTWThF	209½F	Ar
2f*	Beginning B (5 cred.; all; prereq. 1 or one year of high school German)				
	Sec. 1	III	MTWThF	113F	Ar
	2	VI	MTWThF	110F	Ar
2w*	Beginning B (See 2f)				
	Sec. 1	I	MTWThF	207F	Ar
	2	I	MTWThF	209F	Ar
	3	I	MTWThF	209½F	Ar
	4	I	MTWThF	108F	Ar
	5	II	MTWThF	209½F	Ar
	6	II	MTWThF	213F	Ar
	7	III	MTWThF	212F	Ar
	8	III	MTWThF	109F	Ar
	9	III	MTWThF	213F	Ar
	10	VI	MTWThF	207F	Ar
	11	VI	MTWThF	209F	Ar
2s*	Beginning B (See 2f)				
	Sec. 1	I	MTWThF	125F	Ar
	2	I	MTWThF	205F	Ar
	3	II	MTWThF	209F	Ar
3f	Beginning C (5 cred.; all; prereq. 2 or two years of high school German)				
	Sec. 1	IV	MTWFS	209½F	Ar
	2	VII	MTWThF	209F	Ar
	3	VII	MTWThF	209½F	Ar
	4¶ (Premed. students only)	I	MTWThF	213F	Ar
	5¶ (Premed. students only)	I	MTWThF	25F	Ar
	6¶ (Premed. students only)	III	MTWThF	209F	Ar
3w	Beginning C (See 3f)				
	Sec. 1	III	MTWThF	113F	Ar
	2	VI	MTWThF	110F	Ar
3s	Beginning C (See 3f)				
	Sec. 1	I	MTWThF	207F	Ar
	2	I	MTWThF	108F	Ar
	3	I	MTWThF	209½F	Ar
	4	I	MTWThF	209F	Ar
	5	II	MTWThF	209½F	Ar
	6	III	MTWThF	212F	Ar
	7	III	MTWThF	213F	Ar
	8	III	MTWThF	109F	Ar
	9	VI	MTWThF	207F	Ar
	10	VI	MTWThF	209F	Ar
4f	Intermediate German (5 cred.; all; prereq. 3 or three years of high school German)				
	Sec. 1	III	MTWThF	212F	Ar
	2	IV	MTWFS	101F	Ar
	3	IV	MTWFS	105F	Ar
4Af§	Intermediate German (For premed. See 4f)	II	MWThFS	212F	Ar
4w	Intermediate German (See 4f)				
	Sec. 1	IV	MTWFS	209½F	Ar
	2	VII	MTWThF	209F	Ar
	3	VII	MTWThF	209½F	Ar

* A student may not receive credit for beginning courses (two quarters, 10 credits) in more than one of the foreign languages, exclusive of Greek and Italian, except by special permission of the Students' Work Committee.

§ Course 3A was offered for the last time in the spring quarter of 1936-37. Course 4A will be offered for the last time in the fall quarter of 1937-38.

¶ For premedical students the winter quarter continuation of 3f is 30w.

No.	Title	Hour	Day	Bldg.	Instructor
4s	Intermediate German (See 4f)				
	Sec. 1	III	MTWThF	113F	Ar
	2	VI	MTWThF	110F	Ar
24f-25w-26s†	Chemical German (12 cred.; chemists, pharmacists, miners; no prereq.)				
	Sec. 1	IV	MTWF	113F	Ar
	2	IV	MTWF	212F	Ar
	3	V	MTWF	207F	Ar
27f-28w-29s†	Chemical Prose (9 cred.; chemists, pharmacists, miners; prereq. two years of high school German or one year of college German)				
		IV	MWF	209F	Ar
30f-31w-32s	Medical German (9 cred.; premed.; prereq. 3A). Students who have completed 4A may enter 31w)				
	Sec. 1	I	MWF	212F	Ar
	2	I	MWF	109F	Ar
	3	IV	MWF	213F	Ar
	4	IV	MWF	102F	Ar
30w	Medical German (3 cred.; premed.; prereq. 3 or 3A)				
	Sec. 1	I	MWF	213F	Ar
	2	I	MWF	15F	Ar
	3	III	MWF	209F	Ar
31s	Medical German (3 cred.; premed.; prereq. 30 or 4A)				
	Sec. 1	I	MWF	213F	Ar
	2	I	MWF	15F	Ar
	3	III	MWF	209F	Ar
32f	Medical German (3 cred.; premed.; prereq. 31)				
		I	MWF	15F	Ar
40w	Rapid Reading (5 cred.; all; prereq. 4, or four years of high school German)				
		IV	MTWFS	15F	Mr. Downs
40s	Rapid Reading (See 40w)				
		VII	MTWThF	209½F	Mr. Downs

Senior College Courses

Senior College courses with numbers less than 100 are open to Junior College students who have an average grade of at least C in the prerequisite courses. Other Senior College courses in this department are open to Junior College students only by special permission of the Students' Work Committee. See a statement on page 22.

50f-51w-52s†	Composition (6 cred.; jr., sr.; prereq. 4 or 40)				
		IV		TS 209F	Mr. Lussky
53f-54w-55s†	Conversation (3 cred.; jr., sr.; prereq. 52)				
		I		TS 212F	Mr. Lussky
56f-57w†	Essay Writing (6 cred.; jr., sr.; prereq. 52)				
		III	MWF	207F	Mr. Pfeiffer
61s	Epics and Ballads (3 cred.; jr., sr.; prereq. 40 or 3 cred. above 60)				
		III	TThS	209F	Mr. Lussky
62s	Nineteenth-Century Prose (3 cred.; jr., sr.; prereq. 40 or 3 cred. above 60)				
		II	MWF	212F	Mr. Pfeiffer
63f	Modern Drama (3 cred.; jr., sr.; prereq. 4)				
		IV	MWF	207F	Mr. Kroesch
64w	Classic Drama (3 cred.; jr., sr.; prereq. 40, or 4 with a grade of B)				
		IV	MWF	207F	Mr. Kroesch
68w	Survey of German Literature (3 cred.; jr., sr.; prereq. 6 cred. above 40)				
		III	TThS	209½F	Mr. Burkhard
77s	Faust I (3 cred.; jr., sr.; prereq. 64 and 3 additional cred. above 60)				
		IV	MWF	209½F	Mr. Burkhard
108s	Phonetics (3 cred.; sr., grad.; prereq. 9 Senior College cred. in modern language)				
		III	MWF	207F	Mr. Kroesch

† To receive credit for any part of this course a student must complete the parts preceding the dagger.

‡ Beginning with the winter quarter of 1937-38 the prerequisite for Course 30 will be Course 3.

PROGRAM

No.	Title	Hour	Day	Bldg.	Instructor
115-116-117†	<i>Middle High German Literature</i> (9 cred.; sr., grad.; prereq. 120 and 11 cred. above 60) (<i>Not offered</i>)				
120f-121w-122s†	Proseminar. History of German Literature (9 cred.; sr., grad.; prereq. 68 and 9 cred. above 60)	II	TThS	207F	Mr. Kroesch Mr. Lussky, Mr. Pfeiffer
140-141-142	<i>Early High German Literature, 1500-1700</i> (9 cred.; sr., grad.; prereq. 121 and 11 cred. above 60) (<i>Not offered</i>)				
143f-144w-145s†	The Classical Period: Schiller (9 cred.; sr., grad.; prereq. 121 and 11 cred. above 60)	Ar	Ar	Ar	Mr. Lussky
150f-151w-152s†	Die Novelle (9 cred.; sr., grad.; prereq. 122 and 11 cred. above 60)	VIII, IX, X	T	301Lib	Mr. Burkhard
153-154-155	<i>Nineteenth-Century Drama: Kleist, Grillparzer, Hebbel</i> (9 cred.; sr., grad.; prereq. 122 and 11 cred. above 60) (<i>Not offered</i>)				
160-161-162	<i>Lyric Poetry</i> (9 cred.; sr., grad.; prereq. 68 and 11 cred. above 60) (<i>Not offered</i>)				
163f-164w-165s	German and English Literary Relations, 16th, 17th, 18th Centuries (9 cred.; sr., grad.; prereq. 68 and 11 cred. above 60)	III, IV	S	Ar	Mr. Davies
173f-174w-175s	The Modern Novel, 1890-1930 (9 cred.; sr., grad.; prereq. 122 and 11 cred. above 60)	VIII, IX, X	W	301Lib	Mr. Pfeiffer
180-181-182	<i>The Romantic School in Germany</i> (9 cred.; sr., grad.; prereq. 122 and 11 cred. above 60) (<i>Not offered</i>)				
202f-203w-204s	Gothic, Old Saxon (9 cred.; sr., with completed major sequence, grad.)	VII	MWF	207F	Mr. Kroesch
209-210-211	<i>Old High German</i> (9 cred.; sr., with completed major sequence, grad.) (<i>Not offered</i>)				

GREEK

See Classics, page 35.

HISTORY

Major advisers in the College of Science, Literature, and the Arts.—Professor Shippee; Assistant Professor Osgood.

Major sequence in the College of Science, Literature, and the Arts.—Students will take the equivalent of at least two nine-credit courses numbered from 50 to 100. These will normally come in the junior year. In the senior year students, if they have maintained to the end of the junior year an honor point average of 1.5 in all work, will take at least one course numbered 150 or above; all other majors in history will take an additional number of courses with numbers 50 to 100 in the senior year, but will not take courses numbered 150 or above.

Normally a history major will consist of Senior College courses aggregating at least 27 credits. Any student of Senior College rank, however, may, with the approval of a major adviser, present himself for examination in three of the following broad fields: American history, ancient history including the old Orient, European history to 1789, European history since 1789, economic history, English history, and Canadian history. In one of these fields or a part thereof the examination will be of a more detailed nature. Successful completion of these comprehensive examinations will be considered as satisfying the major requirement, irrespective of credit hours.

† To receive credit for any part of this course a student must complete the parts preceding the dagger.

(Prerequisites: Either Course 1-2 or 4-5-6, and 7-8-9. For students who have had an acceptable course in American history elsewhere, the requirement of 7-8-9 may be waived upon recommendation of the major adviser.)

Major adviser in the College of Education.—Professor Krey.

Requirements for a teacher's certificate—Major recommendation: a minimum of 45 credits; at least 18 credits must be in Senior College courses.

Minor recommendation: a minimum of 18 credits of which at least 9 credits must be in Senior College courses.

No major recommendation to teach history will be given unless the candidate has taken at least the general course in American history, History 7-8-9, or equivalent.

(Prerequisites: Either Course 1-2 or 4-5-6, and 7-8-9. For students who have had an acceptable course in American history elsewhere, the requirement of 7-8-9 may be waived upon recommendation of the major adviser.)

Students will take at least two of the courses numbered from 50 to 100. These will normally come in the junior year. In the senior year students, if they have maintained to the end of the junior year an honor point average of 1.5 in all work, will take at least one course numbered above 150; all other majors in history will take an additional number of survey courses in the senior year, but will not take courses numbered above 150.

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

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

Junior College Courses

No.	Title	Hour	Day	Bldg.	Instructor
1f-2w†	European Civilization (Formerly called "Modern World")			(10 cred.; all; no prereq.)	
	Lect. Sec. 1	II	TThS	BuAud	Mrs. Tyler
	Reserved for examination purposes	VIII	TTh	(See special footnote§)	
	Rec. Secs.*	I	MW	2F	
		II	MW	2F	
	These recitation sections are for students who take Lecture Section 1.	III	MW	2F	
		III	TTh	2F	
		IV	MW	5F	
		VI	TTh	2F	
		VII	MW	2F	
	Lect. Sec. 2	VII	MWF	BuAud	Mrs. Tyler
	Reserved for examination purposes	VIII	TTh	(See special footnote§)	
	Rec. Secs.*	I	TTh	2F	
		II	TTh	9F	
	These recitation sections are for students who take Lecture Section 2.	III	TTh	9F	
		IV	TS	112Bu	
		VI	TTh	5F	
		VII	TTh	2F	
		VIII	TTh	2F	

* Recitation sections in Courses 1f, 1w, 3s, and 4f will not meet until after the first lecture.

† To receive credit for any part of this course a student must complete the parts preceding the dagger.

§ *Special note.*—The class will not meet at VIII TTh but the final examination at the end of each quarter will be given at the time regularly scheduled for VIII TTh classes. Therefore students who take History 1f-2w must not register for any other class which meets at VIII TTh.

PROGRAM

No.	Title	Hour	Day	Bldg.	Instructor
1w-2s†	European Civilization (Formerly called "Modern World") (See 1f-2w)				
	Lect.	II	MWF	206Pt	Mr. Deutsch
	Rec. Secs.*	II	TTh	25F	
		IV	TS	2F	
3s	Social and Economic History of Modern Europe—Since 1500 (5 cred.; all; prereq. 10 cred. if taken by freshmen. Not open to students who have taken Economics 1)				
	Lect.	II	TThS	BuAud	Mr. Heaton
	Rec. Secs.*	I	MW	2F	
		II	MW	2F	
		III	MW	2F	
		IV	MW	5F	
		VII	TTh	2F	
4f-5w-6s†	English History—England since prehistoric times (9 cred.; all; no prereq.)				
	Lect.	II	MW	BuAud	Mr. Burt
	Rec. Secs.*	I	F	2F	
		II	F	2F	
		II	Th	2F	
		III	F	2F	
		IV	W	2F	
		VI	F	2F	
7f-8w-9s†	American History (9 cred.; soph., jr., sr.; no prereq.)				
	Sec. 1	I	MWF	209Bu	Mrs. Tyler
	2	I	MWF	111Bu	Mr. Stephenson
	3	VII	MWF	211Bu	Mr. Osgood
11f-12w-13s†	Medieval History—300-1560 (9 cred.; for music and architecture students only; no prereq.)				
	Lect.	IV	MWF	221Bu	Miss Thompson

Senior College Courses

Except where otherwise stated, there are no prerequisites for the courses numbered 50 to 100. The examination at the end of the course will cover the work of the three terms, and no final grade will be assigned until the whole course is completed. In exceptional cases students may enter the winter quarter, but in that event must read to cover the work of the first quarter.

Courses 50-51-52 and 50a-51a-52a are open to sophomores who have earned at least 9 credits in history with an average grade of at least C.

Course 70-71-72 is open to prelegal sophomores who have completed Course 4-5-6 or Course 1-2 with a grade of at least C, and also to prelegal sophomores who have an average grade of C in all their work, even if that work includes no course in history. Other Senior College courses in this department are open to Junior College students only by special permission of the Students' Work Committee. See a statement on page 22.

50f-51w-52s†	<i>Ancient Orient and Greece to 200 B.C. (9 cred.; jr., sr.) (Not offered)</i>				
50af-51aw-52as†	History of Rome and the Byzantine Empire (9 cred.; jr., sr.)	I	TThS	112Bu	Mr. Jones
53f-54w-55s†	<i>Medieval European History—300-1300 (9 cred.; jr., sr.) (Not offered)</i>				
53af-54aw-55as†	Renaissance and Reformation—1300-1648 (9 cred.; jr., sr.)	III	MWF	112Bu	Mr. Krey
56f-57w-58s†	<i>Early Modern European History—1648-1815 (9 cred.; jr., sr.) (Not offered)</i>				
59f-60w-61s†	Europe in the Nineteenth Century (9 cred.; jr., sr.)	IV	MWF	111Bu	Mr. Deutsch

* Recitation sections in Courses 1f, 1w, 3s, and 4f will not meet until after the first lecture.

† To receive credit for any part of this course a student must complete the parts preceding the dagger.

No.	Title	Hour	Day	Bldg.	Instructor
62f-63w-64s†	<i>European Expansion</i> (9 cred.; jr., sr.) (<i>Not offered</i>)				
65w-66s†	<i>Europe since 1871</i> (6 cred.; jr., sr.) (<i>Not offered</i>)				
67w-68s†	<i>United States since Reconstruction</i> (6 cred.; jr., sr.)				
70f-71w-72s†	English Constitutional History (9 cred.; open to prelegal soph. with at least a C average in Courses 4-5-6, 1-2, or in all their college work, and to all jrs. and srs.)	VII	MWF	221Bu	Mr. Stephenson
73f-74w-75s†	England since 1485 (9 cred.; jr., sr.)	I	MWF	211Bu	Mr. White
76f-77w-78s†	Canadian History (9 cred.; jr., sr.)	II	MWF	111Bu	Mr. Willson
80f-81w-82s†	Introduction to Economic History (9 cred.; jr., sr.)	III	TThS	221Bu	Mr. Burt
83f-84w-85s†	<i>American Economic History</i> (9 cred.; jr., sr.) (<i>Not offered</i>)	I	TThS	111Bu	Mr. Heaton
86w-87s†	English Backgrounds and American Colonies (6 cred.; jr., sr.)	II	MWF	112Bu	Mr. White
88w-89s†	<i>American Colonies in the Seventeenth Century</i> (6 cred.; jr., sr.) (<i>Not offered</i>)				
90f-91w-92s†	West in American History (9 cred.; jr., sr.)	III	TThS	111Bu	Mr. Osgood
90af-91aw-92as†	Minnesota and the Northwest (9 cred.; jr., sr.)	III	TThS	211Bu	Mr. Blegen
93f-94w-95s†	American Diplomatic History (9 cred.; jr., sr.)	III	MWF	221Bu	Mr. Shippee
93af-94aw-95as†	Survey of Latin American History (9 cred.; jr., sr.)	II	TThS	112Bu	Mr. Jones

Courses numbered 150 to 200 are open to seniors and to graduate students upon recommendation of advisers; prerequisites are appropriate lecture courses and consent of the department.

150f-151w-152s†	Selected Readings in Ancient History—Problems in Greek history (9 cred.; sr., grad.)	Ar	Ar	Ar	Mr. Jones
153f-154w-155s†	Selected Readings in Medieval and Renaissance History (9 cred.; jr., grad.)	VIII, IX	W	328Lib	Mr. Krey
156f-157w-158s†	Selected Readings in Modern European History (9 cred.; sr., grad.)	VIII, IX	W	Ar	Miss Thompson
170f-171w-172s†	Recent Europe	VI, VII	Th	328Lib	Mr. Deutsch
170f-171w-172s†	European Expansion	VIII, IX	Th	315Lib	Mr. Willson
176f-177w-178s†	Selected Readings in English History (9 cred.; sr., grad.)	VIII, IX	Th	328Lib	Mr. White
176f-177w-178s†	Selected Readings in Canadian History (9 cred.; sr., grad.)	I, II	Th	219Bu	Mr. Burt
180f-181w-182s†	Selected Readings in Economic History—European economic development before 1700 (9 cred.; sr., grad.)	VI, VII	T	111Bu	Mr. Heaton
190f-191w-192s†	Selected Readings in American History (9 cred.; sr., grad.)				
	The Slavery Controversy	VI, VII	T	328Lib	Mr. Stephenson
	The Civil War and Reconstruction	VI, VII	Th	339Lib	Mrs. Tyler
	Eighteenth Century America	VIII, IX	W	339Lib	Mr. Osgood
	The Later Nineteenth Century	VIII, IX	F	339Lib	Mr. Shippee

† To receive credit for any part of this course a student must complete the parts preceding the dagger.

HOME ECONOMICS

COLLEGE OF AGRICULTURE, FORESTRY, AND HOME ECONOMICS

The courses in Home Economics which are listed below are open to students of the College of Science, Literature, and the Arts. Other courses may be taken by arrangement with the department; but before registering for them students should get the approval of Assistant Dean Shumway in 219 Administration Building. The hours and days at which the classes meet are announced in the College of Agriculture, Forestry, and Home Economics section of this bulletin.

Course Numbers, Titles, and Descriptions

2f,s	Introduction to Textiles—Textile fibers and their properties as related to fabric properties; yarn and fabric structure and design; problems in selection of textile materials for clothing and household furnishings. Laboratory work with representative fabrics.
3f,w,s	Clothing Construction A—Laboratory practice in designing and planning, cutting, fitting, and applying suitable techniques in making garments of cotton and silk or rayon fabrics; care and use of sewing machines; interpretation and adaptation of commercial patterns. Construction problems include a child's garment.
4f,w,s	Clothing Construction B—Laboratory practice in costume modeling; preparation of dress form; application of tailored technique to silk, rayon, or wool fabrics; garments constructed include a remodeling problem.
20f,w,s	Home Economics D—Art problems involved in everyday life of student.
21f,w,s-	
22f,w,s	Color and Design I, II—The principles of color and design related to selecting and designing costumes and selecting, arranging, and designing house furnishings.
30s	Introduction to Nutrition—Designed for students wishing a brief comprehensive discussion of the application of principles of nutrition to selection of food.
31f,w,s	Introduction to Nutrition—Application of nutrition principles to food selection. Includes typical student problems such as buying meals, regulation of weight through diet, relation of food to health, and nutritive needs of college students.
34f	Nutrition Problems—Consideration of nutrition problems most commonly met by adults and children in typical families.
40f,w,s	Food Preparation—Development of technique and application of fundamental science principles to cookery processes. Establishment of good standards for food products.
55f,w,s	Related Art Problems—Problems worked out relating to costume and house furnishing design.
56Af-56Bs	Applications of Color and Design—Principles of design and color applied to selection, cost, and arrangement in fields of costume, dress, and household fabrics and household furnishings.
89s	Home Management with Special Reference to Low Income Families—Management of the home in relation to economic and social status of the family, with special consideration given to the dependent family.
120f,w,s	Art History and Appreciation—Historical development of painting, sculpture, architecture, decoration, furniture, and costumes, with special emphasis on design and influence upon modern styles.
180w,s	Home Planning and Furnishing—For the homemaker who aims at more intelligent planning and furnishing of the home. House plans, selection and arrangement of equipment and furnishings from the point of view of beauty and good home management.

HOW TO STUDY

No.	Title	Hour	Day	Bldg.	Instructor
1f§	How To Study (2 cred.; no prereq.)				
	Sec. 1	I	MWF	104J	Mr. Carlson
	2	II	MWF	104J	Mr. Carlson
	3	VII	MWF	104J	Mr. Baker

§ Registration is limited. Written permission from the instructor is necessary for admission. For Course 1f students should inquire at 106 Folwell Hall; for Courses 1w and 1s at 112 Psychology Building.

No.	Title	Hour	Day	Bldg.	Instructor
1w§	How To Study (See 1f)				
	Sec. 1	I	MWF	104J	Mr. Baker
	2	II	MWF	104J	Mr. Baker
1s§	How To Study (See 1f)				
	Sec. 1	I	MWF	104J	Mr. Carlson
	2	II	MWF	104J	Mr. Baker

HUMAN ANATOMY

MEDICAL SCHOOL

For complete list of courses, see the Bulletin of the Medical School.

Students in this college may elect courses in human anatomy other than Course 3 (see the Bulletin of the Medical School) only by arrangement with the head of the Department of Anatomy.

No.	Title	Hour	Day	Bldg.	Instructor
3f,s	Elementary Anatomy (3 cred.; primarily for nurses; all; no prereq.)				
	Lect.	VI	T	Ar	Mr. Blount
	Lab. and rec.	VI, VII, VIII	Th	Ar	

HUMAN PHYSIOLOGY

MEDICAL SCHOOL

Major adviser in the College of Science, Literature, and the Arts.—Professor Visscher.

Major sequences in the College of Science, Literature, and the Arts.—

Sequence A. Physiology. Courses 100-101; 103; 104; 6 credits in courses numbered 113 to 140, or Zoology 109-110.

Sequence B. Physiological Chemistry. Courses 100-101; 103; 104; 6 credits in courses numbered 138 to 164, or suitable courses in agricultural biochemistry approved by the major adviser.

Sequence C. Biophysics. Courses will be arranged by Professor Stenstrom with interested students subject to the approval of the assistant dean for the Senior College.

Modifications of these sequences will be permitted upon petition approved by the major adviser and the assistant dean for the Senior College.

Junior College Courses

No.	Title	Hour	Day	Bldg.	Instructor
1f,s*	Elements of Physiological Chemistry (3 cred.; primarily for students of nursing§; no prereq.)				
	Lect.	I	ThS	Ar	Dr. Arnow
	Lab.	I	T		and others
	Quiz	II	S		
2f,s*	Elements of Physiology (5 cred.; primarily for students of nursing§; no prereq.)				
	Lect.	I	MWF	Ar	Dr. Collins
	Lab.	II, III	T		and others
	Quiz	II	Th		
4f,s*	Human Physiology (4 cred.; all; prereq. 1 qtr. zool., 1 qtr. chem.)				
		III, IV	MWF	301MH	Dr. King
					and others

* Will not count for credit for admission to the Medical School except by permission of the dean of that school.

§ Registration is limited. Written permission from the instructor is necessary for admission. For Course 1f students should inquire at 106 Folwell Hall; for Courses 1w and 1s at 112 Psychology Building.

¶ Others may be admitted by special permission.

PROGRAM

Senior College Courses

Senior College courses in this department are open to Junior College students only by special permission of the Students' Work Committee. See statement on page 22.

No.	Title	Hour	Day	Bldg.	Instructor
50f*	Physiological Chemistry (5 cred.; primarily for phys. ed. students§; jr., sr.; prereq. general chemistry)	VI	MTWThF	Ar	
51w*	Human Physiology (6 cred.; primarily for phys. ed. students§; jr., sr.; prereq. Zool. 1-2-3; Inorg. Chem. 1-2-3, or 4-5, or equiv.)	VI III, IV II, III, IV	MWF W F	MH MH MH	Dr. Peters and others
57s*	Physiological Chemistry (4 cred.; primarily for dental students§; jr., sr.; prereq. Zool. 1-2-3; organic chemistry)	IV I	M TThS	MH	Dr. Armstrong and others
58w-59s*	Human Physiology (6 cred.; primarily for dental students§; jr., sr.; prereq. Zool. 1-2-3; Inorg. Chem. 1-2-3 or 4-5)	I	TWThS		Dr. King
	Lect.	I			
	Rec.	II		Th	
	Lab.	II, III, IV		T	
100f	Physiological Chemistry (7 cred.; jr., sr.; prereq. zool., org. chem., and phys.)	IV	MTWF		Dr. McClendon
	Lect.	I		F	
	Quiz				
	Lab.				
	Sec. AB	I, II, III		MW	
	CD	I, II, III		ThS	
101w	Physiological Chemistry (6 cred.; jr., sr.; prereq. 100)	IV		TS	
	Lect.	VI		F	
	Quiz	VI		T	
	Lab.				
	Sec. AB	I, II, III		MW	
	CD	I, II, III		ThS	
103f¶	Physiology of Circulation, Respiration, etc. (9 cred.; jr., sr.; prereq. zool. and org. chem.)	I	MTWThFS		Dr. Visscher, Dr. Scott
	Lect.				
	Conference and lecture on genetics¶	III		TS	
	Lab.				
	Div. A	VI, VII, VIII		MW	
	B	II, III, IV		MW	
104w¶	Physiology of Endocrines, Nervous System, etc. (6 cred.; lect. only, 4 cred.; jr., sr.; prereq. 103 or org. chem. and neurology)	IV	MTWF	301MH	Dr. Visscher, Dr. Scott
	Lect.	IV		S	
	Conference¶	IV			
	Lab.				
	Div. A	9:00-11:20		M	
		1:30-4:00		W	
	B	1:30-4:00		M	
		9:00-11:20		W	

For other courses see the bulletin and programs of the Medical School.

* Will not count for credit for admission to the Medical School except by permission of the dean of that school.

§ Others may be admitted by special permission.

¶ Students may register for lectures without laboratory.

|| Optional for nonmedical students.

JOURNALISM

Major advisers in the College of Science, Literature, and the Arts.—Professor Casey; Associate Professors Barnhart and Nafziger; Assistant Professors Charnley and Ford.

Major sequence in the College of Science, Literature, and the Arts.—Courses 51-52, 55, 69 or 73-74, 101 (for men), 109-110, 140-141-142, and 9 additional credits to be chosen in conference with the adviser. Students of marked ability may substitute for these 9 additional credits in journalism Senior College courses in other departments with the approval of the major adviser in journalism.

The additional credits will be arranged to prepare students for the following types of journalistic work: (1) metropolitan journalism—news, editorial, newspaper, advertising, or press association work; (2) small daily and weekly journalism—editing and management; (3) journalism-advertising; (4) magazine editing—editorial direction and business management of trade, technical, and professional journals; (5) agricultural journalism—consult the Bulletin of the College of Agriculture, Forestry, and Home Economics; (6) teacher training in journalism—consult the Bulletin of the College of Education.

Freshmen who are interested in journalism or those who think that they may enter the department at a later time are urged to discuss their course programs with members of the journalism staff.

(Prerequisites: Courses 13, 14-15, and Composition 27-28.) In addition to these prerequisites, the following Junior College courses are recommended as providing, in most cases, the best foundation for a major in journalism: Political Science 1-2-3, 15 and 25; Sociology 1 and 6; Psychology 1-2 and 4-5; 9 credits in history; 10 credits in economics.

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

Adviser for students in all colleges.—Professor Charnley.

Minor sequence.—For students in the College of Agriculture, Forestry, and Home Economics, the Institute of Technology, and the School of Business Administration: Courses 13, 41, 69, and 6 additional credits in Senior College journalism courses, to be chosen in conference with the adviser. Courses 111 and 114 or 109-110 are recommended.

Minor sequence in the College of Education.—Courses 13, 41, 69, 82, and at least 6 additional credits in Senior College journalism courses. Course 109-110 is recommended.

Course Ed. T. 74 offered by the Department of Journalism and listed under "Methods and Directed Teaching" in the program of the College of Education is also required in this sequence.

Note.—Sociology 116 and Agricultural Journalism 50-51-52 and 53 carry credit in the department.

Fees.—Students registered for any journalism course, except Course 5, are required to pay a general fee of \$1 a quarter, regardless of the number of courses pursued. Courses 41, 51-52, 55, and 58 require laboratory fees in addition to the general fee of \$1.

Junior College Courses

No.	Title	Hour	Day	Bldg.	Instructor
5s	The American Newspaper—A survey of the history, organization, and methods of contemporary journalism followed by an analysis of the relation of newspapers to their readers (3 cred.; soph. with average of C, jr., sr.; no prereq.)	II	TThS	14P	Mr. Ford

PROGRAM

No.	Title	Hour	Day	Bldg.	Instructor
12w¶	Newspaper Reporting (5 cred.; substantially equivalent to of C, jr., sr.; prereq. permission of chairman of department)	III	MTWThF	13-14; 14P	soph. with average Mr. Kildow
	Reporting Conferences	Ar	Ar	Ar	
13f	Introduction to Reporting (3 cred.; soph. with average of C, jr., sr.; prereq. Eng. A-B-C or Comp. 4-5-6, or exemption from English requirement)	Ar	Ar	Ar	
	Sec. 1 Journalism majors	I	MWF	14P	Mr. Charnley
	2 Journalism majors	I	TThS	10P	Mr. Kildow
	3 Journalism minors	I	MWF	305F	Mr. Ford
	Reporting Conferences	Ar	Ar	Ar	
14w-15s†	Newspaper Reporting (6 cred.; soph., jr., sr., with average of C in 13 or 12, or consent of instructor, and Comp. 27-28§)			of C in 13 or 12, or consent of instructor, and Comp. 27-28§)	
	Sec. 1	I	MWF	14P	Mr. Charnley
	2	I	TThS	10P	Mr. Charnley(w), Mr. Nafziger(s)
	Reporting Conferences	Ar	Ar	Ar	Mr. Charnley and staff
17¶	<i>Newspaper Reference Methods</i> (2 cred.; soph., with average of C, jr., sr.; prereq. 5, 12, or 13) (<i>Not offered</i>)				
41w‡‡	Editing for Nonmajors (Not open to S. L. and A. students) (3 cred.; jr., sr.; prereq. 12 or 13)				
	Lect.	IV	MW	10P	Mr. Ford
	Lab. Sec. 1	VIII, IX	T	19P	
	2	VI, VII	W	19P	
	3	VI, VII	Th	19P	

Senior College Courses

Senior College courses in this department are open to Junior College students only by special permission of the Students' Work Committee. See a statement on page 22.

51f-52w‡	News Editing (6 cred.; jr., sr.; prereq. 15)					
	Lect.	Sec. 1	II	M	14P	Mr. Nafziger
		2	IV	M	14P	Mr. Nafziger
	Lab.		Fall quarter			
	Sec. 1		VI, VII	M	19P	Mr. Nafziger
	2		VIII, IX	M	19P	Mr. Nafziger
	3		II, III	T	19P	Mr. Kildow
	4		VI, VII	T	19P	Mr. Kildow
	5		VIII, IX	T	19P	Mr. Kildow
	6		VI, VII	W	19P	Mr. Kildow
	7		VIII, IX	W	19P	Mr. Kildow
	8		II, III	Th	19P	Mr. Nafziger
	9		VI, VII	Th	19P	Mr. Kildow
	10		VI, VII	F	19P	Mr. Nafziger
	Lab.		Winter quarter			
	Sec. 1		VI, VII	M	19P	Mr. Nafziger
	2		VI, VII	T	19P	Mr. Kildow
	3		VIII, IX	W	19P	Mr. Nafziger
	4		VI, VII	Th	19P	Mr. Kildow
	5		VI, VII	F	19P	Mr. Kildow
	6		III, IV	S	19P	Mr. Kildow

† To receive credit for any part of this course a student must complete the parts preceding the dagger.

‡ A fee of \$2 per quarter is charged for this course.

‡‡ A fee of \$1 is charged for this course.

§ May be taken at the same time.

¶ This course is intended only for winter quarter transfer students and others who for exceptional reasons cannot take 13 and 14. It should be followed by 15.

¶¶ No student may receive credit for both Journalism 17 and Library Methods 1.

No.	Title	Hour	Day	Bldg.	Instructor
55f,w,s††	Advertising and Newspaper Typography (3 cred.; jr., sr.; prereq. 15)				
	Lect.	VII	M	14P	Mr. Barnhart
	Lab. Sec. 1	VIII, IX	MW	20P	
	2	VI, VII	TTh	20P	
	3	I, II	WF	20P	
	4	VI, VII	WF	20P	
58w‡‡	Advanced Typography (2 cred.; jr., sr.; prereq. 55 and consent of instructor)	Ar	Ar	20P	Mr. Barnhart
60-61-62	<i>The Weekly Newspaper</i> (9 cred.; jr., sr.; prereq. 15) (<i>Not offered</i>)				
65w*	Graphic Arts II: Processes—Discussion of the various processes of printing, lithography, and engraving (3 cred.; jr., sr.; prereq. consent of major adviser in the Department of Journalism or in the School of Business Administration)				
		IV	MWF	206P	Mr. Barnhart
69s	Newspaper and Magazine Articles (3 cred.; jr., sr.; prereq. 15 or 41)	I	MWF	210P	Mr. Kildow
70	<i>Business and Specialized Journalism</i> (3 cred.; jr., sr.; prereq. 15 or 69, or consent of instructor) (<i>Not offered</i>)				
73f-74w†	Newspaper and Magazine Articles (6 cred.; jr., sr.; prereq. 15)	VI	MWF	10P	Mr. Charnley
75s	Law of the Press (2 cred.; jr., sr.; open only to major students in journalism who have not taken Course 15 here; prereq. 51-52)	IV	MW	19P	Mr. Charnley
76f	Critical Writing (3 cred.; jr., sr.; prereq. 15)	II	TThS	10P	Mr. Ford
78s	Press Relations (3 cred.; jr., sr.; prereq. 69 or 73-74)	VI	MWF	10P	Mr. Charnley
82s	Supervision of School Publications (3 cred.; jr., sr.; prereq. 41 or 51-52)	IV	MWF	14P	Mr. Kildow
93f§	Editorial Administration (3 cred.; jr., sr.; prereq. 51-52)	I	TThS	14P	Mr. Barnhart
94w§	Newspaper Advertising (3 cred.; jr., sr.; prereq. 51-52)	I	TThS	14P	Mr. Barnhart
95s§	Circulation and Newspaper Management (3 cred.; jr., sr.; prereq. 51-52)	I	TThS	10P	Mr. Barnhart
96	<i>The Journalism of Finance and Commerce</i> (3 cred.; jr., sr.; prereq. 15 and 10 cred. in economics or business administration) (<i>Not offered</i>)				
99f,w,s	Readings in Journalism (Cred. ar., not to exceed 3; jr., sr.; prereq. consent of the chairman of the department)				Mr. Nafziger, Mr. Charnley, Mr. Ford
101w	The Reporting of Public Affairs (3 cred.; jr., sr., grad.; prereq. 51-52 and 9 cred. in political science. Required of all men majors)	III	TThS	10P	Mr. Nafziger
103s	Literary Aspects of Journalism (3 cred.; jr., sr., grad.; prereq. Eng. 21-22 or 22-23)	IV	MWF	10P	Mr. Ford
109w-110s	History of Journalism (6 cred.; jr., sr., grad.; prereq. 15)	III	MWF	10P	Mr. Ford
111f	Foreign News Sources (3 cred.; jr., sr., grad.; prereq. 41 or 51 and a history or political science course in international relations, or consent of instructor)	III	MWF	10P	Mr. Nafziger
112	<i>Current Newspaper Problems</i> (3 cred.; jr., sr., grad.; prereq. 109-110 or 111) (<i>Not offered</i>)				

* This course 65w is one of three courses related in general subject-matter of special interest to students of journalism and advertising. The other two, listed elsewhere in this bulletin, are Drawing 64f "Graphic Arts I: Elementary Principles of Design, Composition, and Techniques," and Business Administration 194s "Advanced Advertising Procedure."

† To receive credit for any part of this course a student must complete the parts preceding the dagger.

‡‡ A fee of \$1 per credit is charged for this course.

§ Two quarters of Courses 93, 94, 95 must be completed before credit is received for any quarter.

PROGRAM

No.	Title	Hour	Day	Bldg.	Instructor
114w	The Influence of the Newspaper (3 cred.; jr., sr., grad.; prereq. 15 or 41)	II	TThS	10P	Mr. Ford
130f-131w-132s†	The Press and Public Opinion (9 cred.; jr., sr., grad.; prereq. 20 cred. in sociology, psychology, and political science)	II	MWF	10P	Mr. Nafziger
140f-141w-142s†	Contemporary Affairs (9 cred.; sr., grad.; prereq. 109-110 and 20 cred. in social science)	VI	TTh	14P	Mr. Nafziger, Mr. Charnley
	Lect.	VI	TTh	14P	Mr. Nafziger, Mr. Charnley
	Rec. Sec. 1	IV	T	14P	Mr. Nafziger
	2	VII	T	14P	Mr. Charnley

For Graduate Students Only

205f,w,s	Topics in International News Communications (3 cred.; seminar for grad. students; prereq. consent of chairman of department)	Ar	Ar	Ar	Mr. Nafziger
210f,w,s	Research in Newspaper Problems (2 cred.; seminar course for grad. students; prereq. consent of department)	Ar	Ar	Ar	Mr. Nafziger

LATIN

See Classics, page 35.

LIBRARY METHODS

Note.—For the special course in library training see the Bulletin of the College of Science, Literature, and the Arts. For professional courses in library instruction see the program of the Division of Library Instruction, pages 10-11.

No.	Title	Hour	Day	Bldg.	Instructor
1f,w,s§	Use of Books and Libraries—Use of catalog, reference books, indexes, and bibliographies, for personal and class purposes. Preparation of reference lists. (2 cred.; fr., soph. only; no prereq.)	II	MW	3Lib	Mr. Russell, Miss Moen
	Sec. 1	II	MW	3Lib	Mr. Fleming, Miss Miller
	2	IV	MW	3Lib	Mr. Fleming, Miss Miller
	3	VI	MW	5Lib	Miss Runnestrand

MATHEMATICS

Major advisers in the College of Science, Literature, and the Arts.—Professors Brink, Hart, and Jackson.

Major sequence in the College of Science, Literature, and the Arts.—Courses 50, 51, 52, 62; and either 15 additional credits in Senior College courses, other than 70, or 6 additional credits in Senior College courses, other than 70, together with 10 credits of Physics 101-103-105 or 9 credits of Biometry (Botany 101, 145, 146, 153).

(Prerequisite: Mathematics 6, 7, 30.)

† To receive credit for any part of this course a student must complete the parts preceding the dagger.

§ For students in the College of Science, Literature, and the Arts. Others must obtain a special card from the Junior College office, 106 Folwell Hall.

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

Major adviser in the College of Education.—Associate Professor Underhill.

Requirements for a teacher's certificate.—Major recommendation: entrance credit in solid geometry or its equivalent; Courses 6, 7, 30, 50, 51, and 8 additional credits in courses numbered over 51.

Minor recommendation: entrance credit in solid geometry or its equivalent. Course 50 and 3 additional credits in courses numbered over 50.

Mathematics 20 is strongly recommended as an elective, to be taken preferably in the freshman or sophomore year, in connection with either a major or minor recommendation.

Placement tests.—In each of Courses 1, 4, 6, and 8, a placement test will be given at the first class meeting. Any student who fails in the test will be advised to take a more elementary course or to review his elementary mathematics before taking college mathematics. In particular, any student who offers less than one year of high school higher algebra as a substitute for Course 1 and who fails the placement test given in Course 4, 6, or 8, will be required to take Course 1 before taking more advanced mathematics. A student who has had a complete year of elementary algebra, and a corresponding course in higher algebra for one-half year, should be able to pass the placement test in Course 4, 6, or 8.

Junior College Courses

No.	Title	Hour	Day	Bldg.	Instructor
1f	Higher Algebra (5 cred.; all; prereq. one yr. of elementary algebra§; open for credit to any student offering less than one year of high school higher algebra for entrance)				
	Sec. 1	I	MTWThF	JAud	Ar
	2	II	MTWThF	206Pt	Ar
	3	VI	MTWThF	JAud	Ar
	In choosing one of the sections of this course the student should be guided by the schedule of hours for its winter quarter continuation. The fall-winter sequences are: At I hour, 1f-6w and 1f-8w; at II hour, 1f(MTWThF)-4w(MWThF); at VI hour, 1f-6w.				
1w	Higher Algebra (See 1f)				
	Sec. 1	IV	MTWFS	301F	Ar
	2	VI	MTWThF	JAud	Ar
	In choosing one of the sections of this course the student should be guided by the schedule of hours for its spring quarter continuations. The winter-spring sequences are: At IV hour, 1w(MTWFS)-4s(MTWf); at VI hour, 1w-6s and 1w-8s.				
1s	Higher Algebra (See 1f)				
		I	MTWThF	301F	Ar
4f*¶	Trigonometry, Short Course (4 cred.; all; prereq. 1, or high school higher algebra§; open for credit to students offering high school trigonometry for entrance)				
		II	MWThF	166Ph	Ar
4w*¶	Trigonometry, Short Course (See 4f)				
		II	MWThF	166Ph	Ar
4s*¶	Trigonometry, Short Course (See 4f)				
		IV	MTWF	301F	Ar
6f¶	Trigonometry (5 cred.; all; prereq. 1, or high school higher algebra§; open for credit to students offering high school trigonometry for entrance)				
		III	MTWThF	104F	Ar
6w¶	Trigonometry (See 6f)				
	Sec. 1	I	MTWThF	105F	Ar
	2	VI	MTWThF	105F	Ar

* For premedical and pre dental students, and others who desire only the mathematics necessary in Course 3 in physics.

¶ No student may receive credit for both Courses 4 and 6 or both Courses 7 and 8.

Prebusiness students who elect mathematics to meet the requirement of 10 credits in mathematics or laboratory science, should take 1 and 8 if they have not had high school higher algebra, and 8 and 20 if they have had high school higher algebra.

§ Read the announcement about placement tests which precedes the heading Junior College Courses.

No.	Title	Hour	Day	Bldg.	Instructor
6s¶	Trigonometry (See 6f)	VI	MTWThF	105F	Ar
7f¶	College Algebra (5 cred.; all; prereq. 6, or high school trigonometry if approved by the department chairman)	I	MTWThF	105F	Ar
7w¶	College Algebra (See 7f)	III	MTWThF	105F	Ar
8s¶	College Algebra (See 7f)	VI	MTWThF	101F	Ar
8f¶	Commerce Algebra (5 cred.; prebus. stud.; prereq. 1, or high school higher algebra§)	VII	MTWThF	JAud	Ar
8w¶	Commerce Algebra (See 8f)	I	MTWThF	JAud	Ar
8s¶	Commerce Algebra (See 8f)	VI	MTWThF	104F	Ar
20w	Mathematics of Investment (5 cred.; all; prereq. 8, or 6 and 7)	VII	MTWThF	JAud	Ar
20s	Mathematics of Investment (See 20w)	I	MTWThF	JAud	Ar
21s	Introduction to the Mathematics of Life Insurance (3 cred.; all; prereq. 20)	VII	MWF	104F	Ar
30f	Analytic Geometry (5 cred.; all; prereq. 6 and 7 or 6 and 8)	I	MTWThF	104F	Mr. Underhill
30w	Analytic Geometry (See 30f)	I	MTWThF	104F	Ar
30s	Analytic Geometry (See 30f)	III	MTWThF	104F	Ar

Senior College Courses

Courses 50, 51, 52 are open to Junior College students who have an average grade of at least C in the prerequisite courses. Other Senior College courses in this department are open to Junior College students only by special permission of the Students' Work Committee. See a statement on page 22.

50f	Calculus I (5 cred.; jr., sr.; prereq. 30)	III	MTWThF	105F	Mr. Jackson
50w	Calculus I (See 50f)	I	MTWThF	102F	Mr. Underhill
51w	Calculus II (5 cred.; jr., sr.; prereq. 50)	III	MTWThF	104F	Mr. Jackson
51s	Calculus II (See 51w)	I	MTWThF	104F	Mr. Underhill
52f	Calculus III (5 cred.; jr., sr.; prereq. 51)	II	MTWThF	101F	Mr. Underhill
52s	Calculus III (See 52f)	III	MTWThF	105F	Mr. Jackson
60s	Synthetic Metric Geometry (3 cred.; jr., sr.; prereq. 30)	VI	MWF	102F	Miss Carlson
62w	Theory of Equations I (3 cred.; jr., sr.; prereq. 50)	VII	MWF	104F	Miss Carlson
63s	Theory of Equations II (3 cred.; jr., sr.; prereq. 62)	VII	MWF	105F	Miss Carlson
70	<i>History of Elementary Mathematics</i> (3 cred.; jr., sr.; prereq. 30) (<i>Not offered</i>)				
71f	Solid Analytic Geometry (3 cred.; jr., sr.; prereq. 50)	VII	MWF	105F	Mr. Bussey
100w-101s	Foundations of Geometry—Axioms, finite geometries, non-Euclidean geometries (6 cred.; jr., sr., grad.; prereq. 51)	III	TThS	101F	Mr. Bussey
102-103	<i>Advanced Analytic Geometry</i> (6 cred.; jr., sr., grad.; prereq. 51) (<i>Not offered</i>)				
106f	Differential Equations (3 cred.; jr., sr., grad.; prereq. 51)	III	MWF	101F	Miss Gibbens
107w-108s	Advanced Calculus (6 cred.; jr., sr., grad.; prereq. 52)	III	MWF	101F	Mr. Underhill
109	<i>Theory of Numbers</i> (3 cred.; jr., sr., grad.; prereq. 51) (<i>Not offered</i>)				
115	<i>Differential Geometry</i> (3 cred.; jr., sr., grad.; prereq. 52, 71) (<i>Not offered</i>)				

§ Read the announcement about placement tests which precedes the heading Junior College Courses.

¶ No student may receive credit for both Courses 4 and 6 or both Courses 7 and 8.

Prebusiness students who elect mathematics to meet the requirement of 10 credits in mathematics or laboratory science, should take 1 and 8 if they have not had high school higher algebra, and 8 and 20 if they have had high school higher algebra.

No.	Title	Hour	Day	Bldg.	Instructor
118f-119w-120s	Vectors and Matrices (9 cred.; jr., sr., grad.; prereq. 51)				
		Ar	Ar	Ar	Mr. Jackson
121-122-123	<i>Mathematical Theory of Statistics</i> (9 cred.; jr., sr., grad.; prereq. 51) (<i>Not offered</i>)				
131	<i>Advanced Algebraic Theory</i> (3 cred.; jr., sr., grad.; prereq. 52 or 62) (<i>Not offered</i>)				
140	<i>Projective Geometry</i> (3 cred.; jr., sr., grad.; prereq. 71) (<i>Not offered</i>)				
142f	Theory of Invariants (3 cred.; jr., sr., grad.; prereq. 63 or 131)	III	TThS	101F	Mr. Underhill
144-145-146	<i>Topics in Analysis</i> (9 cred.; jr., sr., grad.; prereq. 51) (<i>Not offered</i>)				

For Graduate Students Only

206f-207w-208s	Theory of Functions of Real and Complex Variables (9 cred.; grad.; prereq. 108)				
		Ar	Ar	Ar	Mr. Brink
251f-252w-253s	Functions in Hilbert Space and Related Topics (9 cred.; grad.; prereq. 208 or permission of instructor)				
		Ar	Ar	Ar	Mr. Hart

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

MILITARY SCIENCE AND TACTICS

See the program of Military Science and Tactics, page 12.

MUSIC

To secure the degree of bachelor of arts with major in music, a student must fulfill the requirements of both the Junior and Senior Colleges as stated in the Bulletin of the College of Science, Literature, and the Arts, securing 144 credits in courses other than practical music (piano, voice, etc., Courses 11 to 27). During the first two years he will register for English A-B-C or Composition 4-5-6, unless exempt from the requirement in English; foreign language; History 11-12-13; Psychology 1-2 and 4-5 or 7; and the following courses in music: 1-2-3, 4-5-6, 7-8, 34-35-36.

He must earn thirty credits in practical music selected from Courses 11 to 27, the number of credits in his major instrument to be determined by the department.

Major advisers in the College of Science, Literature, and the Arts.—Professor Scott; Associate Professor Hull.

Major sequences in the College of Science, Literature, and the Arts.—

- A. Courses 50-51-52, 53-54-55, 56-57-58, 60-61-62 or 63-64-65, 76.
- B. Courses 56-57-58, 60-61-62 or 63-64-65, 73-74-75, 76, 77-78-79.
- C. Courses 56-57-58, 60-61-62 or 63-64-65, 70-71-72, 80-81-82.

Modifications of these sequences will be permitted upon petition approved by the major adviser and the assistant dean for the Senior College.

Courses recommended for students who have a minor rather than a major interest in music.—

A. Practical Music

Courses 1, 4-5, 34-35-36, and twelve credits in practical music (Courses 11 to 27) in the Junior College plus ten credits in practical music (Courses 11 to 27) in the Senior College.

B. History and Criticism

Courses 1, 4-5, 34-35-36, 76, and 53-54-55 or 50-51-52 or 56-57-58.

C. Ensemble

Two years work (12 credits) or equivalent in practical music (Courses 11 to 27), Courses 34-35-36, 76, 60-61-62 or 63-64-65, 40-41-42 or 43-44-45.

For a special curriculum in Music Education see the College of Education Bulletin. For courses in Music Education see the program of the College of Education in this bulletin.

Entrance requirements, according to the instrument selected.—

Piano: Any major or minor scale in octaves, thirds, sixths, or tenths, M.M., quarter notes = 108; Bach Invention or dance from one of the suites; a sonata by Haydn or Mozart; a modern composition of equal difficulty with the sonata.

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. Have a promising voice. Some knowledge of piano is urgently recommended.

Violin: Major and minor scales, arpeggios; the simpler Kreutzer Etudes; a sonata by Handel, Haydn, Mozart, or Schubert; a more modern work displaying special technique peculiar to the violin.

Organ: Same as for piano.

A student wishing to register in the music course must first pass an examination in practical music before a committee of the faculty of the Music Department. This applies also to academic students who wish to elect courses in practical music.

Fees.—

Courses 11 to 27 inclusive:

- | | |
|--|---------|
| 1. One individual lesson per week, 2 credits..... | \$25.00 |
| 2. Two individual lessons per week, 4 credits..... | 50.00 |
| 3. Class lessons in Courses 11C, 12C, 2 credits..... | 15.00 |

Courses A-B-C and D-E-F:

- | | |
|---|-------|
| 1. One individual lesson per week, no credit..... | 25.00 |
|---|-------|

Practical music.—Students may enter courses in practical music any quarter.

Courses numbered from 11 to 27, inclusive, carry either 2 or 4 credits a quarter and must be repeated until the requirement in practical music has been met.

No student may count for graduation more than 36 credits in practical music.

Junior College Courses

No.	Title	Hour	Day	Bldg.	Instructor
1f	Ear Training (2 cred.; all; there is no prerequisite for this course, but no student should register for it until he has made arrangements for a placement test in the office of the Department of Music)				
	Sec. 1	III	MTWTh	3Mu	Miss Malcolm
	2	VI	MTWTh	3Mu	Miss Kendall
				103Mu	Miss Malcolm
2w-3s	Ear Training (2 cred.; continuation of 1)				
	Sec. 1	III	MW	3Mu	Miss Malcolm
	2	VI	MW	3Mu	Miss Kendall
				103Mu	Miss Malcolm
1w	Ear Training (See 1f)	II	MTWTh	3Mu	Miss Kendall
2s	Ear Training (See 2w)	II	TTh	3Mu	Miss Kendall
3f	Ear Training (See 3s)	II	TTh	3Mu	Miss Kendall
4w-5s	Harmony (6 cred.; all; prereq. 1)				
	Sec. 1	II	MWF	103Mu	Mr. Scott
	2	VII	MWF	103Mu	Mr. Scott
4s	Harmony (See 4w)	I	MWF	3Mu	Miss Malcolm
5f	Harmony (See 5s)	I	MWF	3Mu	Miss Malcolm
6f	Harmony (continued) (3 cred.; all; prereq. 4-5)				
		III	MWF	103Mu	Mr. Scott

No.	Title	Hour	Day	Bldg.	Instructor
7w-8s†	Counterpoint (6 cred.; soph., jr., sr.; prereq. 4-5-6)	III	MWF	103Mu	Mr. Ferguson
29f	The Physical Basis of Music—Consideration of pitch, intensity, and quality of musical tones. Problems of resonance. Influences of amplifying systems on musical sounds. Physiological and psychological factors pertaining to music. Musical scales and their temperament. Study of musical instruments and the voice. Auditorium problems in ensemble playing (3 cred.; all; no prereq.) (Same as Phys. 15f)	VII	MWF	166Ph	Mr. Pepinsky
30w	Physics of Tone Color and Tone Production—Differentiation of tone quality of musical instruments and the voice. Variations of timbre with pitch range and intensity. Masking effects of instruments in combination. Mechanics of tone production and influences of interpretive values. Studies in the vibrato (3 cred.; all; prereq. Phys. 15 or 13) (Same as Phys. 17w)	VII	MWF	133Ph	Mr. Pepinsky
31f-32w-33s	Music Appreciation—Cultivation of better understanding of music heard today. The course is designed for students with a general interest in music rather than for those majoring in music. (6 cred.; all; no prereq.)	VII	TTh	MuAud	Mr. Scott, and others
34f-35w-36s‡	History of Music (6 cred.; soph., jr., sr.; no prereq.)	II	MW	MuAud	Mr. Ferguson
	Lect.	II			
	Rec. (optional)	II	F		
37f-38w-39s	Keyboard Harmony (3 cred.; all; prereq. 4-5)	II	TTh	103Mu	Mr. Scott

Courses in Practical Music

For a statement about credits and prerequisites for courses in practical music other than Courses 40-41-42 and 43-44-45, see page 68.

Af-Bw-Cs‡‡	Piano (No cred.; no prereq. For students without entrance requirements in piano)	Ar	Ar	Mu	Ar
Df-Ew-Fs‡‡	Voice (No cred.; no prereq. For students without entrance requirements in voice)	Ar	Ar	Mu	Ar
11f,w,s‡	Piano—Individual Lessons	Ar	Ar	Mu	Ar
11Cf,w,s‡†	Piano—Class Lessons*	IV	TF	Mu	Ar
12f,w,s‡	Voice—Individual Lessons	Ar	Ar	Mu	Ar
12Cf,w,s‡†	Voice—Class Lessons*				
	Sec. 1	VI	MWF	Mu	Ar
	2	VII	MWF	Mu	Ar
13f,w,s‡	Violin	Ar	Ar	Mu	Ar
14f,w,s‡	Viola	Ar	Ar	Mu	Ar
15f,w,s‡	Cello	Ar	Ar	Mu	Ar
16f,w,s‡	Double Bass	Ar	Ar	Mu	Ar
17f,w,s‡	Flute	Ar	Ar	Mu	Ar
18f,w,s‡	Oboe	Ar	Ar	Mu	Ar
19f,w,s‡	Clarinet	Ar	Ar	Mu	Ar
20f,w,s‡	Bassoon	Ar	Ar	Mu	Ar
21f,w,s‡	Trumpet	Ar	Ar	Mu	Ar
22f,w,s‡	French Horn	Ar	Ar	Mu	Ar
23f,w,s‡	Trombone	Ar	Ar	Mu	Ar

* Science, Literature, and the Arts major students must take individual rather than class lessons in their major instrument. Music Education majors will take individual lessons in their major and class lessons in their minor instrument. No student may take class lessons for more than 6 credits. Classes in piano will be composed of 4 students; classes in voice will be composed of 6 students.

† To receive credit for any part of this course a student must complete the parts preceding the dagger.

‡ See statement of fees, page 68.

§ May be taken only with the consent of the director.

¶ Students may enter any quarter.

PROGRAM

No.	Title	Hour	Day	Bldg.	Instructor
24f,w,s†	Tuba	Ar	Ar	Mu	Ar
25f,w,s†	Percussion	Ar	Ar	Mu	Ar
26f,w,s†	Harp	Ar	Ar	Mu	Ar
27f,w,s†	Organ	Ar	Ar	Mu	Ar
40f-41w-42s	Orchestra (6 cred.; all; prereq. consent of director)	7:30 p.m.	W	NMA	Mr. Pepinsky
43f-44w-45s **	University Chorus (3 cred.; all; prereq. consent of director)				
		IX (Men)	MW	5NMA	Mr. Killeen
		IX (Women)	TW	5NMA	Mr. Killeen

Senior College Courses

Senior College courses in this department are open to Junior College students only by special permission of the Students' Work Committee. See a statement on page 22.

50f-51w-52s	Music of the Eighteenth Century (6 cred.; jr., sr.; prereq. 35)	VIII, IX	T	104Mu	Mr. Pepinsky
53f-54w-55s	Romantic Movement (6 cred.; jr., sr.; prereq. 35)	VII	WF	104Mu	Miss Kendall
56f-57w-58s†	Bach and Beethoven (9 cred.; sr.; prereq. 34-35-36)	VI, VII	TTh	104Mu	Mr. Ferguson
59s	Technique of Voice (2 cred.; jr., sr.; prereq. 4-5, 29, and 6 cred. in Course 12 or 12C)	VI	TTh	4Mu	Mr. Killeen
60f-61w-62s	Instrumental Ensemble (6 cred.; jr., sr.)	VII	TTh	4Mu	Mr. Pepinsky
63f-64w-65s	Vocal Ensemble (6 cred.; jr., sr.; prereq. 6 cred. in Course 12 or 12C)	II	TTh	104Mu	Miss Hull
66f-67w-68s	Advanced Vocal Ensemble (6 cred.; jr., sr.; prereq. consent of instructor)	II	MW	104Mu	Mr. Killeen
69s	Advanced Physical Analysis of Musical Sounds (3 cred.; jr., sr.; prereq. Phys. 17, Math. 51)				
	(Same as Physics 59)	VII	MWF	133Ph	Mr. Pepinsky
70f-71w-72s†	Normal Piano (6 cred.; jr.; prereq. 2 years piano)	I	MWF	103Mu	Miss Kendall
73f-74w-75s	Advanced Harmony (6 cred.; jr.; prereq. 4-5-6)	IV, V	T	103Mu	Mr. Scott
76f	Form and Analysis (3 cred.; jr., sr.; prereq. 4-5 and Psy. 1-2)	II	MWF	103Mu	Mr. Pepinsky
77f-78w-79s	Composition-Orchestration (6 cred.; jr., sr.; prereq. 4-5-6, 7-8)	Ar	Ar	Ar	Mr. Ferguson
80f-81w-82s†	Advanced Normal Piano (6 cred.; sr.; prereq. 70-71-72)	VIII	MWF	103Mu	Miss Kendall
83f-84w-85s	Advanced Composition (6 cred.; sr.; prereq. 77-78-79)	Ar	Ar	Ar	Mr. Ferguson
90f-91w-92s	Advanced Instrumental Ensemble (6 cred.; sr.; prereq. 60-61-62)	VI	MW	104Mu	Mr. Pepinsky
100f-101w-102s	Basis of Musical Expression (9 cred.; grad.; prereq. 56-57-58)	Ar	Ar	Ar	Mr. Ferguson

ORIENTATION

See Science and Civilization, page 89.

† To receive credit for any part of this course a student must complete the parts preceding the dagger.

‡ See statement of fees on page 68.

|| Students may enter any quarter.

|| Students majoring in music may earn twelve credits in orchestra.

** Students may receive credit for two years of chorus.

PHILOSOPHY

Major adviser in the College of Science, Literature, and the Arts.—Mr. Castell.

Major sequence in the College of Science, Literature, and the Arts.—Courses 2; 50-51-52; 135-136 or 141; and additional courses to be determined by the student's intellectual needs.

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

Junior College Courses

No.	Title	Hour	Day	Bldg.	Instructor
2f-1w-3s	Logic, Problems of Philosophy, Ethics—A special sequence of courses in philosophy for prelegal freshmen. Only by special permission of the instructor will students be admitted to 1w-3s without 2f, or to 3s without 1w (5 cred. per qtr.; prelegal fr.; no prereq.)	VI	MTWThF	101L	Mr. Castell, Mr. Everett, Mr. Oliver
1f	Problems of Philosophy—An elementary survey of certain problems of life and knowledge, constituting an introduction to systematic philosophy (5 cred.; soph., jr., sr.; no prereq.)				
	Sec. 1	IV	MTWFS	321F	Mr. Conger
	2	VII	MTWThF	322F	Mr. Castell
1w	Problems of Philosophy (See 1f)				
	Sec. 1	IV	MTWFS	321F	Mr. Conger
	2	VII	MTWThF	322F	Mr. Castell
1s	Problems of Philosophy (See 1f)				
	Sec. 1	I	MTWThF	322F	Mr. Oliver
	2	VI	MTWThF	322F	Mr. Norborg
2f	Logic—A study of inductive and deductive processes of reasoning, together with allied processes of knowledge (5 cred.; soph., jr., sr.; no prereq.)				
	Sec. 1	III	MTWThF	322F	Mr. Oliver
	2	VI	MTWThF	322F	Mr. Norborg
2w	Logic (See 2f)				
	Sec. 1	I	MTWThF	322F	Mr. Oliver
	2	VI	MTWThF	322F	Mr. Norborg
2s	Logic (See 2f)				
	Sec. 1	II	MTWThF	321F	Mr. Everett
	2	III	MTWThF	322F	Mr. Castell
3f	Ethics—A study of the presuppositions, the nature, and the implications of moral judgments (5 cred.; soph., jr., sr.; no prereq.)				
	Sec. 1	I	MTWThF	321F	Mr. Norborg
	2	II	MTWThF	321F	Mr. Everett
3w	Ethics (See 3f)				
	Sec. 1	II	MTWThF	321F	Mr. Oliver
	2	III	MTWThF	322F	Mr. Everett
3s	Ethics (See 3f)				
	Sec. 1	I	MTWThF	321F	Mr. Norborg
	2	IV	MTWFS	321F	Mr. Oliver
10	<i>Science and Religion</i> (2 cred.; soph., jr., sr.; no prereq.) (<i>Not offered</i>)				

Senior College Courses

Course 70 is open to prelegal sophomores who have an average grade of at least C in all their work and in the prerequisite courses. Other Senior College courses in this department are open to Junior College students only by special permission of the Students' Work Committee. See a statement on page 22.

No.	Title	Hour	Day	Bldg.	Instructor
50f-51w-52s*	General History of Philosophy (9 or 15 cred.; jr., sr.; no prereq.)	IV	MWF	322F	Mr. Miller
		or IV	MTWFS		
53f	Nineteenth-Century Philosophy (3 cred.; sr.; prereq. 8 cred. including Course 52)	III	MWF	321F	Mr. Castell
60s	Logic of Science (3 cred.; jr., sr.; prereq. 2)	II	TThS	322F	Mr. Oliver
70s§	Modern Philosophies of Social Reform—Reform ideas since Adam Smith and the industrial revolution, early liberalism, critics of the new social order, early socialism, liberalism revised, Marxian socialism, state socialism, workers' control, fascism, recent criticism (3 cred.; for prelegal students only; open to 3rd qtr. prelegal sophs. with at least a C average in all their college work and in the prerequisite courses; prereq. 8 cred.)	VII	MWF	322F	Mr. Castell
100f	History of Religions (3 cred.; jr., sr., grad.; prereq. 8 cred.)	II	MWF	322F	Mr. Conger
101w	Psychology of Religion (3 cred.; jr., sr., grad.; prereq. 8 cred.)	II	MWF	322F	Mr. Conger
102s	Philosophy of Religion (3 cred.; jr., sr., grad.; prereq. 8 cred.)	II	MWF	322F	Mr. Conger
103f	Esthetics (3 cred.; sr., grad.; prereq. 8 cred. in phil. or 15 cred. in English)	I	TThS	322F	Mr. Miller
104	<i>History of Esthetic Theory</i> (3 cred.; jr., sr., grad.; prereq. 8 cred.) (<i>Not offered</i>)				
105	<i>Fundamental Philosophies of Life</i> (3 cred.; jr., sr., grad.; prereq. 8 cred.) (<i>Not offered</i>)				
115w	Contemporary Philosophy (3 cred.; jr., sr., grad.; prereq. 8 cred.)	III	TThS	304F	Mr. Conger
120	<i>Scandinavian Philosophy</i> (3 cred.; jr., sr., grad.; prereq. 10 cred.) (<i>Not offered</i>)				
124w	Political and Social Ethics (5 cred.; jr., sr., grad.; prereq. 20 cred. in soc. sci. or 8 cred. in phil.)	I	MWF	321F	Mr. Everett
129	<i>Development of Political Thought</i> (5 cred.; jr., sr., grad.; prereq. 18 cred. in soc. sci. or 8 cred. in phil.) (<i>Not offered</i>)				
135w-136s	Philosophy of Plato (6 cred.; jr., sr., grad.; prereq. 8 cred. including Course 50)	VIII	MWF	322F	Mr. Miller
141s	Metaphysics (5 cred.; jr., sr., grad.; prereq. 8 cred.)	IV	MTWFS	304F	Mr. Conger
147-148	<i>Advanced Logic</i> (6 cred.; jr., sr., grad.; prereq. 8 cred. in phil. including Course 2) (<i>Not offered</i>)				
161f-162w-163s	Seminar in Philosophy (9 cred.; sr., grad.; prereq. 20 cred. in phil. and consent of instructor) (The subject of Mr. Miller's seminar will be "The Philosophy of Hegel!")	Ar	Ar	Ar	Mr. Miller, Mr. Conger, Mr. Castell

PHYSICAL EDUCATION FOR MEN

See the program of Physical Education for Men, page 14.

PHYSICAL EDUCATION FOR WOMEN

See the program of Physical Education for Women, page 17.

PHYSICS

Major adviser in the College of Science, Literature, and the Arts.—Associate Professor Valasek.

Major sequence in the College of Science, Literature, and the Arts.—Courses 101-103-105, plus 6 additional credits in Senior College courses, and Mathematics 50, 51, and 52.

* Students may enter any quarter.

§ No student may receive credit for both Philosophy 70 and Political Science 161-162.

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

The physics included in specialized curriculum leading to the degree "B.S. in Physics," offered in the Institute of Technology, will be accepted as a major sequence in this college.

Major adviser in the College of Education.—Professor Erikson.

Requirements for a teacher's certificate.—Courses 3, 4, 13, 23, 24, 33, 34, 43, 44. These comprise a general course in physics extending through five quarters.

Major recommendation.—The above general course and in addition Courses 52, 107-109-111.

Minor recommendation.—The above general course plus Course 52.

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

Junior College Courses

No.	Title	Hour	Day	Bldg.	Instructor
1f-2w†	Introduction to Physical Science—Discussions and experimental demonstrations of the principles underlying physical phenomena. The course is designed for the non-professional student. Laboratory work may be obtained by registration in Course 4 (with or after Course 1) and for one or more of Courses 24, 34, 44 (after Course 4 and with or after Course 2; but any student who wishes to take any of the laboratory courses should consult Professor Buchta before registering) (8 cred.; all; no prereq.)	IV	MTWF	166Ph	Mr. Buchta
3f	Elements of Mechanics (3 cred.; all; prereq. higher algebra and trigonometry, the equivalent of Math. 1 and 4 or Math. 1 and 6)	VIII*	MWF	150Ph	Mr. Erikson
	Lect.	II	Th	150Ph	
	Quiz	IX	Th	150Ph	
3w,s	Elements of Mechanics (See 3f)	VIII	MWF	150Ph	Mr. Erikson
	Lect.	IX	F or ar	150Ph	
	Quiz				
4f,w,s‡	Elements of Mechanics Laboratory (1 cred.; all; prereq. 3 or registration in 3; or 1 or registration in 1)	VI, VII	T	153Ph	Mr. Williams
	Sec. 1	VIII, IX	T	153Ph	
	2	I, II	Th	153Ph	
	3	VIII, IX	Th	153Ph	
	4				
11s	Survey of Newer Developments in Physics—A study of certain phases of electron physics, spectroscopy, atomic structure, radioactivity, X rays, photoelectric effect, and nuclear transformations. Demonstration lectures (3 cred.; all; prereq. 1-2, or a general course in college physics, or permission of the instructor)	IV	MWF	166Ph	Mr. Buchta
13f	Acoustics (3 cred.; all; prereq. 3)	III	TThS	133Ph	Mr. Buchta
	Lect.	IX	M	133Ph	
	Quiz				
13s	Acoustics (3 cred.; all; prereq. 3)	III	TThS	133Ph	Mr. Buchta
	Lect.	IX	M	133Ph	
	Quiz				
15f	The Physical Basis of Music (3 cred.; all; no prereq.) (Same as Music 29)	VII	MWF	166Ph	Mr. Pepinsky

* Other lecture sections, given in the Bulletin of the Institute of Technology, are open to Science, Literature, and the Arts students by special permission.

† To receive credit for any part of this course a student must complete the parts preceding the dagger.

‡ A fee of \$2 is charged for this course.

PROGRAM

No.	Title	Hour	Day	Bldg.	Instructor
17w	Physics of Tone Color and Tone Production (3 cred.; all; prereq. Phys. 15 or 13) (Same as Music 30)				
	Lect.	VII	MWF	133Ph	Mr. Pepinsky
23f	Heat (3 cred.; all; prereq. 3)				
	Lect.	III	TThS	150Ph	Mr. Miller
	Quiz	IX	T	150Ph	
23w	Heat (See 23f)				
	Lect. Sec. 1	II	MWF	150Ph	Mr. Miller
		IV	MWF	150Ph	
		VI	MWF	150Ph	
	Quiz Sec. 1	II	Th	150Ph	
		IX	Th	150Ph	
24f‡	Heat Laboratory (1 cred.; all; prereq. 4, 23 or reg. in 23; or 4, 2 or reg. in 2)				
	Sec. 1	I, II	T	244Ph	Mr. Miller
	2	VI, VII	T	244Ph	and assts.
	3	VIII, IX	Th	244Ph	
	4	I, II	F	244Ph	
	5	VIII, IX	F	244Ph	
24w‡	Heat Laboratory (See 24f)				
	Sec. 1	VI, VII	T	244Ph	Mr. Miller
	2	VIII, IX	Th	244Ph	and assts.
	3	I, II	F	244Ph	
	4	VI, VII	Th	244Ph	
29f	Introduction to Meteorology—A presentation of the fundamental physical principles underlying meteorological phenomena, accompanied by instrumental observations and weather map study (3 cred.; all; prereq. high school physics or equiv.)				
	Lect.	VI	MWF	133Ph	Mr. Miller
33f	Optics (3 cred.; all; prereq. 3)				
	Lect. Sec. 1	II	MWF	133Ph	Mr. Valasek
		IV	MWF	133Ph	
	Quiz	IX	F	133Ph	
33w,s	Optics (3 cred.; all; prereq. 3)				
	Lect.	I	TThS	133Ph	Mr. Valasek
	Quiz	IX	F	133Ph	
34f,w,s‡	Optics Laboratory (1 cred.; all; prereq. 4, 33 or reg. in 33; or 4, 2 or reg. in 2)				
	Sec. 1	VI, VII	M	352Ph	Mr. Valasek
	2	VIII, IX	M	352Ph	and assts.
	3	VI, VII	Th	352Ph	
43w	Electricity (3 cred.; all; prereq. 3)				
	Lect.	III	TThS	150Ph	Mr. Zeleny
	Quiz	IX	T	150Ph	
43s	Electricity (See 43w)				
	Lect. Sec. 1	II	MWF	150Ph	Mr. Zeleny
		IV	MWF	150Ph	
		VI	MWF	150Ph	
	Quiz Sec. 1	II	Th	150Ph	
		IX	Th	150Ph	
44w‡	Electricity Laboratory (1 cred.; all; prereq. 4, 43 or reg. in 43; or 4, 2 or reg. in 2)				
	Sec. 1	VI, VII	Th	231Ph	Mr. Zeleny
	2	VIII, IX	Th	231Ph	and assts.
44s‡	Electricity Laboratory (See 44w)				
	Sec. 1	VI, VII	M	231Ph	Mr. Zeleny
	2	I, II	T	231Ph	and assts.
	3	I, II	F	231Ph	

Senior College Courses

Senior College courses in this department are open to Junior College students only by special permission of the Students' Work Committee. See a statement on page 22.

52f,w,s‡ Laboratory Arts (3 cred.; jr., sr.; prereq. 16 cred. and approval of department)
VI, VII, VIII TTh 39Ph Mr. Haliday

‡ A fee of \$2 is charged for this course.

No.	Title	Hour	Day	Bldg.	Instructor
59s	Advanced Physical Analysis of Musical Sounds (3 cred.; jr., sr.; prereq. Math. 51 and Physics 3, 13 or 15) (Same as Music 69)	VII	MWF	133Ph	Mr. Pepinsky
71f-73w-75s	Intermediate Physics—Discussion of selected problems in classical physics. Solution of problems (12 cred.; all; prereq. calculus and 12 cred. in phys.)	III	MTWF	145Ph	Mr. Buchta
101f-103w-105s	Theoretical Physics (15 cred.; jr., sr., grad.; prereq. 12 cred. in physics, Math. 51)	IV	MTWFS	145Ph	Mr. Tate
107f-109w-111s	Modern Physics (9 cred.; jr., sr., grad.; prereq. 12 cred.)	I	MWF	145Ph	Mr. Williams
108f-110w-112s*†	Modern Experimental Physics (9 cred.; jr., sr., grad.; prereq. 144)	VII, VIII, IX	TTh	145Ph	Mr. Erikson, Mr. Williams
113w	Intermediate Acoustics (3 cred.; jr., sr., grad.; prereq. Math. 51; 15 cred. in phys., including 13)	Ar	Ar	Ar	Mr. Buchta
114f-116w-118s*	Elementary Physical Investigation (9 cred.; jr., sr., grad.; prereq. 15 cred. in phys., Math. 51)	Ar	Ar	Ar	Ar
117w-119s*	History of Physics (6 cred.; jr., sr., grad.; prereq. a general course in physics)	I	TThS	145Ph	Mr. Erikson
124s‡	Pyrometry (3 cred.; jr., sr., grad.; prereq. 23 and 24)	VII, VIII, IX	MW	245Ph	Mr. Miller
126f,s‡	Advanced Heat (3 cred.; jr., sr., grad.; prereq. 23 and 24)	VII, VIII, IX	MW	245Ph	Mr. Miller
134f,w‡	Experimental Optics (3 cred.; jr., sr., grad.; prereq. 33 and 34)	VII, VIII, IX	MF	348Ph	Mr. Valasek
136w,s‡	Spectrum Analysis (3 cred.; jr., sr., grad.; prereq. 33 and 34)	VII, VIII, IX	MF	348Ph	Mr. Valasek
144f‡	Electricity Measurements (3 cred.; jr., sr., grad.; prereq. 43 and 44)	III	S	166Ph	Mr. Zeleny
	Lect.	III	Th	166Ph	
	Quiz	VIII-IX	TF	231Ph	
	Lab. Sec. 1	VI-VII	TTh	231Ph	
	2	VI-VII	MF	231Ph	
	3	VI-VII	MF	231Ph	
146w‡	Advanced Electricity Measurements (3 cred.; prereq. 144 and permission of instructor)	Ar	Ar	232Ph	Mr. Zeleny
148s‡	Radioactivity (3 cred.; jr., sr., grad.; prereq. 43, 44)	VII, VIII, IX	TTh	145Ph	Mr. Williams
152f	X Rays (3 cred.; jr., sr., grad.; prereq. 43)	I	TThS	133Ph	Mr. Valasek
154w,s‡	X-Ray Spectroscopy (3 cred.; prereq. 44, 152, Math. 51, and permission of instructor)	Ar	Ar	Ar	Mr. Valasek
	Lect.	Ar	Ar	Ar	
	Lab.	Ar	Ar	Ar	

For additional graduate courses see the Bulletin of the Graduate School.

POLITICAL SCIENCE

Major advisers.—Professors Anderson, Quigley, and Short.

Preparation for Senior College work.—Nine credits, including 6 in Course 1-2, and 3 in one of the following: Courses 3, 7, 15, and 25, except as otherwise noted in the prerequisites for particular Senior College courses.

* Students may enter any quarter.

‡ A fee of \$2 per quarter is charged for this course.

Preparation for a major sequence and for the major in international relations.—Fifteen credits in courses numbered from 1 to 26, plus suitable preparation in History (1-2, 4-5-6, or 7-8-9), Economics (6-7 and 5), or Sociology (1 and 45). In addition students are advised to take one or more of the following: Philosophy 2, Geography 43, Psychology 1-2.

Major sequence.—The preparatory work noted above is designed to provide a general knowledge of (1) the American system of government, and (2) the principal terms and concepts of political science. To this knowledge the major sequence should add the following: (3) a knowledge of the works of a number of great contributors to political ideas; (4) fairly exact and thoro knowledge of some extensive part of at least three of the following fields of political science: (a) American government, politics, and administration; (b) public law; (c) comparative modern government; (d) political theory; (e) local government and administration; (f) international law, organization, and relations; and (5) development of the ability to study independently in at least one of the three chosen fields.

To these ends the student will be expected to take four courses meeting three times a week throughout the year, or the equivalent, including at least one three-quarter sequence in each of his selected fields. To meet the four-course requirement, a student may, with the approval of his adviser, offer the equivalent of one course selected from closely related offerings in Economics, History, Journalism, Psychology, and Sociology. For a list of such approved offerings see the major advisers.

Major in international relations (Training for the foreign service).—A special program taking the place of a major sequence will be arranged for students of good standing who desire a general introduction to this field. Courses are drawn from Political Science, Economics, History, Geography, and related departments. Those intending to take the examinations for the American foreign service are advised to follow this program and to prepare themselves adequately in modern foreign languages. Consult Mr. Quigley.

Tutorial and honors courses.—Students who are capable of doing better than average work and who wish to specialize or to study for graduation honors are advised to take some of the special tutorial courses: 4, 5, 6, 8, 17, and 26, and also 167-168-169 and 91-92-93. Courses 91-92-93 may be elected for independent work in any of the six fields noted above in the description of the major sequence.

Major adviser in the College of Education.—Professor Field.

Requirements for a teacher's certificate.—Major recommendation: At least 36 credits in political science including 1-2-3, either 7, 15, or 25, and at least 12 credits in Senior College courses.

Minor recommendation: At least 18 credits in political science, including 1-2-3, either 7, 15, or 25, and 3 credits in Senior College courses.

For a comprehensive curriculum in social studies, see College of Education Bulletin.

Note for graduate students.—Courses in political science that are indicated as being open to juniors, seniors, and graduates 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.

Junior College Courses

No.	Title	Hour	Day	Bldg.	Instructor	
Af-Bw-Cs†	Introduction to Government (for prelegal students)—A survey of the development of political institutions and ideas, followed by comparative study of the organization and practice of modern governments, with emphasis upon the American system. (9 cred.; no prereq. This course is for prelegal freshmen only. No student will be given credit for both Courses A-B-C and 1-2-3)					
	I		MWF	133Ph	Mr. McLaughlin	
1f-2w†-3s§	American Government and Politics—Part 1-2. National, state, and local. Constitutions and fundamental laws; governmental organization; division and separation of powers; legislative, executive, and judicial procedure and problems. Part 3. Principal functions and services of government: defense, law enforcement, regulation of business, public works, and social services (9 cred.; all; no prereq.)					
	I		TThS	206Pt	Mr. Kirkpatrick	
	IV		MWF	BuAud	Mr. Christensen	
1w-2s†§	American Government and Politics (6 cred.; all; no prereq.)					
	III		MWF	206Pt	Mr. McLaughlin	
4,5,6f,w,s	Tutorial Work in American Government and Politics (2 cred. per qtr.; open to students registered in 2, 3 with grade of C+ or better in preceding quarter of 1-2-3, and to students who have completed 1-2 with equally satisfactory standing. Consult instructor)					
	Fall	4f	I	TTh	221Bu	Mr. Sibley
		5f	III	TTh	15F	Mr. Sibley
	Winter	4w	I	TTh	6F	Mr. Sibley
		5w	III	TTh	208P	Mr. Sibley
	Spring	4s	II	TTh	221Bu	Mr. Kirkpatrick
		5s	I	TTh	9F	Mr. Sibley
		6s	I	TTh	211Bu	Mr. Christensen
7f,s	Comparative European Government—The governments of Great Britain, France, Italy, Germany, and Russia. Constitutions; governmental organization; parties and elections (3 cred.; all; prereq. Course 1. Course 7 may be taken simultaneously with Course 2 or 3)					
	Fall		VII	MWF	209Bu	Mr. Starr
	Spring		II	TThS	211Bu	Mr. Starr
8f,s	Tutorial Work in Comparative European Government (2 cred.; open to students registered in 7, with honor point average of 1.5 and grade of C+ in 1-2 or in portion thereof completed, and to advanced students of satisfactory standing. Consult instructor)					
	Fall		VIII	MW	111Bu	Mr. Starr
	Spring		VII	TTh	112Bu	Mr. Starr
15w,s	Elements of Political Science—The nature and functions of the state; sovereignty and liberty; constitutions; forms of government (3 cred.; all; prereq. Course 1. Course 15 may be taken simultaneously with Course 2 or 3)					
	Winter		II	TThS	211Bu	Mr. Lippincott
	Spring		VII	MWF	209Bu	Mr. Lippincott
17w	Tutorial Work in Elements of Political Science (2 cred.; open to students registered in 15, with honor point average of 1.5 and grade of C+ in 1-2 or in portion thereof completed, and to advanced students of satisfactory standing. Consult instructor)					
			III, IV	T	302F	Mr. Lippincott
25f,w	World Politics—Introduction to contemporary international relations; the policies of the great powers; nationalism; imperialism; internationalism (3 cred.; all; prereq. Course 1 or Hist. 1-2. Course 25 may be taken simultaneously with Course 2 or 3)					
	Fall		II	TThS	211Bu	Mr. Mills
	Winter		VII	MWF	209Bu	Mr. Mills
26f,w	Tutorial Work in World Politics (2 cred.; open to students registered in 25, with honor point average of 1.5 and grade of C+ in 1-2, or in portion thereof completed, and to advanced students of satisfactory standing. Consult instructor)					
	Fall		III, IV	T	302F	Mr. Mills
	Winter		VIII, IX	M	111Bu	Mr. Mills

† To receive credit for any part of this course a student must complete the parts preceding the dagger.

§ No student will be given credit for both Courses 1-2-3 and A-B-C.

Senior College Courses

Senior College courses in this department are open to Junior College students only by special permission of the Students' Work Committee. See a statement on page 22.

No.	Title	Hour	Day	Bldg.	Instructor
61f-62w-63s	American Constitutional Development (9 cred.; jr., sr.; prereq. 9 cred. or Hist. 7-8-9)	I	MWF	221Bu	Mr. Kirkpatrick
71f	Recent Social Legislation (3 cred.; jr., sr.; prereq. 9 cred.)	III	TThS	112Bu	Mr. Christensen
73w-74s†	Government and the Economic Order (6 cred.; jr., sr.; prereq. 9 cred.)	III	TThS	112Bu	Mr. Christensen
91f-92w-93s	Tutorial and Honors Work in Selected Fields (Cred. ar.; jr., sr.; prereq. 18 cred.; Consult major advisers)	Ar	Ar	Ar	Ar
101f-102w-103s†	Constitutional Law (9 cred.; jr., sr., grad.; prereq. 9 cred.)	VI	MWF	211Bu	Mr. Field
108w	Legislative Organization and Procedure (3 cred.; jr., sr., grad.; prereq. 9 cred.)	IV	MWF	112Bu	Mr. Short
113f-114w-115s†	Topics in Administrative Law (9 cred.; sr., grad.; prereq. 18 cred. in political science or consent of instructor)	III	MWF	211Bu	Mr. Field
116w-117s†	Local Government (6 cred.; jr., sr., grad.; prereq. 9 cred.)	I	MWF	112Bu	Mr. Anderson
118	<i>Local Government—A continuation of 116-117. (Not offered)</i>				
120f	Municipal Functions (3 cred.; jr., sr., grad.; prereq. 9 cred.)	II	TThS	111Bu	Mr. Ludwig
121w	Municipal Administration (3 cred.; jr., sr., grad.; prereq. 120 or consent of instructor)	II	TThS	111Bu	Mr. Ludwig
122s	Municipal Problems (3 cred.; jr., sr., grad.; prereq. 121 or consent of instructor)	II	TThS	111Bu	Mr. Ludwig
131f-132w†	Public Administration I—National and State: Structure and Functions (6 cred.; jr., sr., grad.; prereq. 9 cred.)	II	MWF	221Bu	Mr. Short
133s	Public Administration II—Staff Services (3 cred.; jr., sr., grad.; prereq. 131-132 or consent of instructor)	II	MWF	221Bu	Mr. Short
144f	American Political Parties (3 cred.; jr., sr., grad.; prereq. 9 cred.)	III	TThS	209Bu	Mr. Starr
145w	British Political Parties (3 cred.; jr., sr., grad.; prereq. 9 cred.)	III	TThS	209Bu	Mr. Starr
146s	Continental European Political Parties (3 cred.; jr., sr., grad.; prereq. 9 cred.)	III	TThS	209Bu	Mr. Starr
148w	European Dictatorships (3 cred.; jr., sr., grad.; prereq. 9 cred. in pol. sci. or 18 cred. in soc. sci.)	II	TThS	221Bu	Mr. Starr
149-150†	<i>Government and Politics of the British Empire (6 cred.; jr., sr., grad.; prereq. 9 cred. in pol. sci. or 18 cred. in soc. sci.) (Not offered)</i>				
151	<i>Problems of the British Empire (3 cred.; jr., sr., grad.; prereq. 149-150 with grade of C+ or better, or consent of instructor) (Not offered)</i>				
153	<i>Japanese Government and Politics (3 cred.; jr., sr., grad.; prereq. 9 cred. in pol. sci. or 18 cred. in soc. sci.) (Not offered)</i>				
154f	Chinese Government and Politics (3 cred.; jr., sr., grad.; prereq. 9 cred. in pol. sci. or 18 cred. in soc. sci.)	IV	MWF	209Bu	Mr. Quigley
161f-162w†§	Recent Political Thought (6 cred.; sr., grad.; prereq. 18 cred.)	III	MWF	209Bu	Mr. Lippincott
163	<i>Topics in American Political Thought (3 cred.; jr., sr., grad.; prereq. 15, 161, 164, or consent of instructor) (Not offered)</i>				

† To receive credit for any part of this course a student must complete the parts preceding the dagger.

§ No student may receive credit for both Political Science 161-162 and Philosophy 70.

No.	Title	Hour	Day	Bldg.	Instructor
164f-165w- 166s†	Development of Political Thought (9 cred.; jr., sr., grad.; prereq. 9 cred. in pol. sci. or 18 cred. in soc. sci.)	IV	MWF	211Bu	Mr. Lippincott, Mr. Kirkpatrick
167f-168w- 169s†	Readings in the Classics of Politics (6 cred.; jr., sr., grad.; prereq. 15, or 164-165 with which it may be taken simultaneously, or consent of instructor)	VIII	MW	221Bu	Mr. Lippincott, Mr. Kirkpatrick
171s	Political Psychology (Identical with Psy. 141) (3 cred.; jr., sr., grad.; prereq. Psy. 1-2)	III	TThS	206Pt	Mr. Bird
176s	Scope and Methods of Political Science (3 cred.; grad., and sr. with consent of instructor)	III	MWF	209Bu	Mr. Anderson
180f-181w- 182s†	International Law (9 cred.; jr., sr., grad.; prereq. 9 cred.)	I	TThS	209Bu	Mr. McLaughlin
184w	International Organization (3 cred.; jr., sr., grad.; prereq. 9 cred.)	IV	MWF	209Bu	Mr. Quigley
185s	Theories of International Relations (3 cred.; jr., sr., grad.; prereq. 9 cred.)	IV	MWF	209Bu	Mr. Quigley
191f-192w- 193s†	Far Eastern Diplomacy (9 cred.; jr., sr., grad.; prereq. 9 cred. in pol. sci. or 18 cred. in soc. sci.)	II	MWF	209Bu	Mr. Quigley
195f-196w†	Colonial Government and Administration (6 cred.; jr., sr., grad.; prereq. 9 cred. in pol. sci. or 18 cred. in soc. sci.)	VI	MWF	209Bu	Mr. Mills
197s	Problems in Colonial Administration (3 cred.; jr., sr., grad.; prereq. 195-196 with grade of C+ or better, or consent of instructor)	VI	MWF	209Bu	Mr. Mills

PREVENTIVE MEDICINE AND PUBLIC HEALTH

MEDICAL SCHOOL

Advisers in the College of Science, Literature, and the Arts.—Professor Gaylord W. Anderson; Associate Professor Boynton.

Major advisers in the College of Education.—Professor Gaylord W. Anderson; Associate Professor Boynton; Assistant Professor Butzerin.

Minor sequence in the College of Science, Literature, and the Arts or in the College of Education.—Courses 50, 57, 61, 80 (11 credits) are recommended.

Major sequence in Public Health Nursing.—P.M.&P.H. 2, 53, 58, 60, 61, 62, 63, 64, 65, 66, 76; Soc. 129, 130, 153; Soc. 60 or Child Welfare 40.

Additional requirements.—History 10 credits; Freshman English or exemption from the requirement; Human Physiol. 1-2; Bact. 41; Zool. 1-2-3; Soc. 1, 49; Psy. 1, 2; Ed. 51A-51B-51C. For a teacher's certificate, botany (10 credits) and Ed.T. 68A-68B-68C are required in addition.

Note.—The sequence leads to a B.S. degree with a major in public health nursing, the nine months certificate course having been discontinued.

For specialized curricula in School Health Work, Nursing Education, and Public Health Nursing, see the Bulletin of the College of Education.

† To receive credit for any part of this course a student must complete the parts preceding the dagger.

PROGRAM

Junior College Courses

No.	Title	Hour	Day	Bldg.	Instructor
2f	First Aid (Open to all except Physical Education students) (1 cred.; no prereq.) (Limited to 20 women)	VI, VII	T	Coll. Dorm., UF	Miss Fisher
2s	First Aid (For Physical Education students; and for others by special permission) (See 2f) (Each section is limited to 20 women)	I, II	W	Coll. Dorm., UF	Miss Fisher
	2	VI, VII	W	Coll. Dorm., UF	Miss Fisher
2s	First Aid (Open to all except Physical Education students) (See 2f) (Limited to 20 women)	I, II	F	Coll. Dorm., UF	Miss Fisher
3f	Personal Health (2 cred.; fr., soph.; no prereq.)	IV	MW	Ar*	Dr. O'Brien
3w	Personal Health (See 3f)	VII	WF	Ar*	Dr. O'Brien
3s	Personal Health (See 3f)	IV	MW	Ar*	Dr. O'Brien
4w,s§	Health Problems of Adult Life (2 cred.; all; prereq. 3)	VI	TTh	Ar*	Dr. Watson

Senior College Courses

Courses 53 and 57 are open to Junior College students who have an average grade of at least C in the prerequisite courses. Other Senior College courses in this department are open to Junior College students only by special permission of the Students' Work Committee. See a statement on page 22.

50f,s§	Public and Personal Health (3 cred.; open to jrs. and srs. who have not taken Course 4 or Course 52; no prereq.)	VII	MWF	*	Dr. Hinckley
52f,w,s§	Health Care of the Family (3 cred.; jr., sr.; prereq. Bact. 41, Human Physiol. 4) (Lab. sections limited to 40)	VI	MWF	313HE	Dr. Bullard, Miss Fisher
53f,s	Elements of Preventive Medicine (For public health nurses and students in medical social work) (3 cred.; prereq. 3 and 4, or 50, or equivalent)	II	MWF	*	Ar
57s	Health of Infant and Preschool Child (2 cred.; jr., sr.; prereq. Psy. 1-2; or P.M.&P.H. 50 or 53)	III	TTh	*	Dr. Boynton
58f	Maternal and Child Hygiene (For public health nurses. Others may be admitted by special permission) (2 cred.; prereq. 50 or 53)	III	TTh	*	Dr. Boynton
59w	Health of the School Child (3 cred.; jr., sr.; prereq. 50 or 52 or 53)	II	MWF	*	Dr. Ellis
60f,w	Tuberculosis and Its Control (For public health nurses. Others may be admitted by special permission) (2 cred.; prereq. 50 or 52 or 53)	IV	TS	*	Dr. Myers
61w	Mental Hygiene (3 cred.; jr., sr.; prereq. 50 or 52 or 53)	III	TThS	*	Dr. deBerry
62f	Principles of Public Health Nursing (For public health nurses only) (5 cred.; jr., sr.; prereq. Soc. 1, Psy. 1-2, or permission of instructor)	I	MWF	*	Miss Butzerin
		II	TTh	*	
63w	Special Fields in Public Health Nursing (For public health nurses only) (5 cred.; jr., sr.; prereq. 53, 62)	I	MWF	*	Miss Palmer
		II	TTh	*	

* Classroom schedule will be posted on bulletin board in Millard Hall, and will also be published in the *Official Daily Bulletin* at the beginning of each quarter.

§ No student may receive credit for both Course 50 and Course 4; or for 50 and 52.

No.	Title	Hour	Day	Bldg.	Instructor
64s	Supervision of Public Health Nursing (For public health nurses only) (3 cred.; sr.; prereq. 61, 63 or permission of instructor)	II	TThS	Ar	Miss Butzerin
65,66,76f,w,s	Field Practice in Public Health Nursing† (For public health nurses only) (15 or 17 cred.; jr., sr.; prereq. 53, 62) The credits are to be allowed, according to experience, to these special fields: P.M.&P.H. 65—School Nursing P.M.&P.H. 66—County Nursing P.M.&P.H. 76—Family Health Agency	Ar	Ar	Ar	Miss Butzerin
103s	Public Health Bacteriology (3 cred., or more by special arrangement; jr., sr., grad.; prereq. Bact. 101-102, 116)	Ar	Ar	Ar	Dr. Heathman
108s	Care of the Handicapped Child (For physicians and nurses) (2 cred.; prereq. 53, 62, Psy. 1-2, or permission of instructor)	IX	TTh	Ar	Dr. Hilleboe and associates
171f-172w	Advanced Problems in Public Health Nursing (For public health nurses only) (6 cred.; sr., grad.; prereq. 53, 71, or permission of instructor)	Ar	Ar	Ar	Miss Butzerin and staff
173f,w,s	Advanced Field Work in Public Health Nursing (For public health nurses only) (Cred. ar.; sr., grad.; prereq. 171-172 with which it may be taken simultaneously)	Ar	Ar	Ar	Miss Butzerin
174w	Seminar in Public Health Nursing (By permission) (Cred. ar.)	Ar	Ar	Ar	Miss Butzerin and staff

For Graduate Students Only

200f,w,s	Research	Ar	Ar	Ar	Dr. Anderson
210f,w,s	Seminar in Preventive Medicine and Public Health (By permission)	Ar	Ar	Staff Rm.	Dr. Anderson Health and staff Service

For courses in public health offered to physicians and engineers, see the Bulletin of the Graduate School.

PSYCHOLOGY

Major advisers in the College of Science, Literature, and the Arts.—Professors Bird, Elliott, and Paterson.

Major sequences in the College of Science, Literature, and the Arts.—

A. Experimental psychology. Courses 101-102-103; 125-126; and 12 additional credits in Senior College courses.

B. Human and animal behavior. Courses 114; 148; 151-152-153; and 12 additional credits in Senior College courses either in psychology or zoology.

C. Differential psychology. Courses 125-126-127; 160; Educational Psychology 141; and 13 additional credits in Senior College courses.

(Prerequisites: For Sequence A, 1-2 and 4-5 or 7. Course 55 is recommended. For Sequence B, 9 credits. For Sequence C, 1-2 and 4-5 or 7. Course 3 is recommended. Courses in mathematics are recommended for students majoring in psychology.)

Modifications of these sequences will be permitted upon petition approved by the major adviser and the assistant dean for the Senior College.

† Students must maintain a C average in theory completed before they are admitted to field work.

Honors course.—Students interested in the work of an honors course should consult the chairman of the department.

Junior College Courses

No.	Title	Hour	Day	Bldg.	Instructor
1f-2w†	General Psychology—A general introduction to the study of human behavior with emphasis on the development of the individual (6 cred.; 3rd qtr. fr. with C average, soph., jr., sr.; no prereq.)				
	Sec. 1	I	MWF	BuAud	Mr. Elliott
	2	III	MWF	BuAud	and others
1s,2s	General Psychology (6 cred.; soph., jr., sr.; no prereq.)				
	Sec. 1	II	MTWThFS	JAud	Mr. Bird
	2	IX	MTWThF	301F	
		VIII	Th		
3s	Psychology Applied to Daily Life—A course in the uses of psychological methods in solving such problems as come up in the treatment of ill health, in the courtroom, reformatory, and prison, in business offices and factories, in advertising, in education, in social and political life, in artistic creation and esthetic enjoyment, and in everyday life (3 cred.; soph., jr., sr.; prereq. 1-2)				
		III	MWF	BuAud	Mr. Paterson and others
4f-5w*††	Introductory Laboratory Psychology—Simple experiments illustrating the subject-matter of contemporary psychology. Included are human and animal learning, visual experience, differences in artistic, musical, and other kinds of abilities, measurement of each student's personality traits, and reactions to advertisements. (4 cred.; soph., jr., sr.; may be taken with or after 1-2) (Sections limited to 48)				
	Sec. 1	III, IV	TS	211Psy	Mr. Tinker
	2	VI, VII	MW	211Psy	and others
	3	I, II	TTh	211Psy	
	4	VI, VII	TTh	211Psy	
	5	VIII, IX	TTh	211Psy	
	6	VIII, IX	MW	211Psy	
7s††	Introduction to Laboratory Psychology (Identical with 4-5 combined.)				See 4f-5w
	Sec. 1	I, II	MTThF	211Psy	Mr. Tinker
	2	VI, VII	MTThF	211Psy	and others
	3	VIII, IX	MTThF	211Psy	

Senior College Courses

Courses 52 and 55 are open to third quarter sophomores who have an average grade of at least C in Course 1-2. Other Senior College courses in this department are open to Junior College students only by special permission of the Students' Work Committee. See a statement on page 22.

52s	Genetic Psychology (3 cred.; soph., jr., sr.; prereq. 1-2)				
		IV	MWF	115Psy	Mr. Heron
55s	Psychology of Sensation (3 cred.; soph., jr., sr.; prereq. 1-2)				
		IV	MWF	211Psy	Mr. Tinker
56w	Psychology of Advertising (3 cred.; jr., sr.; prereq. 1-2, and Principles of Economics)				
		VII	MWF	166Ph	Mr. Longstaff
64f	The Higher Mental Processes—Selected aspects of attention, thinking, emotion, motivation, and other higher mental processes will be discussed. Historical experiments and practical applications of principles will be reviewed. (3 cred.; jr., sr.; prereq. 1-2)				
		II	TThS	115Psy	Mr. Baker
72s	The Psychology of Art, Music, and Literature—An analysis of the production and enjoyment of works of art from the standpoint of psychology, with emphasis on experimental data (3 cred.; jr., sr.; prereq. 1-2)				
		II	MWF	115Psy	Mr. Skinner

* Students completing projects with distinction may be recommended to receive either one or two additional credits.

† To receive credit for any part of this course a student must complete the parts preceding the dagger.

‡ A fee of \$1 per quarter is charged for this course.

†† A fee of \$2 is charged for this course.

No.	Title	Hour	Day	Bldg.	Instructor
84f	Psychology of Learning (3 cred.; jr., sr.; prereq. 1-2)	III	TThS	109Psy	Mr. Heron
86s	Biographical Psychology—Human personalities in relation to their ancestries, their bodies, and their environments, physical and social (3 cred.; jr., sr.; prereq. 9 cred. in psy.)	II	TThS	115Psy	Mr. Elliott
90f,91w,92s	Readings in Psychology—Tutorially directed reading and preparation of reports on special topics (Cred. ar.; jr., sr.; prereq. 1-2; 4-5 or 7, or Zool. 1-2-3; and written permission of instructor)	Ar	Ar	Ar	Mr. Elliott, Mr. Bird, Mr. Paterson, Mr. Tinker, Mr. Heron
101f-102w†- 103s	Experimental Psychology (3 cred. per qtr.; cred. ar. for honors students; jr., sr., grad.; prereq. 1-2; and 4-5 or 7, or equiv. in another science)	VII	MWF	116Psy	Mr. Tinker
108f	Systems of Psychology—A reading course (3 cred.; jr., sr., grad.; prereq. 1-2 and consent of instructor)	VIII	WF		
114w§	Human Behavior (3 cred.; sr., grad.; prereq. 1-2; 4-5 or 7, or Zool. 1-2-3, or Phil. 1)	Ar	Ar	Ar	Mr. Elliott
125f-126w†- 127s	Psychology of Individual Differences (9 cred.; cred. ar. for honors students; sr., grad.; prereq. 1-2; 4-5 or 7, or 5 cred. in statistics)	II	TThS	115Psy	Mr. Elliott
130s	Vocational Psychology (2 cred.; jr., sr., grad.; prereq. 1-2)	II	MWF	115Psy(f) 115Psy(w) 109Psy(s)	Mr. Paterson
140w	Social Psychology (3 cred.; jr., sr., grad.; prereq. 1-2)	IV	TS	115Psy	Mr. Paterson
141s	Political Psychology (3 cred.; jr., sr., grad.; prereq. 1-2)	III	TThS	206Pt	Mr. Bird
144f-145w†	Abnormal Psychology (6 cred.; jr., sr., grad.; prereq. 1-2)	III	TThS	206Pt	Mr. Bird
148w	Physiological Psychology—The topics treated and illustrated by demonstrations will include the elements of neural anatomy and physiology, tonus, neuromuscular set, integration, and the neural basis of learning. The treatment of these topics will stress their importance for psychology. (3 cred.; sr., grad.; prereq. 1-2; 4-5 or 7, or Zool. 1-2-3, or consent of instructor)	IV	MWF	206Pt	Mr. Bird
151f-152w†- 153s	Animal Psychology (9 cred.; cred. ar. for honors students; sr., grad.; prereq. 1-2; 4-5 or 7, or equiv. in another science)	III	MWF	115Psy	Mr. Hathaway
	Lect.	VI	MWF	109Psy	Mr. Heron
	Lab.	Ar	Ar		
160f	Psychology in Personnel Work (3 cred.; sr., grad.; prereq. 1-2, and Principles of Economics or 9 cred. in political science)	III	MWF	115Psy	Mr. Longstaff

ROMANCE LANGUAGES

Major advisers in the College of Science, Literature, and the Arts.—Professor Searles; Associate Professor Grismer; Assistant Professor Clefton.

Major sequences in the College of Science, Literature, and the Arts.—

† To receive credit for any part of this course a student must complete the parts preceding the dagger.

§ This is part of Course 114w-115s, "Human Behavior." 115s will not be given in 1937.

PROGRAM

FRENCH

Courses 70-71-72 or 73-74; five credits in conversation and composition, if the student has not taken French 20; a minimum of 21 additional credits chosen from courses numbered 50 or above, of which at least 9 must be in literary courses.

ITALIAN

Twenty-four credits in courses numbered 50 or above, and 3 additional credits chosen from the following: English 140, 146-147, 148-149; French 121-122-123, 153; Italian 159-160, 161-162; Latin 121; History 153-154-155.

SPANISH

Five credits in conversation and composition, if the student has not taken Spanish 20.

Nine credits in literary courses, and in addition enough credits chosen from courses numbered 50 or above to make a minimum of 27 Senior College credits in all.

MIXED (FRENCH, ITALIAN, AND SPANISH)

Five credits in conversation and composition.

One literary course above 50, and in addition enough credits chosen from courses in any of the three languages numbered 50 or above to make a minimum of 27 credits in all.

Modifications of these sequences will be permitted upon petition approved by the major adviser and the assistant dean for the Senior College.

Major adviser in the College of Education.—Professor Barton.

Requirements for a teacher's certificate.—Major recommendation: 35 credits in one language numbered above 4, these courses to include in the case of French, Survey of French Literature and one other literary course; 50; 53, 54-55 (or 20); 63; and 103-104-105.

Minor recommendation: 17 credits in one language in courses numbered above 4.

Admission to advanced courses.—No student will be allowed to elect courses more advanced than intermediate French or Spanish unless he has received an average grade of C in the intermediate courses.

FRENCH

Junior College Courses

No.	Title	Hour	Day	Bldg.	Instructor
1f-2w†§	Beginning French (10 cred.; all; no prereq.)	I	MTWThF	227F	Ar
		IV	MTWFS	202F	Ar
		VI	MTWThF	226F	Ar
1w-2s†§ 1s§	Beginning French (See 1f-2w) Beginning French (1st qtr. of 1-2. See 1f-2w)	IV	MTWFS	227F	Ar
		IV	MTWFS	303F	Ar
2f§	Beginning French (2nd qtr. of 1-2. See 1f-2w)	I	MTWThF	202F	Ar
		VI	MTWThF	202F	Ar
3f-4w	Intermediate French (10 cred. all; prereq. 1-2, or two years of high school French. Students who have had three years of high school French will omit Course 3 and take Course 4)	I	MTWThF	201F	Ar
		III	MTWThF	226F	Ar
		VII	MTWThF	202F	Ar

† To receive credit for any part of this course a student must complete the parts preceding the dagger.

§ A student may not receive credit for beginning courses (two quarters, 10 credits) in more than one of the foreign languages, exclusive of Greek and Italian, except by special permission of the Students' Work Committee.

No.	Title	Hour	Day	Bldg.	Instructor
3w-4s	Intermediate French (See 3f-4w)	I	MTWThF	202F	Ar
		VI	MTWThF	202F	Ar
3s	Intermediate French (1st qtr. of 3-4. See 3f-4w)	I	MTWThF	227F	Ar
		IV	MTWFS	202F	Ar
		VI	MTWThF	226F	Ar
4f	Intermediate French (2nd qtr. of 3-4; prereq. 3, or three years of high school French)	II	MTWThF	110F	Ar
		IV	MTWFS	227F	Ar
		VI	MTWThF	102F	Ar
20f	Oral and Written French (5 cred.; all; prereq. 4, or four§ years of high school French)	III	MTWThF	303F	Mr. Jordan
		VII	MTWThF	201F	Mr. Frelin
20s	Oral and Written French (See 20f)	I	MTWThF	201F	Ar
		III	MTWThF	226F	Ar
		VII	MTWThF	202F	Ar

Senior College Courses

Senior College courses with numbers less than 100 are open to Junior College students who have an average grade of at least C in the prerequisite courses. Other Senior College courses in this department are open to Junior College students only by special permission of the Students' Work Committee. See a statement on page 22.

50f,w,s	French Pronunciation (3 cred.; jr., sr.; prereq. 3-4)	II	TThS	203F	Miss Guinotte
53f	French Composition (3 cred.; jr., sr.; prereq. 3-4)	III	TThS	201F	Mr. Minault
		VI	MWF	212F	Mr. Minault
		III	TThS	201F	Mr. Minault
54w-55s	French Conversation (4 cred.; jr., sr.; prereq. 53 or 20)	VI	MWF	212F	Mr. Minault
		VI	MWF	212F	Mr. Minault
62s	Advanced Pronunciation and Diction (3 cred.; jr., sr.; prereq. 50)	I	MWF	203F	Miss Guinotte
63f-64w	Advanced French Composition (6 cred.; jr., sr.; prereq. 53 or 20 with a grade of B) (Fall, winter)	II	MWF	203F	Miss Guinotte
		(Fall only)	VII	MWF	203F
65s	Advanced French Conversation (3 cred.; jr., sr.; prereq. 54-55 or 20 with a grade of B)	II	MWF	203F	Miss Guinotte
		II	TThS	201F	Mr. Searles
70f-71w-72s†	Survey of French Literature (9 cred.; jr., sr.; prereq. 3-4)	III	MWF	201F	Mr. LeCompte
		III	MTWThF	303F	Mr. Searles
73w-74s†	Survey of French Literature (10 cred.; jr., sr.; prereq. 3-4)	VII	MTWThF	226F	Mr. Clefthon
		II	MWF	201F	Mr. Clefthon
80f	French Literature: 19th Century—Chateaubriand and Romantic Poets (3 cred.; jr., sr.; prereq.*)	II	MWF	201F	Mr. Clefthon
81w	French Literature: 19th Century—Romantic Drama and Novel (3 cred.; jr., sr.; prereq.*)	II	MWF	201F	Mr. Barton
82s	French Literature: 19th Century—Poetry and Drama after 1850 (3 cred.; jr., sr.; prereq.*)	II	MWF	201F	Mr. Barton, Mr. Clefthon

* Prerequisite is 70-71-72 or 73-74.

† To receive credit for any part of this course a student must complete the parts preceding the dagger.

§ Students who have had three years of high school French may be admitted to Course 20 with the consent of the department.

PROGRAM

No.	Title	Hour	Day	Bldg.	Instructor
103f-104w-105s†	French Syntax and Composition (3 cred.; jr., sr., grad.; prereq. 63 or registration in 63)	VI	F	108F	Mr. Barton
115f	French Literature: 17th Century—Formation of Classic Ideal (4 cred.; jr., sr., grad.; prereq.*)	IV	MTWF	203F	Mr. Searles
116w	French Literature: 17th Century—Molière, Racine, La Fontaine (4 cred.; jr., sr., grad.; prereq.*)	IV	MTWF	203F	Mr. Searles
117s	French Literature: 17th Century—Moral and Didactic Literature (4 cred.; jr., sr., grad.; prereq.*)	IV	MTWF	203F	Mr. Searles
118f-119w-120s	French Literature: 18th Century (9 cred.; jr., sr., grad.; prereq.*)	III	TThS	217F	Mr. Sirich
121f-122w-123s	French Literature: 16th Century (9 cred.; jr., sr., grad.; prereq. 9 cred. in literature courses above 74)	VII	MWF	303F	Mr. Searles
130	<i>French Romantic Poetry—Victor Hugo</i> (3 cred.; jr., sr., grad.; prereq.*) (<i>Not offered</i>)				
131f	Parnassian Poetry (3 cred.; jr., sr., grad.; prereq.*)	II	TThS	227F	Mr. Clefthon
132	<i>Baudelaire, Verlaine, and the Symbolists</i> (3 cred.; jr., sr., grad.; prereq.*) (<i>Not offered</i>)				
145f	French Drama, 1890-1915 (2 cred.; jr., sr., grad.; prereq.*)	III	TTh	203F	Mr. Barton
146w-147s	Contemporary French Dramatic Literature (4 cred.; jr., sr., grad.; prereq. 145)	III	TTh	203F	Mr. Barton
149s	Explication de Textes (3 cred.; jr., sr., grad.; prereq.*)	II	TThS	202F	Mr. LeCompte
153	<i>Contemporary French Lyric Poetry</i> (3 cred.; jr., sr., grad.; prereq.*) (<i>Not offered</i>)				
156w	French Realistic Novel (3 cred.; jr., sr., grad.; prereq.*)	VII	MWF	201F	Mr. Minault
157	<i>Modern French Novel</i> (3 cred.; jr., sr., grad.; prereq.*) (<i>Not offered</i>)				
158s	Contemporary French Novel (3 cred.; jr., sr., grad.; prereq.*)	VII	MWF	201F	Mr. Minault
171f-172w-173s†	History of French Language (3 cred.; jr., sr., grad.; prereq. one year of Latin or permission of instructor)	VIII	Th	203F	Mr. LeCompte
190f-191w-192s	Honors Course.				Consult department

ITALIAN

Note.—Students may receive credits for Italian 1-2 in addition to one other beginning language.

Junior College Courses

1f-2w†‡	Beginning Italian (10 cred.; all; no prereq.)	IV	MTWFS	226F	Mr. Brackney
3s	Intermediate Italian (5 cred.; all; prereq. 1-2)	IV	MTWFS	226F	Mr. Brackney
4	<i>Intermediate Italian</i> (5 cred.; all; prereq. 1-2) (<i>Not offered</i>)				
5w‡	Reading Knowledge of Italian (5 cred.; all; prereq. knowledge of French, Latin, or Spanish. No previous knowledge of Italian is necessary)	VI	MTWThF	303F	Mr. Brackney

Senior College Courses

Senior College courses with numbers less than 100 are open to Junior College students who have an average grade of at least C in the prerequisite courses. Other Senior

* Prerequisite is 70-71-72 or 73-74.

† To receive credit for any part of this course a student must complete the parts preceding the dagger.

‡ Credit will not be given for both Course 1 and Course 5.

College courses in this department are open to Junior College students only by special permission of the Students' Work Committee. See a statement on page 22.

No.	Title	Hour	Day	Bldg.	Instructor
69	<i>Survey of Italian Literature I</i> (3 cred.; jr., sr.; prereq.§) (<i>Not offered</i>)				
70w	<i>Survey of Italian Literature II</i> (3 cred.; jr., sr.; prereq.§)	III	MWF	217F	Mr. Brackney
71	<i>Modern Poetry (Leopardi, Carducci)</i> (3 cred.; jr., sr.; prereq.§) (<i>Not offered</i>)				
72f	<i>Modern Drama (Giacosa, Bracco, Pirandello)</i> (3 cred.; jr., sr.; prereq.§)	III	MWF	217F	Mr. Brackney
73	<i>Boccaccio</i> (3 cred.; jr., sr.; prereq.§) (<i>Not offered</i>)				
74s	<i>Petrarch</i> (3 cred.; jr., sr.; prereq.§)	III	MWF	217F	Mr. Brackney
159-160	<i>Dante</i> (6 cred.; jr., sr., grad.; prereq. one course above 50) (<i>Not offered</i>)				
161f-162w	<i>The Sixteenth Century</i> (6 cred.; jr., sr., grad.; prereq. one course above 50)	II	MWF	217F	Mr. Brackney
<i>A Course for Which No Knowledge of Italian Is Required</i>					
164s	<i>Dante (in English)</i> (3 cred.; jr., sr., grad.; prereq. French 70-71-72 or 73-74, or 6 cred. in English above 50, or Hist. 53-54, or Spanish 65-66-67 or 68-69)	II	MWF	217F	Mr. Brackney

SPANISH

Junior College Courses

1f-2w*†	Beginning Spanish (10 cred.; all; no prereq.)	I	MTWThF	226F	Ar
		IV	MTWFS	201F	Ar
		VI	MTWThF	201F	Ar
1w-2s*†	Beginning Spanish (See 1f-2w)	VII	MTWThF	109F	Ar
1s*	Beginning Spanish (1st qtr. of 1-2. See 1f-2w)	II	MTWThF	226F	Ar
2f	Beginning Spanish (2nd qtr. of 1-2. See 1f-2w)	III	MTWThF	202F	Ar
3f-4w	Intermediate Spanish (10 cred.; all; prereq. 1-2 or two years of high school Spanish. Students who have had three years of high school Spanish will omit Course 3 and take Course 4)	II	MTWThF	226F	Ar
		VI	MTWThF	124F	Ar
3w-4s	Intermediate Spanish (See 3f-4w)	III	MTWThF	202F	Ar
3s	Intermediate Spanish (1st qtr. of 3-4. See 3f-4w)	I	MTWThF	226F	Ar
		IV	MTWFS	201F	Ar
		VI	MTWThF	201F	Ar
4f	Intermediate Spanish (2nd qtr. of 3-4. Prereq. 3, or three years of high school Spanish)	II	MTWThF	202F	Ar
		VI	MTWThF	227F	Ar
20s	Oral and Written Spanish (5 cred.; all; prereq. 4 or four½ years of high school Spanish)	III	MTWThF	227F	Mr. Frelin
30s	Spanish Commercial Correspondence (3 cred.; all; prereq. 3)	VII	MWF	209F	Mr. LeFort

* A student may not receive credit for beginning courses (two quarters, 10 credits) in more than one of the foreign languages, exclusive of Greek and Italian, except by special permission of the Students' Work Committee.

† To receive credit for any part of this course a student must complete the parts preceding the dagger.

§ The prerequisite is Course 3 or Course 4; but for students beginning Italian in the Senior College it may be Course 1-2 or 5 with permission of the instructor.

¶ Students who have had three years of high school Spanish may be admitted to Course 20 with the consent of the department.

PROGRAM

Senior College Courses

Senior College courses with numbers less than 100 are open to Junior College students who have an average grade of at least C in the prerequisite courses. Other Senior College courses in this department are open to Junior College students only by special permission of the Students' Work Committee. See a statement on page 22.

No.	Title	Hour	Day	Bldg.	Instructor
50w	Spanish Pronunciation (3 cred.; jr., sr.; prereq. 4)	III	TThS	306F	Mr. LeFort
51s	Advanced Spanish Pronunciation and Diction (3 cred.; jr., sr.; prereq. 50)	III	TThS	306F	Mr. LeFort
53f	Spanish Composition (3 cred.; jr., sr.; prereq. 3-4)	II	MWF	304F	Mr. LeFort
54w-55s	Spanish Conversation (4 cred.; jr., sr.; prereq. 53 or 20)	II	MWF	304F	Mr. LeFort
60f	Advanced Spanish Composition (3 cred.; jr., sr.; prereq. 53 or 20 with grade of B)	VII	MWF	227F	Ar
61w-62s	Advanced Spanish Conversation (6 cred.; jr., sr.; prereq. 54-55 or 20 with grade of B)	VII	MWF	227F	Ar
68w-69s†	Survey of Spanish Literature (10 cred.; jr., sr.; prereq. 3-4)	VI	MTWThF	227F	Ar
74f-75w-76s†	Survey of Spanish American Literature: Contemporary Prose and Poetry (9 cred.; jr., sr.; prereq. 3-4)	II	TThS	108F	Mr. LeFort
110-111-112	<i>Spanish Literature: 19th Century</i> (9 cred.; jr., sr., grad.; prereq.*) (Not offered)				
115-116-117	<i>Spanish Literature: 17th Century</i> (9 cred.; jr., sr., grad.; prereq.*) (Not offered)				
120	<i>The Ballad</i> (3 cred.; jr., sr., grad.; prereq.*) (Not offered)				
130	<i>Cervantes: Don Quixote</i> (3 cred.; jr., sr., grad.; prereq.*) (Not offered)				
131s	<i>The Picaresque Novel</i> (3 cred.; jr., sr., grad.; prereq.*)	III	MWF	108F	Mr. Grismer
140w	Rubén Darío and the Contemporary Movement in Spanish American Literature (3 cred.; jr., sr., grad.; prereq.*)	III	MWF	108F	Mr. LeFort
155f-156w-157s	Spanish Literature: 16th Century (9 cred.; jr., sr., grad.; prereq.*)	II	TThS	316F	Mr. Grismer
174f-175w-176s	Contemporary Spanish Literature (9 cred.; jr., sr., grad.; prereq.*)	IV	MWF	108F	Ar

SCANDINAVIAN

Junior College Courses

No.	Title	Hour	Day	Bldg.	Instructor
1f-2w‡	Beginning Norwegian (10 cred.; all; no prereq.)	I	MTWThF	206F	Mr. Madsen
3s	Intermediate Norwegian (5 cred.; all; prereq. 1-2 or equiv.)	I	MTWThF	206F	Mr. Madsen
4f	Advanced Norwegian (5 cred.; all; prereq. 1-2-3 or equiv.)	III	MTWThF	206F	Mr. Madsen
5w	Introduction to Norwegian Literature (5 cred.; all; prereq. 4)	III	MTWThF	206F	Mr. Madsen
7f-8w‡	Beginning Swedish (10 cred.; all; no prereq.)	II	MTWThF	206F	Mr. Stomberg
9s	Intermediate Swedish (5 cred.; all; prereq. 7-8 or equiv.)	II	MTWThF	206F	Mr. Stomberg

* The prerequisite is 68-69 or 74-75-76.

† To receive credit for any part of this course a student must complete the parts preceding the dagger.

‡ A student may not receive credit for beginning courses (two quarters, 10 credits) in more than one of the foreign languages, exclusive of Greek and Italian, except by special permission of the Students' Work Committee.

No.	Title	Hour	Day	Bldg.	Instructor
10f-11w	Advanced Swedish (10 cred.; all; prereq. 7-8-9 or equiv.)	I	MTWThF	110F	Mr. Stomberg
12s*	Ancient and Medieval Scandinavian History (2 cred.; soph., jr., sr.; prereq. 10-11, or 4-5, or Hist. 1-2)	I	MW	110F	Mr. Stomberg
42w*	Survey of Scandinavian Literature (2 cred.; soph., jr., sr.; prereq. 1-2-3 or 7-8-9 or 15 cred. in literature)	IV	MW	206F	Mr. Stomberg
45s*	Scandinavian Mythology (2 cred.; soph., jr., sr.; no prereq.)	IV	MW	206F	Mr. Stomberg

Senior College Courses

Senior College courses in this department are open to Junior College students only by special permission of the Students' Work Committee. See a statement on page 22.

51-52-53	<i>Modern Norwegian Literature</i> (9 cred.; jr., sr.; prereq. 4-5) (<i>Not offered</i>)				
61f	Earlier Norwegian Literature (3 cred.; jr., sr.; prereq. 4-5)	Ar	Ar Ar		Mr. Madsen
62w	Ibsen (3 cred.; jr., sr.; prereq. 4-5)	Ar	Ar Ar		Mr. Madsen
63s	Björnson (3 cred.; jr., sr.; prereq. 4-5)	Ar	Ar Ar		Mr. Madsen
71-72-73	<i>Danish Literature of the 19th Century</i> (9 cred.; jr., sr.; prereq. 4-5) (<i>Not offered</i>)				
104f*	Modern Scandinavian History (2 cred.; jr., sr., grad.; prereq. 10-11-12, or 4-5, or 15 cred. in hist.)	IV	MW	206F	Mr. Stomberg
107f-108w-109s	Modern Swedish Literature (9 cred.; jr., sr., grad.; prereq. 10-11)	VI	MWF	206F	Mr. Stomberg
111-112-113	<i>Old Norse (Icelandic)</i> (6 cred.; sr., grad.; prereq. consent of instructor) (<i>Not offered</i>)				
114f	Strindberg (3 cred.; sr., grad.; prereq. 107-108-109)	Ar	Ar Ar		Mr. Stomberg

For Graduate Students Only

201f-202w-203s	Seminar in the History of Scandinavian Languages				Mr. Stomberg
209f-210w-211s	Seminar in Modern Swedish Language and Literature				Mr. Stomberg
215f-216w-217s	Seminar in Norwegian Literature				Ar

SCIENCE AND CIVILIZATION§

No.	Title	Hour	Day	Bldg.	Instructor
1f-2w-3s†	Man in Nature and Society (9 cred.; entering freshmen; no prereq.)	I	F	BoAud	Mr. Sirich
	Lect.	I	MWF	9F	Miss Shaw
	Sec. 1	III	MWF	9F	and others
	2	VII	MWF	9F	
	3				
4w-5s†	Man in Nature and Society (Equiv. to 1f-2w-3s. 10 cred.; entering fr.; no prereq.)	IV	MTWFS	6F	Ar

SOCIOLOGY AND SOCIAL WORK

Major advisers in the College of Science, Literature, and the Arts.—Professors Chapin and Kirkpatrick; Associate Professors Fenlason, Shea, Vaile, and Vold; Assistant Professors Gardiner, Monachesi, and Schmid; Lecturer Doyle.

Major sequences in the College of Science, Literature, and the Arts.—

* No knowledge of Scandinavian languages is required.

† To receive credit for any part of this course a student must complete the parts preceding the dagger.

§ Formerly called "Orientation."

Sequence A. General sociology. Course 53; three of 100, 101, 102, 103; two of 115, 116, 119, 160; 122 or 123 or 161; two of 120, 140, 141; 110 or 112 or 114.

Sequence B. Applied sociology. Courses 53, 60, 90; two of 100, 101, 102, 103; three of 115, 116, 119, 160; 120 or 122 or 123 or 161; 110 or 112 or 114.

Sequence C. Rural sociology. Courses as follows: two of 53, 60, 90; two of 100, 101, 103; two of 115, 116, 119, 160; 122 or 123 or 161; 120 or 140 or 141; 110, 112, 114.

Sequence D (leading to the B.S. degree). Presocial work. (The undergraduate sequence leading to the course in graduate social work—see the Bulletin of the College of Science, Literature, and the Arts); Courses 53, 60, 90, 91, 119; Preventive Medicine 50 or 53, 57, and 61 or Psychology 144-145; Home Economics 30, 89; Economics 82, 83, 84 (unless the student has had Economics 6-7, Principles of Economics, or its equivalent); nine credits from Courses 100, 101, 102, 103, 110, 114, 115, 120, 123, 160.

(Prerequisites: For Sequences A, B, C, Soc. 1 and a total of 20 credits from courses in sociology, anthropology, education, history, philosophy, political science, psychology, and zoology. For Sequence D, see the Junior College part of the presocial work curriculum in the Bulletin of the College of Science, Literature, and the Arts.)

Modification of these sequences will be permitted upon petition approved by the major adviser and the assistant dean for the Senior College.

Major advisers in the College of Education.—Professors Chapin and Kirkpatrick.

Requirements for a teacher's certificate.—Major recommendation: 36 credits including 1, 6, and 14.

Minor recommendation: 19 or 20 credits including 1, 6, and 14.

Note.—Students majoring in sociology must complete two teaching minors in addition to the required professional courses. Teachers who already hold a teacher's certificate may be relieved of this requirement upon petition.

For a specialized curriculum in social studies and a curriculum for "Visiting Teachers" see the Bulletin of the College of Education.

Preparation for professional social work.—See the presocial work course described in the Bulletin of the College of Science, Literature, and the Arts and the professional social work course described in the Bulletin of the Graduate School; also the special bulletin on graduate social work published by the department.

Honors course.—Students interested in the work of an honors course should consult the chairman of the department.

Junior College Courses

No.	Title	Hour	Day	Bldg.	Instructor
1f,w	Introduction to Sociology—The study of the culture of human society. An objective analysis of culture complexes, culture patterns, cultural processes; the influence of culture on the individual's behavior; social change; and social disorganization. (5 cred.; 3rd qtr. fr., soph., jr., sr.; no prereq.)				
	Lect.	I	TThS	BuAud	Mr. Monachesi
	Sec. 1	I	WF	11F	and others
	2	III	MW	110P	
	3	IV	MW	2J	
	4	V (fall only)	MW	109J	
	5	VI	MW	109J	
	6	VII	MW	2J	
	7	III	TTh	210P	

No.	Title	Hour	Day	Bldg.	Instructor
1f,w	Introduction to Sociology (For students of the College of Agr., For., and Home Econ. only) (3 cred.; no prereq.)				
		III	TThS	301Ad	
1s	Introduction to Sociology (See 1f)				
	Lect. Sec. 1	I	TThS	BuAud	Mr. Monachesi
	Rec. Secs.	I	WF	206P	and others
	These recitation sections	III	MW	25F	
	are for students who take	IV	MW	109J	
	Lecture Section 1.	VI	MW	109J	
		III	TTh	104J	
	Lect. Sec. 2	I	MWF	BuAud	Mr. Monachesi
	Rec. Secs.	I	TTh	208P	and others
	These recitation sections	II	TTh	104J	
	are for students who take	III	TTh	9F	
	Lecture Section 2.	VI	TTh	109J	
		IV	MW	2J	
1s	Introduction to Sociology (For students of the College of Agr., For., and Home Econ. only) (3 cred.; no prereq.)				
		I	TThS	301Ad	
6f,w	Social Interaction—Influences affecting group life; forms of interaction and communication; personality and its development in the social situation; attitudes and race prejudice; forms of opposition including warfare, class tensions, coercion and intolerance; present-day problems of co-operation, leadership and social change in an age of science (3 cred.; soph., jr., sr.; prereq. 1. This course is not open to students who have had Soc. 100 or Psy. 140)				
		II	MWF	JAud	Mr. Kirkpatrick
6s	Social Interaction (See 6f)				
		III	MWF	JAud	Mr. Kirkpatrick
14f,w,s	Rural Sociology—A presentation of factual data necessary to an understanding of the problems of rural social life (3 cred.; soph., jr., sr.; prereq. 1)				
		IV	MWF	JAud	Ar
14f,w	Rural Sociology (For students of the College of Agr., For., and Home Econ.) (3 cred.; soph., jr., sr.; prereq. 1 or jr. class)				
		I	TThS	116BCh	Ar
45f	Social Statistics (5 cred.; soph., jr., sr.; prereq. 1. Not open to students who have received credit in Economics 5)				
	Lect.	IV	MWF	104J	Mr. Schmid
	Lab.	VI, VII	TTh	104J	
45w	Social Statistics (See 45f)				
	Lect.	VI	MWF	104J	Mr. Schmid
	Lab.	VI, VII	TTh	104J	
45s	Social Statistics (See 45f)				
	Lect.	III	MWF	104J	Mr. Schmid
	Lab.	VI, VII	TTh	104J	
49f,w,s	Social Pathology (3 cred.; 3rd qtr. soph., jr., sr.; prereq. 10 cred. in sociology or Soc. 1 and 10 cred. in social science or psychology)				
		I	MWF	206Pt	Mr. Schmid
50	<i>Survey of Social Work for Nurses</i> (2 cred.; open only to graduate nurses on advice of the School of Nursing) (<i>Not offered</i>)				

Senior College Courses

Course 53 is open to third quarter sophomores who have an average grade of at least C in the prerequisite courses. Other Senior College courses in this department are open to Junior College students only by special permission of the Students' Work Committee. See a statement on page 22.

COURSES IN SOCIOLOGY

53f,w,s	Elements of Criminology—A general survey of the field of criminology (3 cred.; jr., sr.; prereq. same as for 49)				
		III	MWF	104J(f)	Mr. Vold
				109J(w,s)	

PROGRAM

No.	Title	Hour	Day	Bldg.	Instructor
60s	Social Protection of the Child (This course is listed under the heading "Courses in Social Work," on page 93)				
90f,w,s	Survey of Social Work (This course is listed under the heading "Courses in Social Work," on page 93)				
97f-98w-99s	Tutorial and Honors Work in Selected Fields (9 cred.; jr., sr.; prereq. consent of major adviser in sociology)				
100f	Social Psychology (3 cred.; jr., sr., grad.; prereq. Soc. 1 and 6, or Psy. 1-2, and 9 cred. in soc. sci., ed., phil., or psy.)	Ar	Ar	Ar	Ar
101f	Social Organization (3 cred.; jr., sr., grad.; prereq. 4 courses in sociology or Soc. 1 and 15 cred. in soc. sci., ed., phil., or psy.)	II	TThS	109J	Mr. Kirkpatrick
102s	Contemporary Penology (3 cred.; jr., sr., grad.; prereq. same as for 101, but including 53 or consent of the instructor)	III	MWF	109J	Mr. Chapin
103w	Sociology of Conflict (3 cred.; jr., sr., grad.; prereq. same as for 101)	II	MWF	14P	Mr. Vold
104f	Principles of Sociology (3 cred.; grad.*; no prereq.)	II	TThS	109J	Mr. Vold
105f	Criminological Theories—Historical and Contemporary (3 cred.; jr., sr., grad.; prereq. same as for 101, but including 53 or consent of instructor)	II	TThS	104J	Mr. Monachesi
110f	Rural Organization (3 cred.; jr., sr., grad.; prereq. same as for 101)	IV	MWF	109J	Mr. Vold
112s	Methods of Rural Social Research (2 cred.; grad.*; prereq. same as for 101)	III	MWF	25F	Ar
114w	Rural Social Institutions (3 cred.; jr., sr., grad.; prereq. same as for 101)	I	MW	204OD	Ar
115w	Religion As a Social Institution (3 cred.; jr., sr., grad.; prereq. same as for 101)	II	MWF	110F	Ar
116w	The Newspaper As a Social Institution (3 cred.; jr., sr., grad.; prereq. same as for 101)	III	MWF	104J	Mr. Kirkpatrick
119f	The Family (3 cred.; jr., sr., grad.; prereq. same as for 101)	IV	MWF	104J	Mr. Willey
119s	The Family (See 119f)	III	TThS	109J	Mr. Kirkpatrick
120f	Social Life and Cultural Change (3 cred.; jr., sr., grad.; prereq. same as for 101)	II	MWF	109J	Ar
122w	Advanced Statistical Methods (3 cred.; sr., grad.; prereq. 4 courses in soc. including 45 or equiv.)	II	MWF	109J	Mr. Chapin
123s	Methods of Social Investigation (3 cred.; jr., sr., grad.; prereq. same as for 101)	III	TThS	5F	Mr. Schmid
132w	Juvenile Courts and Probation (3 cred.; grad.*; prereq. 53, 102)	II	TThS	104J	Mr. Monachesi
140w	History of Social Theory (3 cred.; jr., sr., grad.; prereq. same as for 101)	II	MWF	6F	Ar
141s	Communication Agencies and Social Life (3 cred.; jr., sr., grad.; prereq. same as for 101)	III	TThS	109J	Ar
160w	Population Problems (3 cred.; jr., sr., grad.; prereq. same as for 101)	I	TThS	109J	Mr. Schmid
161s	Social Aspects of Housing and Standards of Living (3 cred.; sr., grad.; prereq. same as for 101)	II	TThS	109J	Mr. Chapin

* Primarily for graduates, but mature students who are not graduates may be admitted with the consent of the adviser and instructor.

COURSES IN SOCIAL WORK

No.	Title	Hour	Day	Bldg.	Instructor
52	<i>Introduction to Social Case Work</i> (3 cred.; sr. only; prereq. 49) (<i>Not offered</i>)				
60s	Social Protection of the Child (3 cred.; sr. only; prereq. 49)	I	TThS	104J	Mrs. Shea
90f,w,s	Survey of Social Work (3 cred.; sr. only; prereq. 49)	I	MWF	109J	Miss Gardiner
91f,w,s	Field Observation of Social Work (2 cred.; sr.; prereq. 90, which may be taken simultaneously)	Ar	Ar	Ar	Mrs. Doyle
109f,w,s,§	The Field of Social Work (3 cred.; grad.*; prereq. 104, which may be taken simultaneously, or equivalent)	VIII, IX	T	109J	Mrs. Doyle
	Fall	VIII	Th		
	Winter	I	TThS	104J	
	Spring	Ar	Ar	Ar	
125f,w	Principles of Group Work (3 cred.; grad.*; prereq. 109, which may be taken simultaneously, or the equivalent)	I	MWF	2J	Miss Phillips
	Fall	I	MWF	202F	
	Winter	II	MWF	202F	
126s	Problems of Supervision in Group Work (3 cred.; grad.*; prereq. 125, 156)	I	MWF	2J	Miss Phillips
127s	Legal Aspects of Social Work (3 cred.; grad.*; prereq. 109, which may be taken simultaneously)	I	TThS	109J	Mr. Finke
128s	Principles of Administration, Publicity, and Finance Applied to Social Work (2 cred.; grad.*; prereq. same as for 101, but including 109 or equiv.)	VIII, IX	Th	109J	Mr. Atwater
129f-130w†	Principles of Social Case Work (6 cred.; grad.*; prereq. for 129 is 109, which may be taken simultaneously; prereq. for 130 is 129, 153)	III	TThS	2J	Mrs. Fenlason
129w-130s†	Principles of Social Case Work (See 129f-130w)	II	TThS	2J	Mrs. Fenlason
131s	Rural Social Work (3 cred.; grad.*; prereq. 129, 153, 114 or equiv.)	I	TThS	2J	Miss Vaile
132w	Juvenile Courts and Probation (This course is listed under the heading "Courses in Sociology," on page 92)				
133s	Social Case Work in Health Problems (3 cred.; grad.*; prereq. 129, which may be taken simultaneously, and 136)	I	TThS	110F	Miss Gardiner
134	<i>Legal Protection of the Child</i> (3 cred.; grad.*; prereq. same as for 101 but incl. 60) (<i>Not offered</i>)				
135f,w,s,‡	Field Practice in Social Work for Children (2 to 5 cred. to be determined by the adviser in social work; grad.*; prereq. 129, 153)	Ar	Ar	Ar	Miss Vaile, Mrs. Shea, Mrs. Doyle, and staff
136w	Essentials of Medicine for Social Workers (3 cred.; grad.*; prereq. P.M.&P.H. 53 or equiv.)	VIII, IX	T	Ar	Med. Staff U. H.
		IX	Th		Miss Gardiner
137f	The History and Theory of Social Work (3 cred.; grad.*; prereq. 109, which may be taken simultaneously)	I	TThS	104J	Miss Gardiner
138f	Case Work with Children (3 cred.; grad.*; prereq. 129, 153)	II	TThS	2J	Mrs. Shea

* Primarily for graduates, but mature students who are not graduates may be admitted with the consent of the adviser and instructor.

† To receive credit for any part of this course a student must complete the parts preceding the dagger.

‡ A fee of \$3.50 is charged for this course.

§ This course is for mature students who have not had Courses 49 and 90.

No.	Title	Hour	Day	Bldg.	Instructor
139w	Psychiatric Problems in Social Case Work (3 cred.; grad.*; prereq. 129, 153, and Psy. 144-145 or P.M.&P.H. 61, which may be taken simultaneously)	III	TThS	104J	Mrs. Shea
152f	Public Welfare Administration (5 cred.; grad.*; prereq. 109 or equiv.)	I	TWThFS	6F	Miss Vaile
153f,w,s†- 154f,w,s†- 155f,w,s†	Field Training in Case Work (2 to 5 cred. per qtr. to be determined by the adviser in social work; grad.*; prereq. 129, which may be taken simultaneously)	Ar	Ar	Ar	Miss Vaile, Mrs. Doyle, and staff
156f,w,s†- 157f,w,s†- 158f,w,s†	Field Training in Group Work (2 to 5 cred. per qtr. to be determined by the adviser in social work; grad.*; prereq. 125, which may be taken simultaneously)	Ar	Ar	Ar	Miss Vaile, Miss Phillips, Miss Mead
161s	Social Aspects of Housing and Standards of Living (This course is listed under the heading "Courses in Sociology," on page 92)				
197f-198w-199s	Special Topics in Social Work (Cred. ar.; grad.*)	Ar	Ar	Ar	Ar

For Graduate Students Only

COURSES IN SOCIOLOGY

200f-w-s	Seminar: Topics in Criminology				Mr. Vold
201f-w-s	Seminar: Topics in Social Psychology				Mr. Kirkpatrick
202f-w-s	Seminar: Topics in Urban Sociology				Mr. Schmid
203f-204w-205s	Seminar in Social Theory				Staff
206f-207w-208s	Seminar: Statistical Theory in Relation to Social Theory and Practice				Mr. Chapin
209f-210w-211s	Seminar: The Theory of Social Evolution				Staff
215f-216w-217s	Seminar in Rural Sociology				Ar

COURSES IN SOCIAL WORK

218f-w-s	Seminar in Family Case Work				Mrs. Fenlason
219f-w-s	Seminar in Case Work with Children				Mrs. Shea
220f-w-s	Seminar in Medical Social Work				Miss Gardiner
221f†-222w†- 223s†	Graduate Field Training				Staff
224f-225w-226s	Advanced Medical Social Work (Open only to full-time students who wish to specialize in medical social work; 3 hrs. a week each qtr.)				Miss Gardiner
227f†-228w†- 229s†	Advanced Field Training				Staff
230f-w-s	Seminar in Public Welfare				Miss Vaile
231f-w-s	Seminar in Group Work				Miss Mead, Miss Phillips
232f-w-s	Seminar in Rural Social Work				Miss Vaile
233f-w-s	Seminar in Social Agencies with Social Institutions				Mrs. Doyle
234f-w-s	Seminar in Juvenile Delinquency and Treatment				Mr. Monachesi
235f-w-s	Thesis Preparation				Staff
236f-w-s	Research Topics in Social Work				Staff

SPEECH

Major advisers in the College of Science, Literature, and the Arts.—Professor Rarig; Assistant Professor Bryngelson.

* Primarily for graduates, but mature students who are not graduates may be admitted with the consent of the adviser and instructor.

† A fee of \$3.50 is charged for this course.

Major sequences in the College of Science, Literature, and the Arts.—

A. Courses 55-56-57; 61, 67; 101-102; 105; 81-82-83.

B. Courses 77-78-79; 81-82-83; 91-92-93; 111-112-113.

C. Courses 61; 67; 121-122; 162-163; Psychology 125-126 and 144-145.

(Prerequisites: 1-2-3 or 5-6; Psychology 1-2. Human Physiology 2 is required for Sequence C.)

Modifications of these sequences will be permitted upon petition approved by the major adviser and the assistant dean for the Senior College.

Major advisers in the College of Education.—Professor Rarig and Assistant Professor Bryngelson.

Requirements for a teacher's certificate.—Major recommendation: Speech 1-2-3 or 5-6; 55-56, 61, 67, 71-72, 81-82, 121-122; total, 39 or 40 credits. Psychology 4-5 or 7 advised.

Minor recommendation: a minimum of 24 credits including 1-2-3 or 5-6; 61 and 67; 55-56-57 or 71-72-73 or 81-82-83.

Minor recommendation in Speech Correction: 27 or 28 credits, including 1-2-3 or 5-6, 61, 67, 162-163, Psychology 144-145.

All students majoring or minoring in speech must present satisfactory evidence of interest and effective participation in one or more activities, such as debating, dramatics, oratory, public reading, or public speaking.

Because of the close relation between English and speech in the high schools of Minnesota, students majoring in speech should have a minor in English as well as one other minor.

Students majoring in speech should register for Special Methods and Directed Teaching in English, Ed.T. 66A-66B-66C. See the program of the College of Education.

Students interested in preparing for clinical work in speech correction in public schools should read the statement of the specialized curriculum in "Speech Pathology" in the Bulletin of the College of Education.

Note.—The University maintains a clinical service for students with speech defects. Students who desire treatment should consult the director of the Speech Clinic, 411 Folwell Hall. The clinic also accepts a limited number of full-time outpatients who pay a fee of \$50 per quarter. Part-time outpatients pay \$30 per quarter.

Junior College Courses

No.	Title	Hour	Day	Bldg.	Instructor
1f-2w-3s*†‡	Fundamentals of Speech (9 cred.; soph., jr., sr.; prereq.* or exemption)			Eng. A-B-C or Comp.	4-5-6
	Sec. 1	I	MWF	308F	Mr. Rarig
	2	II	MWF	305F	and others
	3	III	MWF	306F	
	4	VI	MWF	308F	
	5	I	TThS	305F	
	6	II	TThS	308F	
	7	III	TThS	308F	
	8 (For education students)	VII (f,w only)	MWF	308F	
1w-2s*†	Fundamentals of Speech (2 qtrs. of 1-2-3. See 1f-2w-3s)	II	MWF	104F	
3f*†	Fundamentals of Speech (3rd qtr. of 1-2-3. See 1f-2w-3s)	II	MWF	308F	

* Registration is limited. Written permission from the Junior College office, 106 Folwell Hall, is necessary for admission.

† To receive credit for any part of this course a student must complete the parts preceding the dagger. Exception:—Students in Education not majoring in Speech may receive credit for Course 1-2.

‡ A fee of \$1 per quarter is charged for this course.

No.	Title	Hour	Day	Bldg.	Instructor
5f-6w*††	Fundamentals of Speech (10 cred.; soph., jr., sr.; prereq.* Eng. A-B-C or Comp. 4-5-6 or exemption)				
	Sec. 1	III	MTWThF	305F	
	2	IV	MTWFS	311F	
	3	VI	MTWThF	321F	
5w-6s*††	Fundamentals of Speech (See 5f-6w)				
	Sec. 1	IV	MTWFS	204F	
	2	VI	MTWThF	311F	
5s*†	Fundamentals of Speech (1st qtr. of 5-6. See 5f-6w)				
	Sec. 1	III	MTWThF	206F	
	2	IV	MTWFS	311F	
6f*†	Fundamentals of Speech (2nd qtr. of 5-6. See 5f-6w)				
	Sec. 1	IV	MTWFS	305F	
	2	VI	MTWThF	305F	

Senior College Courses

Courses 51, 67, 81-82-83 are open to Junior College students who have an average grade of at least C in the prerequisite courses. Other Senior College courses in this department are open to Junior College students only by special permission of the Students' Work Committee. See a statement on page 22.

51s†	Advanced Public Speaking (3 cred.; jr., sr.; prereq. 1-2-3 or 5-6)	II	MWF	308F	Ar
55f-56w-57s††	Argumentation and Debating (9 cred.; jr., sr.; prereq. 1-2-3 or 5-6; Phil. 2, Logic, is recommended)				
		{ VI VI, VII	{ T Th	308F	Mr. Knower
61f	Speech Correction (3 cred.; jr., sr.; prereq. 1-2-3 or 5-6; Psy. 1-2)	VI	MWF	303F	Mr. Bryngelson
67s††	Phonetics (3 cred.; jr., sr.; prereq. 1-2-3 or 5-6)	II	MWF	105F	Mr. Bryngelson
71f-72w-73s†††	Elements of Dramatic Production (Primarily for College of Education students) (9 cred.; jr., sr.; prereq. 1-2-3 or 5-6)	II	MWF	17Mu	Mr. Lees
77f-78w-79s††	Acting (9 cred.; jr., sr.; prereq. 1-2-3 or 5-6 and consent of instructor)	III	MWF	17Mu	Mr. Crawford
81f-82w-83s†	Interpretative Reading (9 cred.; jr., sr.; prereq. 1-2-3 or 5-6)	IV	MWF	308F	Mr. Rarig
81w-82s†	Interpretative Reading (See 81f-82w-83s)	I	TThS	308F	Mr. Rarig
83f†	Interpretative Reading (3rd qtr. of 81-82-83. See 81f-82w-83s)	I	TThS	308F	Mr. Rarig
91f-92w-93s†††	Stagecraft (9 cred.; jr., sr.; prereq. permission of instructor)	V, VI	MWF	MuAud	Mr. Crawford
97f,w,s	Intercollegiate Oratory and Debate (3 cred.; jr., sr.; prereq.§)	Ar	Ar	308F	Mr. Rarig, Mr. Knower

* Registration is limited. Written permission from the Junior College office, 106 Folwell Hall, is necessary for admission.

† To receive credit for any part of this course a student must complete the parts preceding the dagger.

‡ A fee of \$1 per quarter is charged for this course.

†† A fee of \$3 per quarter is charged for this course.

§ Open to representatives of the University in the Northern Oratorical League and to members of the intercollegiate debate squad.

¶ Students intending to take Speech Pathology should take Phonetics the preceding spring.

|| Majors in Speech in the College of Education are required to complete only two quarters each of Courses 55-56-57 and 71-72-73.

No.	Title	Hour	Day	Bldg.	Instructor
101f-102w†	Persuasion (6 cred.; jr., sr., grad.; prereq. 1-2-3 or 5-6; Psy. 1-2; 10 cred. in soc. sci.)	III	MWF	308F	Mr. Gilkinson
105s	Theory of Reading and Acting (3 cred.; jr., sr., grad.; prereq. 1-2-3 or 5-6; 81-82-83, and Psy. 1-2)	III	MWF	308F	Mr. Rarig
107s	Platform Reading—An advanced course in the oral reading of literature. Speech melody, rhythm, platform technique. Problems in critical appreciation. Lecture recitals (3 cred.; prereq. 81-82-83 with grade of B in 83)	Ar	Ar	Ar	Mr. Rarig
111f-112w-113s††	Stage Direction (9 cred.; sr., grad.; prereq. 71-72-73 or 77-78-79, 91-92-93)	VII	MWF	19Mu	Mr. Lees
115-116-117	Playwriting and Production (2 cred.; sr., grad.; prereq. 71-72-73 and permission of instructor) (<i>Not offered</i>)	II	TThS	306F	Mr. Knower
121w-122s††	Advanced Speech Problems (6 cred.; jr., sr., grad.; prereq. 1-2-3 or 5-6, Psy. 1-2)	II	TThS	306F	Mr. Knower
141-142-143†	Voice Science (9 cred.; jr., sr., grad.; prereq. 1-2-3, Psy. 1-2 and 4-5 or 7) (<i>Not offered</i>)	VI	TTh	406F	Mr. Bryngelson
162w-163s††	Speech Pathology (6 cred.; jr., sr., grad.; prereq. 1-2-3 or 5-6; 61, 67; and permission of instructor)	VII	T		
164f-165w-166s	Clinical Methods and Practice in Speech Pathology (9 cred.; sr., grad.; prereq. 1-2-3; 61, 67, 162, and Ed.Psy. 142. May be taken simultaneously with Sp. 163)	III	TTh	406F	Mr. Bryngelson
171f-172w-173s	History of the Theater (9 cred.; sr., grad.; prereq. 1-2-3 or 5-6; 71-72-73 or 77-78-79)	IV	MWF	19Mu	Mr. Lees
191f-192w-193s†	Technical Stage Problems—Advanced problems in design and construction; stage management, wiring, color effects. Special problems are assigned to individual students (3 cred.; jr., sr., grad.; prereq. 91-92-93)	IV	MWF	109Mu	Ar

For Graduate Students Only

201f,w,s	General Seminar	Ar	Ar	Ar	Staff
207f-208w-209s	Seminar in Orators	Ar	Ar	Ar	Mr. Rarig
261f-262w-263s	Seminar in Speech Pathology	Ar	Ar	Ar	Mr. Bryngelson
291f-292w-293s	Research in Special Problems	Ar	Ar	Ar	Mr. Rarig, Mr. Bryngelson, Mr. Knower, Mr. Gilkinson, Mr. Lees

ZOOLOGY

Major adviser in the College of Science, Literature, and the Arts.—Professor Minnich.

Major sequences in the College of Science, Literature, and the Arts.—

A. In Zoology, 27 credits in Senior College courses of which at least 18 must be in courses with numbers between 49 and 100.

B. In special fields, as cytology, ecology, embryology, entomology, genetics, histology, parasitology, physiology, or protozoology, a major will consist of the respective one-hundred courses, 5 or more credits in a problem course in the special field, and additional credits in approved courses to make a total of 27 credits in Senior College courses.

† To receive credit for any part of this course a student must complete the parts preceding the dagger.

† A fee of \$1 per quarter is charged for this course.

†† A fee of \$3 per quarter is charged for this course.

(Prerequisites: 1-2-3, or equivalent and 21, 22, or equivalent. If possible beginning chemistry and at least one year of French or German should be completed during the Junior College work.)

Modifications of these sequences will be permitted upon petition approved by the major adviser and the assistant dean for the Senior College.

Major advisers in the College of Education.—Professor Wodsedalek and Associate Professor Ringoen.

Requirements for a teacher's certificate.—Major recommendation: General Zoology, Zoology 52, 53, 75, 83 and Human Physiology 4.

Minor recommendation: A minimum of 18 credits including General Zoology, Zoology 53 and 75.

For a specialized curriculum in Natural Science see College of Education Bulletin.

Honors Course in Zoology.—A student who has met all of the requirements for admission to the Senior College and who has maintained a grade of B in his work in the department may enroll for the Honors Course in Zoology. Such a student will carry at least twelve hours of problem work in some special phase of the work and will pursue under the direction of his adviser such special reading and outline courses as may be required. The completion of the Honors Course will require a reading knowledge of either French or German.

Courses in human anatomy, embryology, and hematology may be arranged for with the head of the Department of Anatomy.

Courses in human physiology may be arranged for with the head of the Department of Physiology.

Junior College Courses

No.	Title	Hour	Day	Bldg.	Instructor
1f-2w-3s*†‡	General Zoology (10 cred.; all; no prereq.) laboratory sections limited to 169 each)				(Lecture sections limited to 320 each;
	Lect. Sec. 1	II	TTh	06Bo	Mr. Minnich
	2	IV	TS	06Bo	Mr. Dawson
	3	III	WF	06Bo	Mr. Wodsedalek
	4	IV	WF	06Bo	Mr. Eddy
	Lab. Sec. 1	I, II	MF	101Z	Ar
	2	III, IV	MF	101Z	Ar
	3	VI, VII	MF	101Z	Ar
	4	VIII, IX	MF	101Z	Ar
	5	I, II	TS	101Z	Ar
	6	III, IV	TS	101Z	Ar
	7	I, II	WTh	101Z	Ar
14f-15w†‡	General Zoology (For students of the College of Agriculture, Forestry, and Home Economics) (6 cred.; all; no prereq.) laboratory sections limited to 169 each)				(Lecture section limited to 320; laboratory
	Lect.	VII	TTh	150Ph	Mr. Dawson
	Lab. Sec. 1 (Agr., For.)	V, VI	TTh	101Z	Ar
	2 (Home Ec.)	VIII, IX	TTh	101Z	Ar

* Lectures may be elected without laboratory with the consent of the chairman of the department. Laboratory must be taken with the lectures, however, if zoology is offered as the required laboratory science. Students should elect lecture sections in which they can continue throughout the three quarters. Changes from one lecture or laboratory section to another may be made only with the consent of the department office.

† To receive credit for any part of this course a student must complete the parts preceding the dagger.

‡ A fee of \$1 per quarter is charged for this course.

No.	Title	Hour	Day	Bldg.	Instructor
21f§	Histology (5 cred.; soph., jr., sr.; prereq. 1-2-3) (Sections limited to 40 each. Written permission must be obtained from the Junior College office, 106 Folwell Hall)				
	Lect.	III	TThS	313Z	Mr. Pliske,
	Lab. Sec. 1*	I, II	TThS	201Z	Miss Slider
	2	VI, VII, VIII	TTh	201Z	
	3	I, II	MWF	201Z	
22w‡	Comparative Anatomy (5 cred.; soph., jr., sr.; prereq. 1-2-3) (Sections 1 and 2 limited to 40 each, section 3 limited to 15. Written permission must be obtained from the Junior College office, 106 Folwell Hall)				
	Lect.	III	TThS	313Z	Mr. Eddy
	Lab. Sec. 1	I, II	TThS	3SZ	
	2	VI, VII, VIII	TTh	3SZ	
	3	VI, VII, VIII	MW	3SZ	
46w-47†	Ornithology (6 cred.; soph., jr., sr.; prereq. 1-2-3 and permission of instructor)				
		VI, VII, VIII	MW	204,211Z	Dr. Roberts

Senior College Courses

Courses 50, 51, 52, 53, 81, 82, and 83 are open to sophomores who have a grade of at least C in Course 1-2-3. Other Senior College courses in this department are open to Junior College students only by special permission of the Students' Work Committee. See a statement on page 22.

50s§	Introduction to General Physiology (5 cred.; soph., jr., sr.; prereq. 1-2-3 and high school or college chemistry) (Sections limited to 20 each)				
	Lect.	III	TThS	211Z	Mr. Steinbach
	Lab. Sec. 1	I, II	TThS	10Z	
	2	VI, VII, VIII	TTh	10Z	
51f	Introductory Animal Parasitology (5 cred.; jr., sr.; prereq. 1-2-3) (Sections are limited. Written permission must be obtained from the Junior College office, 106 Folwell Hall)				
	Lect.	VI	MWF	313Z	Mr. Riley
	Lab. Sec. 1 (limited to 80)	VII, VIII	MWF	208Z	
	2 (limited to 40)	I, II	MWF	208Z	
	3 (limited to 40)	III, IV	MWF	208Z	
52w	Introductory Entomology (5 cred.; jr., sr.; prereq. 1-2-3) (Sections limited to 20 each)				
	Lect.	VI	MWF	211Z	Mr. Mickel
	Lab. Sec. 1	VII, VIII	MWF	401Z	
	2	VI, VII, VIII	TTh	401Z	
53s	Faunistic Zoology (5 cred.; jr., sr.; prereq. 1-2-3) (Limited to 40. Written permission must be obtained from the Junior College office, 106 Folwell Hall.)				
	Lect.	VI	MWF	211Z	Mr. Eddy
	Lab.	VII, VIII	MWF	401Z	
		IX	F		
75s	Nature Study (3 cred.; jr., sr.; prereq. 15 cred. including 1-2-3. Required of all zoology majors and minors in the College of Education in the junior year)				
		VI, VII, VIII	TTh	208Z	Mr. Wodsedalek
81f	Marine Invertebrates (3 cred.; jr., sr.; prereq. 1-2-3)				
	Lect.	II	MWF	211Z	Mr. Dawson
	Lab.	Ar	Ar	Ar	
82w	Evolution (3 cred.; jr., sr.; prereq. Zool. 1-2-3 or Bot. 1, 7, 21)				
	Lect.	II	MWF	211Z	Mr. Oliver
83s	Introduction to Genetics and Eugenics (3 cred.; jr., sr.; prereq. 1-2-3)				
		II	MWF	313Z	Mr. Oliver

* Open only to zoology majors.

† To receive credit for any part of this course a student must complete the parts preceding the dagger.

‡‡ A fee of \$2 is charged for this course.

§ Not open to regular two-year premedical and pre dental students.

PROGRAM

No.	Title	Hour	Day	Bldg.	Instructor
107f-108w	Protozoology (6 cred.; jr., sr., grad.; prereq. 15 cred.)	I, II	TThS	208Z	Mr. Turner
109f-110w-111s	Physiology (9 cred.; jr., sr., grad.; prereq. 15 cred.)	IV	MWF	211Z	Mr. Minnich, Mr. Steinbach
117f-118w- 119s¶	Animal Ecology (9 cred.; jr., sr., grad.; prereq. 15 cred.)				
	Lect.	VI	TTh	211Z	Mr. Eddy,
	Lab.	VII, VIII	TTh	401Z	Mr. Hodson
120s¶	General Ecology of Insects (3 cred.; jr., sr.; prereq. 15 cred. in zool. or ent.)	VI, VII, VIII	TTh	15Ad	Mr. Hodson
125f-126w-127s	Advanced Entomology (9 cred.; jr., sr., grad.; prereq. 15 cred.)				
	Lect.	I, II	T	211Z	Mr. Mickel
	Lab.	I, II, III	S	401Z	
144w-145s, 146s*	Animal Parasites and Parasitism (6 or 9 cred.; jr., sr., grad.; prereq. 15 cred.)	VI, VII, VIII	TTh	208Z	Mr. Riley
148-149	<i>Histology and Organology</i> (6 cred.; jr., sr., grad.; prereq. 15 cred. in zool.) (<i>Not offered</i>)				
160f-161w	Cytology (6 cred.; jr., sr., grad.; prereq. 15 cred., with the consent of the instructor)	VI, VII, VIII	TTh	104Z	Mr. Wodsedalek
170f-171w	Advanced Genetics (6 cred.; jr., sr., grad.; prereq. 15 cred., including Course 83, or consent of instructor)				
	Lect.	II	TTh	211Z	Mr. Oliver
	Lab.	Ar	Ar	Ar	
180	<i>Comparative Embryology</i> (3 cred.; jr., sr., grad.; prereq. 15 cred. including Course 21 or equiv.) (<i>Not offered</i>)				
181	<i>Endocrines and Reproduction</i> (3 cred.; jr., sr., grad.; prereq. 15 cred.) (<i>Not offered</i>)				
182	<i>Experimental Embryology</i> (3 cred.; jr., sr., grad.; prereq. 15 cred.) (<i>Not offered</i>)				
197f-198w-199s	Problems (5 or more cred.; jr., sr., grad.; prereq. 1-2-3, special requirements)	Ar	Ar	Ar	Ar

ENTOMOLOGY AND ECONOMIC ZOOLOGY

Students in this college may elect courses in Entomology and Economic Zoology by arrangement with the department. But before registering for any courses they should get the approval of Assistant Dean Shumway, 219 Administration Building. See the program of the College of Agriculture, Forestry, and Home Economics, in another part of this bulletin.

COURSES IN OTHER COLLEGES

Certain courses in other colleges are open to election by seniors. See the Bulletin of the College of Science, Literature, and the Arts. Students interested in such courses may consult the assistant dean for the Senior College.

* 144w-145s is a 6-credit course. 146s (3 cred.) may be taken simultaneously with 145s, at hours to be arranged.

¶ Either 119s or 120s or both may be taken to complete Course 117f-118w.

COLLEGE OF EDUCATION

Because the regulations and requirements in subject-matter fields and in education necessary for certification in different states are constantly changing, students who plan to teach in states other than Minnesota should consult their major advisers in order that they may fully complete the requirements for the specific state in which they wish to teach.

GENERAL COURSES

No.	Title	Hour	Day	Bldg.	Instructor
Ed.51Af-51Bw- 51Cs*‡	Introduction to Secondary School Teaching (9 cred.; jr.; prereq. 6 cred. in psy.)				
	Sec. 1	I	MWF	210Bu	Mr. Miller(f) Mr. Morse(w) Mr. Douglass(s)
	2	III	MWF	210Bu(f,w) 106Pt(s)	Mr. McConnell (f,w,s)
3	VII	MWF	210Bu	Miss Edwards(f) Miss Smith(w) Mr. Boardman(s)	
Ed.51Af-51Bw- 51Cs*‡§	Introduction to Secondary School Teaching—Independent Study (See above)	V	W	301Lib	Mr. McConnell
Ed.51Aw*	Introduction to Secondary School Teaching (See 51A, B, C)				
	Sec. 1	I	MWF	115Psy	Mr. Miller
	2	III	TThS	210Bu	Mr. Van Wagenen
Ed.51As*	Introduction to Secondary School Teaching (See 51A, B, C)				
	Sec. 1	I	MWF	115Psy	Mr. Miller
	2	III	TThS	210Bu	Mr. Van Wagenen
Ed.51Bf*‡	Introduction to Secondary School Teaching (See 51A, B, C)	II	MWF	210Bu	Mr. Morse
Ed.51Bs*‡	Introduction to Secondary School Teaching (See 51A, B, C)	II	MWF	210Bu	Mr. Morse
Ed.51Cf*	Introduction to Secondary School Teaching (See 51A, B, C)	II	TThS	210Bu	Mr. Douglass
Ed.51Cw	Introduction to Secondary School Teaching (See 51A, B, C)	I	TThS	210Bu	Mr. Douglass
Ed. 54f-55w-56s	Fundamental Art Experiences (2 cred. per qtr.; all; no prereq.) This course was offered on an experimental basis in 1936-37. The question of its offering in 1937-38 is undetermined. Announcements concerning it will appear in the Official Daily Bulletin.				
Ed.61Af-61Bw- 61Cs*‡	Introduction to Elementary School Teaching (9 cred.; prereq. 6 cred in psy.)	VII-VIII	TTh	100Pt	Mr. Van Wag- enen(f)
					Dem. Mr. Stauden- schools maier(w,s)

* The entire course including the final examination covering all units must be successfully completed before credit is given for any quarter. Students who have already received credit for Ed.Psy. 55, Ed.Ad. 65, and Ed.T. 15, are not eligible for this course.

‡ A fee of \$1 per credit is charged for Ed. 51B and Ed. 61A-61B-61C.

§ Previously designated as Limited Honors Course. The independent study group will not meet each week but the fifth hour on Monday is reserved for conference. An average of B is required for registration in this course.

No.	Title	Hour	Day	Bldg.	Instructor
Ed.71f,w,s	Brief Course in History of Education (5 cred.; jr., sr.; prereq. 6 cred. in psy.) (Formerly H.Ed. 71)	IV	MTWFS	210Bu	Miss Alexander
Ed.73f	Educational Sociology (3 cred.; jr., sr.; prereq. 6 cred. in psy.) (Formerly H.Ed. 73)	III	MWF	Ar	Ar
Ed.75	Public Education in the U. S. (3 cred.; jr., sr.; prereq. 6 cred. in psy.) (<i>Not offered</i>) (Formerly H.Ed. 75)				
Ed.Wf,w,sf	Professional Preparation for Teaching (Minimum of 45 cred.; prereq. consent of Mr. Eurich, course adviser)	Ar	Ar	Ar	Mr. Eurich
Ed.101f	Historical Foundations of Modern Education (3 cred.; jr., sr., grad.; prereq. 6 cred. in psy.) (Formerly H.Ed. 101)	VI	MWF	210Bu	Miss Alexander
Ed.102w	History of Modern Secondary and Higher Education (3 cred.; jr., sr., grad.; prereq. 6 cred. in psy.) (Formerly H.Ed. 102)	VI	MWF	210Bu	Miss Alexander
Ed.103s	History of Modern Elementary Education (3 cred.; jr., sr., grad.; prereq. 6 cred. in psy. Not open to students who have had Ed. 71) (Formerly H.Ed. 103)	VI	MWF	210Bu	Miss Alexander
Ed.104f	Adult Education (2 cred.; jr., sr., grad.)	III-IV	S	Ar	Mr. Benjamin
Ed.105	Visual Aids in Teaching (2 cred.; jr., sr., grad.) (<i>Not offered</i>) (Formerly Ed.T. 105)				
Ed.129-130	Educational Classics (<i>Not offered</i>) (Formerly H.Ed. 129-130)				
Ed.131	Comparative School Systems (2 cred.; prereq. 9 cred. in ed.) (<i>Not offered</i>) (Formerly H.Ed. 131)				
Ed.141f-142w-143s	Problems in the History of Education (2 cred. a qtr.; sr., grad.; prereq. permission of instructor) (Formerly H.Ed. 141-142-143)	Ar	Ar	Ar	Mr. Wesley
Ed.167s	Junior High School (3 cred.; sr., grad.; prereq. 10 hrs. in ed. including Ed. 51) (Formerly Ed.Ad. 167)	III-IV and 1 hr. ar.	S	Ar	Mr. Douglass
Ed.185f	Professional Education of Teachers (2 cred.; sr., grad.; prereq. 15 hrs. in ed.) (Formerly Ed.Ad. 185)	III-IV	S	205bEd	Mr. Peik
Ed.186f,w,s	Special Problems in Teacher Training (2 cred. a qtr.; sr., grad.; prereq. 15 cred. in ed. including Ed. 185 or permission of instructor) (Formerly Ed.Ad. 186)	Ar	Ar	Ar	Mr. Peik
Ed.187w	Instruction and Administration in Teacher Training Institutions (2 cred.; sr., grad.; prereq. 15 cred. in ed.) (Formerly Ed.Ad. 187)	I-II	S	205bEd	Mr. Peik
Ed.188s	Special Problems in Educational Sociology (2 cred.; sr., grad.; prereq. 15 cred. in ed.)	Ar	Ar	Ar	Ar
Ed.200f,w,s	Colloquium in Education (Cred. ar.; grad.)	Ar	Ar	Ar	Major advisers
Ed.205	Problems in Adult Education (2 cred. a qtr.; grad.) (<i>Not offered</i>)				
Ed.208w	Methods in Educational Research (2 cred.; grad.)	IX-X	M	114Ed	Mr. Johnson
Ed.224f-225w-226s	Seminar in Elementary School Problems	IX	Th	209Bu	Mr. Brueckner, Mr. Peik
Ed.227s	Current Readjustments in Higher Education (3 cred.; grad.)	VIII	MWF	Ar	Mr. Eurich

¶ This course is designed for students already holding a baccalaureate degree and desiring to complete their preparation for teaching. Such students should consult the adviser and outline for approval a program covering at least three quarters' study for completion of work for a teacher's certificate. The entire course, including the final examination, must be completed successfully before credit is given for any quarter.

No.	Title	Hour	Day	Bldg.	Instructor
Ed.228f-229w-230s	Problems of College Education (6 cred.; grad.)	Ar	Ar	Ar	Mr. Haggerty
Ed.231	<i>Problems in Comparative Education</i> (2 cred.; grad.) (Not offered) (Formerly H.Ed. 231)				

AGRICULTURAL EDUCATION

Major adviser.—Associate Professor Field.

No.	Title	Hour	Day	Bldg.	Instructor
Agr.Ed.51f,s	Educational Psychology (3 cred.; jr., sr.; no prereq.)	II	TThS	102Ad	Miss Edwards
Agr.Ed.52f,s	Vocational Education (3 cred.; jr., sr.; no prereq.)	Ar	Ar	102Ad	Mr. Nylin
Agr.Ed.54f,w	Rural Education and Community Leadership (3 cred.; jr., sr.; prereq. 51)	IV and 1 hr. ar.	TS	102Ad	Mr. Field
Agr.Ed.80s	Extension Work (3 cred.; jr., sr.; prereq. 6 cred. in farm management, 6 cred. in farm crops, 15 cred. in animal industry, 3 cred. in agr. ed.)	VI	MWF	102Ad	Mr. Field
Agr.Ed.81f	Teaching Agriculture (5 cred.; jr., sr.; prereq. 51)	III	MTWThF	102Ad	Mr. Field
Agr.Ed.82w	Teaching Agriculture (Same as 81f)	III	MTWThF	102Ad	Mr. Field
Agr.Ed.83s	Teaching Agriculture (Same as 81f)	III	MTWThF	102Ad	Mr. Field
Agr.Ed.91f,w,s‡§	Supervised Teaching Experience (3 cred.; sr.; prereq. 82)	Ar	Ar	Ar	Mr. Field, Mr. Nylin
Agr.Ed.135f	The Curriculum in Vocational Agriculture (3 cred.; prereq. 10 cred. in ed.)	Ar	Ar	Ar	Mr. Field
Agr.Ed.141w	Supervised Practice in Vocational Agriculture (3 cred.; prereq. 10 cred. in ed.)	Ar	Ar	Ar	Mr. Field
Agr.Ed.161s	Vocational Education in Agriculture (3 cred.; prereq. 15 cred. in ed.)	Ar	Ar	Ar	Mr. Field
Agr.Ed.171f,w,s	Problems in Procedure (3 cred.; sr.; prereq. 82, 91, or equiv. teaching experience)	Ar	Ar	Ar	Mr. Field
Agr.Ed.191f-192w-193s	Seminar in Agricultural Education (6 cred.; sr.; prereq. 15 cred. in agr. ed.)	Ar	Ar	Ar	Mr. Field

ART EDUCATION

Major advisers.—Professor Raymond; Assistant Professor Hilpert.

Junior College Courses

No.	Title	Hour	Day	Bldg.	Instructor
ArtEd.1f-2w-3s*	Fundamental Experiences in Design (9 cred.; art ed. majors; no prereq.)				
	Sec. 1	II-III	TThS	207aJ	Mr. Torbert
	2	III-IV	MWF	207aJ	Mr. Torbert

* Each term gives some craft experience for which, on petition, 1 cred. may be allowed to meet requirement.

‡ A fee of \$1 per credit is charged for this course.

§ Passing the qualifying examination is prerequisite to registration in this course.

No.	Title	Hour	Day	Bldg.	Instructor
ArtEd.1Tf-2Tw-3Ts	Fundamental Experiences in Design (2 cred. each qtr. for those with majors other than art; no prereq.) One lecture, one tutorial conference, and 2 hrs. of class activity each week chosen from:				
	Lect.	I	MWF	206WeH	Mr. Torbert
	Tutorial hours	III	MTWThF	Ar	Miss Raymond
	Design	II-III	TTh	207aJ	
		or			
	Figure drawing for fun	III-IV	MW		
	Use of craft materials and processes	II-III	S	203aJ	
		VI-VII, VII-VIII	W	10J	
ArtEd.20f-21w-22s*	Fundamental Experiences in Design—Continued. (9 cred.; soph.; prereq. 1-2-3 or permission)				
		II-III	MWF	207bJ	Miss Berglund

OPPORTUNITIES FOR CONTACT WITH MATERIALS AND PROCESSES

ArtEd.32f	Paper (1 cred.; prereq. for art majors 1-2-3; for nonmajors, relevance to their curricula)				
	Lect. and demon.	VI	W	10J	Miss Ross
	Lab.	Ar	W		
ArtEd.45w	Needlecraft (1 cred.; prereq. for art majors 1-2-3, for nonmajors relevance to their curricula)				
	Lect. and demon.	VI	W	10J	Miss Ross
	Lab.	Ar	W		
ArtEd.35s	Clay (1 cred.; prereq. for art majors 1-2-3; for nonmajors, relevance to their curricula)				
	Lect. and demon.	VI	W	10J	Miss Ross
	Lab.	Ar	W		
ArtEd.32Af	Cardboard and Paper Problems—Lectures and demonstrations for public school, camp, and social work. (1 cred.)				
		IV	S and ar	200J	Miss Ross
ArtEd.38w	Simple Textile Processes—Lectures and demonstrations for public school, camp, and social work. (1 cred.)				
		IV	S and ar	200J	Miss Ross
ArtEd.35As	Simple Ceramic Processes—Lectures and demonstrations for public school, camp, and social work (1 cred.)				
		IV	S and ar.	200J	Miss Ross

REPRESENTATION

ArtEd.4f,w,s-6f,w,s-8f,w,s	Experiences from Still Life and Pose (2 cred. a qtr.)				
	Sec. 1	V-VI	MF	203J	Miss Lutz
	2	VII-VIII	MF	203J	Miss Lutz
ArtEd.10-11-12	<i>Experiences with Rhythm and Color (Not offered as separate course in 1936-37)</i>				
ArtEd.23f,w,s-24f,w,s-26f,w,s-28f,w,s	Experiences from Still Life and Pose (Continuation of 4-6-8) (2 cred. each)				
	Sec. 1	I-II	TTh		Miss Lutz
	2	III-IV	TTh		Miss Lutz
	3	IV-V	S		Miss Lutz
ArtEd.29f,w,s-30f,w,s§	Rhythmic Sketch (2 cred. a qtr.; no prereq.)				
		II-III	S		Miss Raymond

PRACTICAL EXPERIENCE WITH ART PRODUCTS

Tours to stores and galleries are arranged in connection with all courses. For History of Art see offerings in Fine Arts, Architecture, and Home Economics.

* Each term gives some craft experience for which, on petition, 1 cred. may be allowed to meet requirement.

§ Simple recordings on blackboard and paper, helpful in public schools.

Senior College Courses

DESIGN AND HANDICRAFTS

Art education majors are expected to acquire experience in expressing design in terms of materials. At least 12 credits should be expended thus. Projects will be executed in Art Ed. 1-2-3 and Art Ed. 20-21-22. At the Senior College level each art major should choose one or two materials with which he should acquire expert skill and with whose possibilities in terms of both handicraft and productive industry he should be familiar. Registration may be made in Art Ed. 73-74-75 or Art Ed. 76-77-78 for 1, 2, or 3 credits in a term depending upon the hours of work carried. Nonmajors should carry at least Art Ed. 1-2-3 or Art Ed. 54-55-56 before registering for anything but the lecture in these courses. (See above, Opportunities for Contact with Materials and Processes.)

Opportunities for 1937-38 are:

No.	Title	Hour	Day	Bldg.	Instructor
ArtEd.73f,w‡	Ceramic Materials and Simple Processes Lect. and demon. Sec. 1	1	VII	M 10J	Miss Ross
		2	VI	T 10J	Miss Ross
		Lab.	V, VIII (VI, VII) ar	MTThF 10J	Miss Ross and asst.
ArtEd.74w‡	Ceramic Processes—Continued Lect. and demon. Sec. 1	1	VII	F 10J	Miss Ross
		2	VI	Th 10J	Miss Ross
		Lab.	V, VIII (VI, VII) ar	MTThF 10J	Miss Ross and asst.
ArtEd.75s‡	Ceramic Processes Advanced Problems Lect. and demon.	VII	MF		
		Lab.	V, VIII (VI, VII) ar	MTThF 10J	Miss Ross and asst.
ArtEd.75Ms‡	Metal Materials and Processes Lect. and demon.	I-II	TTh	10J	Miss Ross
		Lab.	Ar	Ar	
ArtEd.76f‡	Textile Materials and Simple Processes Lect. and demon.	IV	MWF	11J	Miss Berglund
		Lab.	V and ar.	MWF 11J	Miss Berglund
ArtEd.77w‡	Textile Processes Sec. 1 Printing processes	III-IV	MWF	11J	Miss Berglund
		2 Weaving processes	ar. if demanded		
ArtEd.78s‡	Textile Processes Advanced Lect.	IV	MWF	11J	Miss Berglund
		Lab.	V	MWF	
DESIGN					
ArtEd.54f-55w-56s	Fundamental Art Experiences—Art Ed. 1-2-3 held to Senior College level of achievement and omitting craft experience (2 cred. each qtr.; jr., sr.)	Sec. 1	II-III	TTh 207aJ	Mr. Torbert
		2	III-IV	MWF 207aJ	Mr. Torbert
					See Art Ed. 32, 45, 35, 38 (1 cred. for craft contact)
ArtEd.70f-71w-72s	Fundamental Art Experiences—Continued. Color Emphasis—Art Ed. 20-21-22 held to Senior College level (9 cred.)	II-III	MWF	207bJ	Miss Berglund
		VI-VII	MWF	207bJ	Mr. Hilpert
ArtEd.50f-51w	Commercial and Industrial Design (6 cred.; prereq. 22 or 56)				
ArtEd.153s	Design for the Consumer: the Home (3 cred.; jr., sr., grad.; prereq. 22 or 55)	II-III	MWF		Mr. Hilpert
ArtEd.154	Design for the Consumer: Costume (Not offered)				

‡ A fee of \$1.50 per quarter is charged for this course.

PROGRAM

REPRESENTATION

No.	Title	Hour	Day	Bldg.	Instructor
ArtEd.61,62,63f,w,s	Painting in Relation to Architectural, Industrial, and Dramatic Demands (2 cred. each)				
	Sec. 1	I-II	TTh		Miss Lutz
	2	III-IV	TTh		Miss Lutz
	3	I-IV	S		Miss Lutz
ArtEd.66,67,68f,w,s	Painting and Sculpture (Continuation of 61,62,63)				
	Sec. 1	I-IV	S and ar.		Miss Lutz

For History of Art see offerings in Fine Arts, Architecture, and Home Economics.

ArtEd.57f,w,s-58f,w,s	Art and Leisure—Participation in cultural advantages of Twin City galleries and auditoriums (1 cred.)				
	Tutorial conferences and Ar tours		MF		Ar

METHODS AND DIRECTED ART TEACHING

ArtEd.80f-81w-82s‡	Types of Art Instruction (3 cred.; jr., sr.; prereq. ArtEd. 3, 8)	V	W	207bJ	Miss Fisher
ArtEd.80T-81T-82T‡	Types of Art Instruction (3 cred.)	Ar	Ar	Ar	
ArtEd.83s	Problems in Art Education (3 cred.; sr.; prereq. ArtEd. 80)	VIII	MWF	207J	Miss Raymond
ArtEd.86,87,88f,w,s‡§	Student Teaching in Art (6 cred.; prereq. sr. standing)	VI-VII	TTh	Ar	Miss Raymond
ArtEd.189	<i>Application of Esthetic Theories in Public Art Education (Not offered)</i>				

CURRICULUM AND INSTRUCTION

Major advisers.—Professors Brueckner and Peik.

No.	Title	Hour	Day	Bldg.	Instructor
Ed.C.I.63f	Children's Literature (2 cred.; jr., sr.) (Formerly Ed.T. 44 and 63)				
		IX-X	M	106Pt	Miss Smith
Ed.C.I.113w	High School Curriculum (2 cred.; sr., grad.; prereq. 10 hrs. in ed. including Ed. 51) (Formerly Ed.Ad. 113)	IX-X	T	210Bu	Mr. Peik
Ed.C.I.118	<i>Problems in Junior High School English (Not offered)</i> (Formerly Ed.T. 118)				
Ed.C.I.119f	Elementary School Curriculum (3 cred.; sr., grad.; prereq. Ed. 63 or equiv.) (Formerly Ed.Ad. 119)	I	MWF	100Pt	Mr. Peik
Ed.C.I.119T-120T	<i>Elementary School Curriculum (4 cred.; sr., grad.) (Not offered)</i> (Formerly Ed.Ad. 119T-120T)				
Ed.C.I.121w	Educational Advising of Women and Girls (3 cred.; sr., grad.; prereq. 15 cred. in ed.) (Formerly Ed.Ad. 121)	VIII	MWF	112Bu	Miss Blitz
Ed.C.I.122s	Literature for Adolescents (2 cred.; jr., sr., grad.; prereq. Ed. 53 or junior-senior high school teaching experience) (Formerly Ed.T. 122)	IX-X	T	UHSLib	Miss Smith
Ed.C.I.123w	Supervision of High School Instruction (3 cred.; sr., grad.; prereq. 10 hrs. in ed.) (Formerly Ed.Ad. 123)	II	MWF	106Pt	Mr. Boardman
Ed.C.I.130	<i>Problems of Childhood Education (2 cred.) (Not offered)</i> (Formerly Ed.T. 130)				
Ed.C.I.133f	Guidance in Secondary Schools (2 cred.; sr., grad.; prereq. 9 hrs. in ed.) (Formerly Ed. 133)	III-IV	S	PtAud	Miss Edwards

‡ A fee of \$1 per credit is charged for this course.

§ Passing the qualifying examination is prerequisite to this course.

No.	Title	Hour	Day	Bldg.	Instructor
Ed.C.I.135w	Teaching of Occupations (2 cred.; sr., grad.; prereq. 9 hrs. in ed.) (Formerly Ed. 135)	III-IV	S	PtAud	Mr. Wrenn
Ed.C.I.143-144††	Teaching of Reading in the Elementary School (4 cred.; jr., sr., grad.; prereq. 9 hrs. in ed. including Ed. 51A) (<i>Not offered</i>) (See Ed.T. 54A and Ed.C.I. 159) (Formerly Ed.T. 143-144)				
Ed.C.I.145s	Clinical Remedial Reading (2 cred.; prereq. Ed.C.I. 143 or Ed.C.I. 159) (Formerly Ed.T. 145)	IX-X	W	221Bu	Mr. Wrenn
Ed.C.I.148.	The Teaching of Primary Arithmetic (2 cred.; sr., grad.; prereq. Ed. 61A,B,C, or equiv.) (Not open to students who have had Ed.T. 54B) (<i>Not offered</i>) (Formerly Ed.T. 148)				
Ed.C.I.149	The Teaching of Intermediate Grade Arithmetic (2 cred.; sr., grad.; prereq. Ed. 61A,B,C, or equiv.) (Not open to students who have had Ed.T. 54B) (<i>Not offered</i>) (Formerly Ed.T. 149)				
Ed.C.I.150f‡	Supervision and Improvement of Instruction (3 cred.; sr., grad.; prereq. Ed. 61C or equiv.) (Formerly Ed.Ad. 150)	II	MWF	100Pt	Mr. Brueckner
Ed.C.I.151s‡	Diagnosis and Remedial Instruction (3 cred.; sr., grad.; prereq. Ed.C.I. 150 or equiv.) (Formerly Ed.Ad. 151)	II	MWF	100Pt	Mr. Brueckner
Ed.C.I.152	Supervision: The Adjustment of Schools to Individual Differences (2 cred.; sr., grad.; prereq. 15 hrs. in ed.) (<i>Not offered</i>) (Formerly Ed.Ad. 152)				
Ed.C.I.153s	Supervision and Teaching of English in the Elementary Schools (2 cred.; sr., grad.; prereq. Ed. 61A,B,C, or equiv.) (Formerly Ed.Ad. 153)	I-II	S	204bEd	Miss Smith
Ed.C.I.154	Supervision and Teaching of the Social Studies (2 cred.; sr., grad.; prereq. Ed. 61A,B,C, or equiv.) (<i>Offered alternate years. Not offered in 1937-38</i>) (See Ed.C.I. 168) (Formerly Ed.Ad. 154)				
Ed.C.I.155	Supervision and Teaching of Arithmetic (2 cred.; sr., grad.; prereq. Ed. 61C or equiv.) (See Ed.C.I. 148, 149) (<i>Not offered</i>) (Formerly Ed.Ad. 155)				
Ed.C.I.156s‡	Practice Supervision—Group Problems and Field Work (3 cred.; sr., grad.; prereq. 15 hrs. in ed. and permission of instructor) (Formerly Ed.Ad. 156)	II-III	TTh	100Pt,	Mr. Peik
Ed.C.I.157f,w,s‡	Practice in Supervision (3 cred. a qtr.; sr., grad.; prereq. consent of instructor) (Formerly Ed.Ad. 157)	Ar	Ar	Ar	Mr. Brueckner
Ed.C.I.159w	The Supervision and Teaching of Reading (2 cred.; sr., grad.; prereq. Ed. 61A,B,C, or equiv.) (Formerly Ed.Ad. 159)	I-II	S	106Pt	
Ed.C.I.160‡	Supervision of Elementary Subjects (3 cred.; sr., grad.; prereq. Ed.C.I. 150) (<i>Not offered</i>) (Formerly Ed.Ad. 160)				
Ed.C.I.161f,w,s	Special Problems in School Supervision (2 cred.; sr., grad.; prereq. 10 hrs. in ed. including Ed. 51A) (Formerly Ed.Ad. 161)	I-II	S	220Bu	Mr. Brueckner
Ed.C.I.162f	Significance of Progressive Education (2 cred. a qtr.; sr., grad.) (Formerly Ed.Ad. 162)	IX-X	T	204bEd	Mr. Brueckner
Ed.C.I.163s	Recent Research in Arithmetic Instruction (2 cred.; sr., grad.; prereq. 156 or 148 or 149 or equiv.) (Formerly Ed.Ad. 163)	III-IV	S	204bEd	Mr. Brueckner
Ed.C.I.164	Recent Research in Educational Diagnosis (2 cred.; sr., grad.; prereq. 151 or equiv.) (<i>Not offered</i>) (Formerly Ed.Ad. 164)				

† To receive credit for any part of this course a student must complete the parts preceding the dagger.

‡ A fee of \$1 per credit is charged for this course.

No.	Title	Hour	Day	Bldg.	Instructor
Ed.C.I.165	<i>Recent Literature in Supervision</i> (2 cred.; sr., grad.) (<i>Not offered</i>) (Formerly Ed.Ad. 165)				
Ed.C.I.168f	Current Developments in the Social Studies (2 cred.; grad. only) (Formerly Ed.Ad. 168)	III-IV	S	205aEd	Mr. Wesley
Ed.C.I.169	<i>Extra-curricular Activities</i> (2 cred.; prereq. 10 hrs. in ed. including Ed. 51A) (<i>Not offered</i>) (Formerly Ed.Ad. 169)				
Ed.C.I.171f,w,s	Special Curriculum Problems (2 cred. a qtr.; grad. [or seniors with educational experience by permission]; prereq. completion or current enrolment in one of the following: Ed.C.I. 113, 119, 172 or equiv.)	Ar	Ar	216Bu	Mr. Peik
Ed.C.I.172s	Curriculum and Course of Study Construction (2 cred.; sr., grad.; prereq. 15 hrs. in ed.) (Formerly Ed.Ad. 172)	IX-X	T	112Bu	Mr. Peik
Ed.C.I.173	<i>Recent Research and Literature in Reading</i> (2 cred.; sr., grad.; prereq. previous training in reading such as Ed.C.I. 159 or equiv.) (<i>Not offered</i>) (Formerly Ed.Ad. 173)				
Ed.C.I.174f-175w-176s†‡§	Clinical Methods and Practice in Speech Pathology (9 cred.; sr., grad.; prereq. Sp. 1, 2, 3, 61, 67, 162, and permission of instructor) (Formerly Ed.T. 164-165-166)	III other hrs. ar.	TTh	406F	Mr. Bryngelson, Mr. England
Ed.C.I.181w†	Foundations of Elementary School Methods (3 cred.; sr., grad.; prereq. 9 hrs. in ed.) (Formerly Ed.T. 181)	II	MWF	100Pt	Mr. Brueckner
Ed.C.I.181T-182T†	<i>Foundations of Elementary School Methods</i> (See 181 above) (<i>Not offered</i>) (Formerly Ed.T. 181T-182T)				
Ed.C.I.184f	Supervision of Student Teaching (2 cred.; sr., grad.) (Formerly Ed.Ad. 184)	III-IV	S	111Ed	Mr. Boardman
Ed.C.I.188s†	Advanced Course in Methods of Teaching Modern Languages (2 cred.; sr., grad.; prereq. Ed.T. 72A-B-C, or experience in teaching the modern languages) (Formerly Ed.T. 188)	Ar	Ar	207Ed	Miss Walker
Ed.C.I.191s†	Advanced Course in the Teaching and Supervision of Secondary School Mathematics (2 cred.; prereq. Ed. 51C or permission of instructor) (Formerly Ed.T. 191)	I-II	S	115Ed	Mr. Kinney
Ed.C.I.193s	Foundations of Secondary School Methods (3 cred.; sr., grad.; prereq. Ed. 51C) (Formerly Ed.T. 193)	IX-X and 1 hr. ar.	T	202Ed	Mr. Johnson
Ed.C.I.194f†	Advanced Course in Methods of Teaching English (2 cred.; sr., grad.; prereq. Ed.T. 66A-B-C, or equiv.) (Formerly Ed.T. 194)	III-IV	S	204aEd	Miss Smith
Ed.C.I.197	Special Problems in Techniques of Secondary School Instruction (2 cred. a qtr.; sr., grad.; prereq. Ed. 51C) (Formerly Ed.T. 196-197)	III-IV	S	204aEd	Miss Smith
Ed.C.I.198w	Recent Literature in Methods and Curriculum in English (2 cred.; sr., grad.; prereq. Ed.T. 66A-B-C, or equiv.) (Students should not register for this course in the same year with Ed.C.I. 194)	III-IV	S	204aEd	Miss Smith
Ed.C.I.201f-202w-203s†	Advanced Course in Methods of Teaching History and Social Studies (2 cred. a qtr.; grad. and teachers; prereq. consent of instructor) (Formerly Ed.T. 201-202-203)		Ar	Ar	Mr. Krey
Ed.C.I.222f-223w-224s	Seminar in the Technique of High School Instruction (No cred.; grad.; prereq. Ed. 51C and Ed.C.I. 113) (Formerly Ed.T. 222-223-224)	IX-X	Th	204bEd	Miss Smith, Mr. Douglass, Mr. Johnson, Mr. Wesley

† To receive credit for any part of this course a student must complete the parts preceding the dagger.

‡ A fee of \$1 per credit is charged for this course.

§ Passing the qualifying examination is prerequisite to registration in this course.

No.	Title	Hour	Day	Bldg.	Instructor
Ed.C.I.225f,w,s	Special Problems in Supervision of Instruction in Secondary Schools (2 cred. a qtr.; grad.) (Formerly Ed.Ad. 223)	Ar	Ar	103UHS	Mr. Boardman

EDUCATIONAL ADMINISTRATION

Major advisers.—Professors Douglass and Neale.

Note.—This section includes courses formerly listed under Administration and Supervision. For other courses see General Courses and Curriculum and Instruction.

No.	Title	Hour	Day	Bldg.	Instructor
Ed.Ad.115w	Organization of the Elementary School (2 cred.; jr., sr., grad.; prereq. 10 hrs. in ed.)	I-II	S	111Ed	Mr. Neale
Ed.Ad.124f	Public School Administration (3 cred.; sr., grad.; prereq. 10 hrs. in ed.)	IX	MWF	210Bu	Mr. Neale
Ed.Ad.125w	Techniques in Administration (3 cred.; sr., grad.; prereq. 124)	IX	MWF	210Bu	Mr. Neale
Ed.Ad.126s	School Plant Management (3 cred.; sr., grad.; prereq. 124, 125)	IX-X	M	224Bu	Mr. Neale
		1 hr. ar.			
Ed.Ad.128f,w,s	Special Problems in Educational Administration (1 or 2 cred.; prereq. 124, 125)	III-IV	S	224Bu	Mr. Neale
Ed.Ad.129f	Educational Publicity Materials (3 cred.; sr., grad.; prereq. 9 hrs. in ed.)	I-II	S	224Bu	Mr. Neale
		and 1 hr. ar.			
<i>Ed.Ad.130</i>	<i>Educational Publicity Agencies (Not offered)</i>				
<i>Ed.Ad.158</i>	<i>Organization for Supervision (2 cred.; sr., grad.) (Not offered)</i>				
Ed.Ad.175s	Financial Aspects of Public School Business Administration (3 cred.; sr., grad.; prereq. 124, 125)	I-II	S	224Bu	Mr. Neale
		1 hr. ar.			
<i>Ed.Ad.178</i>	<i>School Surveys (3 cred.; sr., grad.) (Not offered)</i>				
<i>Ed.Ad.179</i>	<i>School Surveys (3 cred.; sr., grad.) (Not offered)</i>				
Ed.Ad.180f,w,s‡	Practice in High School Administration (6 cred.; sr., grad.; prereq. 10 hrs. in ed. including Ed. 51C)	Ar	Ar	Ar	Mr. Boardman
Ed.Ad.205f-206w-207s	Seminar in Educational Administration	IX-X	Th	224Bu	Mr. Neale
Ed.Ad.218f-219w-220s	Seminar in Secondary School Problems	IX-X	Th	204bEd	Mr. Douglass, Mr. Boardman
Ed.Ad.264f-265w*	High School Administration (2 cred. a qtr.; grad.)	IX-X	W	111Bu	Mr. Douglass
Ed.Ad.270f,w,s	Special Problems in Secondary Education (2 cred.)	Ar	Ar	218Bu	Mr. Douglass

EDUCATIONAL PSYCHOLOGY

Major advisers.—Dean Haggerty; Professors Eurich and Miller.

No.	Title	Hour	Day	Bldg.	Instructor
Ed.Psy56Tf-57Tw	Educational Psychology for Elementary School Teachers (4 cred.; jr., sr.; prereq. 6 cred. in psy.)	I-II	S	205aEd	Mr. Van Wagenen

* Students may register for either quarter.

‡ A fee of \$1 per credit is charged for this course.

PROGRAM

No.	Title	Hour	Day	Bldg.	Instructor
Ed.Psy.60f	Introduction to Statistical Methods (2 cred.; jr., sr.; prereq. 6 cred. in psy.)	I-II	S	PtAud	Mr. Sorenson
Ed.Psy.60w,s	Introduction to Statistical Methods (3 cred.; see 60f)	II	MWF	Ar	Mr. Sorenson
Ed.Psy.113f-114w-115s	Psychology of Elementary School Subjects (2 cred. per qtr.; jr., sr., grad.; prereq. 10 cred. in psy. and ed.)	IX-X	W	109Psy	Mr. Van Wagenen
Ed.Psy.116f-117w-118s	Statistical Methods in Education (3 cred. a qtr.; grad.)	II	MWF	Ar	Mr. Johnson
Ed.Psy.116w-117s	Statistical Methods in Education (4 cred.; sr., grad.)	IX-X	T	115Psy	Mr. Van Wagenen
Ed.Psy.120f	Basic Principles of Measurement (3 cred.; sr., grad.; prereq. Ed. 51A or equiv.)	I	MWF	106Pt	Mr. Eurich
Ed.Psy.120w	Basic Principles of Measurement (2 cred. See 120f)	I-II	S	204bEd	Mr. Wrenn
Ed.Psy.138-139†	<i>Experimental Educational Psychology</i> (4 cred.; sr., grad.; prereq. 51A or equiv.) (<i>Not offered</i>)				
Ed.Psy.140w	Construction and Use of Educational Tests and Examinations (3 cred.; sr., grad.; prereq. 120 or equiv.)	I	MWF	106Pt	Mr. Eurich
Ed.Psy.141w	Construction and Use of Group Aptitude Tests (3 cred.; sr., grad.; prereq. 120 or equiv.)	VIII	MWF	115Psy	Mr. Miller
Ed.Psy.142s	Construction and Use of Individual Aptitude Tests (3 cred.; sr., grad.; prereq. 120 or equiv.)	4:30-5:45	MW	115Psy	Mr. Sorenson
Ed.Psy.146w-147s†	Child Guidance (4 cred.; jr., sr., grad.; prereq. 15 cred. in psy. and ed.)	I-II	S	100Pt	Mr. Challman
Ed.Psy.149f-150w†-151s	Psycho-educational Clinic (2 to 6 cred.; sr., grad.; permission of instructor; prereq. 120, 140 and 141 or 142)	Ar	Ar	357Psy	Mr. Sorenson
Ed.Psy.153f-154w-155s	Research Problems (Ar.; sr., grad.; prereq. consult instructor)	Ar	Ar	Ar	Mr. Haggerty, Mr. Miller, Mr. Eurich, Mr. McConnell Mr. Van Wagenen, Mr. Sorenson
Ed.Psy.157	<i>Psychology of Child Development</i> (2 cred.; jr., sr., grad.; prereq. 6 cred. in psy.) (<i>Not offered</i>) (See Child Welfare 130-131)				
Ed.Psy.158s	Psychology of Adolescence (3 cred.; jr., sr., grad.; prereq. Ed. 51A or equiv.)	III	MWF	210Bu	Miss Edwards
Ed.Psy.159f	Psychology of Personality (3 cred.; sr., grad.; prereq. Ed. 51A and 116 or parallel)	VII	MWF	100Pt	Mr. Wrenn
Ed.Psy.180	<i>Ethetics in Education</i> (2 cred.; sr., grad.; consent of instructor) (<i>Not offered</i>)				
Ed.Psy.181f,w,s	Practice in Personnel Work (2 cred.; sr., grad.; prereq. satisfactory preparation in psy. and ed. and approval of adviser)	Ar	Ar	Ar	Mr. Haggerty, Miss Edwards, Mr. Wrenn

† To receive credit for any part of this course a student must complete the parts preceding the dagger

No.	Title	Hour	Day	Bldg.	Instructor
Ed.Psy.183f	Psychology of Gifted Children (2 cred.; jr., sr., grad.; prereq. Ed. 51A or equiv.)	III-IV	S	202Pt	Mr. McConnell
Ed.Psy.184w	Mental Deficiency (2 cred.; jr., sr., grad.; prereq. Ed. 51A or equiv.)	IX-X	M	109Psy	Ar
Ed.Psy.189	<i>The Human Organism</i> (3 cred.; sr., grad.; prereq. permission of instructor) (Not offered)				
Ed.Psy.190f	Original Nature of Man (3 cred.; sr., grad.; prereq. Ed. 51A and 60 or equiv. and permission of instructor)	III	MWF	301Psy	Mr. Miller
Ed.Psy.191w	Individual Differences (3 cred.; grad.; prereq. Ed. 51A and 60 or equiv. and permission of instructor)	III	MWF	301Psy	Mr. Miller
Ed.Psy.192s	Recent Literature in Educational Psychology (3 cred.; grad.; prereq. Ed. 51A and 60 or equiv. and permission of instructor)	III	MWF	301Psy	Mr. Miller
Ed.Psy.193w-194s	Psychology of Learning (3 cred. a qtr.; sr., grad.; prereq. 12 cred. in psy. and ed. psy.)	IV	MWF	100Pt	Mr. McConnell
Ed.Psy.193Tw	Psychology of Learning (2 cred. See 193-194. For teachers and administrators)	III-IV	S	100Pt	Mr. McConnell
Ed.Psy.197,198,199	<i>Problems in Subnormality</i> (6 cred.; jr., sr., grad.) (Not offered)				
Ed.Psy.201f-202w-203s	Seminar in Educational Psychology	Ar	Ar	301Psy	Mr. Haggerty, Mr. Miller, Mr. Eurich, Mr. McConnell Mr. Sorenson, Mr. Van Wagenen Mr. Wrenn
Ed.Psy.240f,w,s	Problems in Measurement (2 cred. a qtr.; grad.)	Ar	Ar	Ar	Mr. Eurich

HOME ECONOMICS EDUCATION

Major advisers.—Professor Wylle B. McNeal; Associate Professor Clara M. Brown; Assistant Professor Ella J. Rose.

Note.—Courses in Home Economics are open to all students in the College of Education who have satisfied the prerequisites or by permission of the chief of the division. For program of courses see page 129.

No.	Title	Hour	Day	Bldg.	Instructor
H.E.Ed.90f,s	Child Training (3 cred.; jr., sr.; prereq. Psy. 1-2)	IV	MWF	213HE	Mrs. Foster
H.E.Ed.90w	Child Training (Same as 90f,s.)	IV	MWF	202Pt	Mrs. Foster
H.E.Ed.91f,w,‡§	Observation, Materials, Teaching in Home Economics (5 cred.; jr., sr.; prereq. H.E. 4, 34 [or 170], 41, 50, 55, Psy. 1-2, Ed. 51A [or Agr.Ed. 51], Ed. 51C, parallel H.E.Ed. 93)	VI	MTWThF	213HE	Miss Rose
H.E.Ed.92w,s	Teaching Problems in Home Economics (2 cred.; sr.; prereq. H.E.Ed. 91, 93, parallel H.E.Ed. 94 and H.E.Ed. 192a)	III-V	Th		
		VII	TTh	213HE	Miss Rose

‡ A fee of \$1 per credit is charged for this course.

§ Passing the qualifying examination is prerequisite to registration in this course.

No.	Title	Hour	Day	Bldg.	Instructor
H.E.Ed.93f,w*†‡	Supervised Teaching in Home Economics (3 cred.; jr., sr.; prereq. H.E. 4, 34 [or 170], 41, 50, 55, Psy. 1-2, Ed. 51A [or Agr.Ed. 51], Ed. 51C, parallel H.E.Ed. 91)	Ar 3 consecutive hours daily between 8:15-3:00		Ar Ar	Miss Rose and others
H.E.Ed.94w,s*†	Supervised Teaching in Home Economics (3 cred.; sr.; prereq. H.E.Ed. 91, 93, parallel H.E.Ed. 92 and H.E.Ed. 192a)	Ar 3 consecutive hours daily between 8:15-3:00		Ar Ar	Miss Rose and others
H.E.Ed.192f,w,s	Educational Measurement in Home Economics (2 cred.; sr.; prereq. H.E.Ed. 91, 93, parallel H.E.Ed. 92 and 94)	III	ThS	213HE	Miss Clara Brown
H.E.Ed.193w,s	Home Economics Curricula (2 cred.; sr.; prereq. H.E.Ed. 94 or permission of instructor)	VIII	TTh	213HE	Miss Clara Brown, Miss Rose
H.E.Ed.197s	Organization and Methods for Related Art Teaching (3 cred.; sr.; prereq. H.E.Ed. 91; H.E. 180 or parallel)	III	MW	402HE	Miss H.Goldstein
H.E.Ed.199f,w,s	Research Problems (Cred. ar.; sr.; prereq. permission of instructor)	Ar		Ar Ar	Miss Clara Brown

INDUSTRIAL EDUCATION

Major adviser.—Professor Homer J. Smith.

No.	Title	Hour	Day	Bldg.	Instructor
Ind.1‡	General Shopwork (2 cred.; no prereq.) (Not offered)				
Ind.2‡	General Shopwork (2 cred.; prereq. Ind. 1) (Not offered)				
Ind.5‡	Finishing (2 cred.; prereq. Ind. 1, 2) (Not offered)				
Ind.10‡	Mechanical Drawing (2 cred.; no prereq.) (Not offered)				
Ind.11f,w,s†**	Special-Class Woodwork (2 cred.; no prereq.¶) (Limited to 24)	I-IV	S	6Pt	
Ind.30f	Graphic Presentation (2 cred.; no prereq.)	IX-X		W	
Ind.40f	Analysis (2 cred.; no prereq.)	IX-X	Th	112Bu	
Ind.42w	Course Organization (2 cred.; prereq. Ind. 40)	IX-X	Th	112Bu	
Ind.44s	Equipment and Management (2 cred.; prereq. Ind. 40, 42)	IX-X	Th	112Bu	
Ind.50Af-50Bw-50Cs†§	Directed Teaching (6 cred.; sr.; prereq. Ind. 70, 75, 80)	Ar	Ar	6Pt	
Ind.60f	Philosophy of Vocational Education (2 cred.; no prereq.)	IX-X	M	112Bu	
Ind.61w	Practices in Vocational Education (2 cred.; prereq. Ind. 60)	IX-X	M	112Bu	
Ind.65‡**	Non-Vocational Subjects (Not offered)				

* A grade of at least C is required in the following courses; H.E. 1, 3, 4, 20, 21, 22, 31, 34 (or 170), 40, 41, 55.

† A fee of \$1 per credit is charged for this course.

‡ Passing the qualifying examination is prerequisite to registration in this course.

¶ Not open to those who have credit in bench woodwork or cabinet making; for teachers of art, subnormal, and primary grade work.

** Not a part of the four-year curriculum.

No.	Title	Hour	Day	Bldg.	Instructor
Ind.66w‡	Related Subjects (2 cred.; prereq. Ind. 40, 42)	IX-X	F	112Bu	
Ind.70s‡	Methods in Shop Subjects (2 cred.; prereq. Ind. 40, 42)	IX-X	M	112Bu	
Ind.75s‡	Methods in Drawing (2 cred.; prereq. 10 cred. in drawing or consent of instructor)	IX-X	W	112Bu	
Ind.80s	General Industrial Training (2 cred.; no prereq.)	IX-X	F	112Bu	
Ind.101f	Tests in Industrial Subjects (2 cred.; prereq. Ed. 51A)	III-IV	S	Ar	
	and 1 hr. ar.				
Ind.103f	Instructional Aids (2 cred.; sr., grad.; prereq. Ind. 40, 42)	I-II	S	Ar	
Ind.105s*	Industrial Education (3 cred.; jr., sr., grad.)	I-II	S	Ar	
	and 1 hr. ar.				
Ind.110w	Guidance in the Schools (3 cred.; jr., sr., grad.; prereq. Ed. 51. See Ed.C.I. 133)	III-IV	S		
	and 1 hr. ar.				
Ind.115s	Supervision of Industrial Education (2 cred.; sr., grad.; prereq. Ind. 60, 80, Ed.Ad. 124)	III-IV	S		
Ind.150f-151w-152s*	Problems in Vocational Education (6 cred.; grad. only. Plan for full year)	I-II	S	Ar	
Ind.170f	Day Industrial Schools (2 cred.; jr., sr., grad.; prereq. Ind. 60, 61)	IX-X	T	112Bu	
Ind.171w	Evening Industrial Schools (2 cred.; jr., sr., grad.; prereq. Ind. 170)	IX-X	T	112Bu	
Ind.172s	Part-time Education (2 cred.; jr., sr., grad.; prereq. Ind. 170, 171)	IX-X	T	112Bu	
	Shop and Drawing Courses				Arranged by Mr. Smith

Colloquium (Graduate students under Plan B may consult Mr. Smith concerning Colloquium papers under enrolment in Ed. 200, in any quarter.)

Shop and drawing courses are available in wide variety in the Institute of Technology, University campus, and the Division of Agricultural Engineering, Farm campus. Students may elect to pursue courses, day or evening, at the William Hood Dunwoody Industrial Institute without fees other than those paid to the University, except a deposit of \$1. All shop and drawing courses should be taken under special advice and may be either extensive or intensive in resultant preparation for teaching. Degree candidates, especially those transferring from other institutions, should bear in mind the maximum of forty-five quarter credits, of shopwork and drawing combined, which is enforced in this department.

METHODS AND DIRECTED TEACHING

Major advisers.—Professors Boardman and Brueckner; Associate Professor Dora V. Smith.

Statement of fees.—For all courses in special methods, directed teaching, and special methods and directed teaching combined, a fee of \$1 per credit is charged. Passing the qualifying examination is prerequisite to all special methods and student teaching courses.

No.	Title	Hour	Day	Bldg.	Instructor
Ed.T.51Aw‡§	Special Methods of Teaching in Schools of Nursing (3 cred.; sr., grad.; prereq. permission of instructor)	III	MWF	Ar	Miss Petry
	(Formerly Course 11)				
Ed.T.51Bs‡§	Special Methods of Teaching in the School and Teaching in Schools of Nursing (5 cred.; sr., grad.; prereq. Ed.T. 51A, Nu. 69; prereq. or parallel Nu. 71)	III	MWF	Ar	Miss Petry
	(Formerly Course 12)				
	and 2 hrs. ar.				

* Not a part of the four-year curriculum.

‡ A fee of \$1 per credit is charged for this course.

§ Passing the qualifying examination is prerequisite to registration in this course.

PROGRAM

No.	Title	Hour	Day	Bldg.	Instructor
Ed.T.52f,w,s†§	Directed Teaching (5 cred.; sr.; prereq. Special Methods Course) (Formerly Course 16)	Ar	Ar	Ar	Mr. Boardman
Ed.T.53s†§	Directed Teaching of Subnormal Children (5 cred.; sr.) (Formerly Course 17)	Ar	Ar	Ar	Mr. Boardman
Ed.T.54Af-54Bw-54Cs†§	The Teaching of Elementary School Subjects (15 cred.; sr.; prereq. Ed. 61A-B-C or equiv.) (Formerly Course 26-27-28)	VI	MTWThF	100Pt	
	Fall—Reading				Ar
	Social Studies				Mr. Wesley
	Winter—English				Miss Smith
	Arithmetic				Mr. Brueckner
	Spring—Directed Teaching				Mr. Peik
Ed.T.55f	Principles of Kindergarten and Nursery School Education (3 cred.; jr., sr.; prereq. C.W. 80 or simultaneously) (Formerly Course 30)	VIII	MWF	202Pt	Mrs. Foster
Ed.T.56s	Permanent Play Materials (2 cred.; jr., sr.; prereq. Psy. 1-2) (Formerly Course 31)	VII	MW	202Pt	Miss Mattson
Ed.T.57s†	Plastic Materials (3 cred.; jr., sr.; prereq. C.W. 80) (Formerly Course 32)	VIII	MWF	202Pt	Miss Headley
Ed.T.58w	Rhythms, Games, and Music for the Young Child (2 cred.; jr., sr.; prereq. Ed.T. 55) (Formerly Course 33)	VIII-IX	F	202Pt	Miss Mattson
Ed.T.59w	Story Telling for Young Children (2 cred.; jr., sr.; prereq. Ed.T. 55) (Formerly Course 34)	V	TTh	202Pt	Miss Headley
Ed.T.60Af-60Bw-60Cs†§	Special Methods and Directed Teaching in Geography (9 cred.; sr.; prereq. 15 cred. in geography and Ed. 53) (Formerly Course 23-24-25)	VIII	MW	100Pt	Mr. Wesley
Ed.T.61s†§	Teachers' Course in Norwegian (3 cred.; sr.; prereq. Scand. 4, 5 or 10-11, 12) (Formerly Course 35)	Ar	Ar	122F	
Ed.T.62f,w†§	Teachers' Course in Swedish (3 cred.; sr.; prereq. Scand. 10-11, 12 or 4, 5) (Formerly Course 41)	VII	MWF	122F	Mr. Stomberg
Ed.T.64†§	<i>Teaching of Geography and History in the Elementary School</i> (See Ed.T. 54A) (Not offered) (Formerly Course 45)				
Ed.T.65†§	<i>Directed Teaching with Special Methods in Elementary Schools</i> (3 or 5 cred.; sr.; prereq. approval of instructor) (Not offered) (Formerly Course 46)				
Ed.T.66Af-66Bw-66Cs†§	Special Methods and Directed Teaching in English (9 cred.; sr.; prereq. consent of instructor) (Formerly Course 52-53-54)	VIII	TTh(f,w)	210Bu	Miss Smith
Ed.T.66Amf†§	The Teaching of Composition in the Senior High School (2 cred.; sr.) (Formerly Course 52)	VIII	TTh	210Bu	Miss Smith
Ed.T.66Ams†§	<i>The Teaching of Composition in the Senior High School</i> (See Ed.T. 66Amf) (Formerly Course 52) (Not offered)				
Ed.T.66Bmw†§	The Teaching of Literature in the Senior High School (2 cred.; sr.) (Formerly Course 53)	VIII	TTh	210Bu	Miss Smith

† To receive credit for any part of this course a student must complete the parts preceding the dagger.

‡ A fee of \$1 per credit is charged for this course.

§ Passing the qualifying examination is prerequisite to registration in this course.

No.	Title	Hour	Day	Bldg.	Instructor
Ed.T.67Af-67Bw- 67Cs††§	Special Methods and Directed Teaching in Mathematics (9 cred.; sr.; prereq. Math. 50 or 60) (Formerly Course 56-57-58)	VIII	TTh	205aEd	Mr. Kinney
Ed.T.67Amf- 67Bmw††§	The Teaching of Secondary School Mathematics (4 cred.; sr.; prereq. consent of instructor) (Formerly Course 56-57)	VIII	TTh	205aEd	Mr. Kinney
Ed.T.68Af-68Bw- 68Cs††§	Special Methods Course and Directed Teaching in Secondary School Science (9 cred.; sr.; prereq. consent of instructor) (Formerly Course 62-63-64)	IX	MW	6aPt	Mr. Johnson
Ed.T.68Amf- 68Bmw††§	Methods of Teaching Secondary School Science (4 cred.; sr.; prereq. consent of instructor) (Formerly Course 62a-63a)	IX	MW	6aPt	Mr. Johnson
Ed.T.69Af-69Bw- 69Cs††§	Special Methods and Directed Teaching in History and Social Studies (9 cred.; jr., sr.; prereq. 30 cred. in hist. or soc. sci. Consult instructor) (Formerly Course 66-67-68)	VIII	MW	100Pt	Mr. Wesley
Ed.T.69Amf- 69Bmw††§	Methods of Teaching History and Social Studies (4 cred.; jr., sr.; prereq. consent of instructor) (Formerly Course 66a-67a)	VIII	MW	100Pt	Mr. Wesley
Ed.T.70Af-70Bw- 70Cs††§	Special Methods and Directed Teaching in German (9 cred.; sr.; prereq. German Comp. 50-51-52, German Conversation 53-54-55) (Formerly Course 70-71-72)	IX	TTh	114Ed	Miss Will
Ed.T.71Af-71Bw- 71Cs††§	Special Methods and Directed Teaching in Latin (9 cred.; jr., sr.; prereq. any two of Latin Courses 51-53 or equiv., 73) (Formerly Course 73-74-75)	IX	MW	112Ed	Miss Marlowe
Ed.T.72Af-72Bw- 72Cs††§	Special Methods and Directed Teaching in Romance Languages (9 cred.; jr., sr.; prereq. French 49, 50-51-52, 53, 54-55 (or 20), 63) (Formerly Course 76-77-78)	IX	TTh	206Ed	Miss Walker
Ed.T.73Af-73Bw- 73Cs††§	Special Methods and Directed Teaching in Commercial Subjects (9 cred.; jr., sr.; prereq. consent of instructor) (Formerly Course 80-81-82) Fall—shorthand; winter—typewriting; spring—bookkeeping and junior business training	VIII	MW	111Ed	Miss Kean
Ed.T.74w†§	Teachers Course in Journalism (3 cred.; jr., sr.; prereq. Jour. 41 or 51) (Formerly Course 83)	VII	MWF	10P	Mr. Kildow
Ed.T.75f,s†	Methods and Observation in the Nursery School (3 cred.; sr.; prereq. Ed.T. 55, C.W. 40, Ed.T. 56, 57, 58, 59. Open only to students in home econ. and nurs. ed.)	IV	T and ar	Ar	Miss Mattson

† To receive credit for any part of this course a student must complete the parts preceding the dagger.

‡ A fee of \$1 per credit is charged for this course.

§ Passing the qualifying examination is prerequisite to registration in this course.

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No.	Title	Hour	Day	Bldg.	Instructor
Ed.T.76Af-76Bw- 76Cs†‡§	Methods and Observation (3 cred.; jr., sr.; prereq. Psy. 1-2, 4-5) (Formerly Course 85-86-87)	IV	T	202Pt	Mrs. Cummings, Miss Headley, Miss Mattson
Ed.T.77Af-77Bw- 77Cs†‡§	Directed Teaching in Kindergarten or Nursery School (9 cred.; sr.; prereq. Ed.T. 55 to 59 and 76A,B,C) (Formerly Course 88-89-90)	II	M	100Pt	Mrs. Foster
Ed.T.78Af-78Bw	Methods in Primary Grades (4 cred.; jr., sr.) (Formerly Course 91-92)	1-II	S	Ar	Ar

MUSIC EDUCATION||

Major advisers.—Professor Scott; Assistant Professor O'Steen.

No.	Title	Hour	Day	Bldg.	Instructor
Mu.Ed.1f-2w-3s	Music Orientation (3 cred.; all; no prereq.)	VII	MW	MuAud	Mr. O'Steen
Mu.Ed.4f-5w-6s†	Applied Instrumental Technique (6 cred.; soph.; no prereq.)	I	MTWF	4Mu(f) 4NMA(w,s)	Mr. Pepinsky Mr. Prescott
Mu.Ed.50f†	Elementary Methods (3 cred.; jr.; no prereq.)	III	MWF	4Mu	Mr. O'Steen
Mu.Ed.51w†	Comparative Methods (2 cred.; jr., prereq. 50)	III	TTh	4Mu	Mr. O'Steen
Mu.Ed.52s†	Technique of Teaching Appreciation (1 cred.; jr.; prereq. 51)	III	TTh	4Mu	Mr. O'Steen
Mu.Ed.53s†	High School Methods (3 cred.; jr.; prereq. Ed. 51A)	III	MWF	4Mu	Mr. O'Steen
Mu.Ed.54w†	Operetta Conducting (3 cred.; jr.; prereq. Ed. 51A)	III	MWF	4Mu	Mr. O'Steen
Mu.Ed.55w†	Survey of Materials (Vocal) (1 cred.; sr.)	VI	TTh	4Mu	Mr. O'Steen
Mu.Ed.56s†	Survey of Materials (Instrumental) (1 cred.; sr.)	I	WF	5NMA	Mr. Pepinsky
Mu.Ed.57f†	Theory of Conducting (2 cred.; sr.; prereq. 65)	II	MTWF	4Mu	Mr. O'Steen
Mu.Ed.58s†	Orchestra Conducting (2 cred.; sr.; prereq. 57)	II	MTWF	5NMA	Mr. Pepinsky
Mu.Ed.59w †	Choral Literature and Conducting (1 cred.; all)	V	TTh	4Mu	Mr. O'Steen
Mu.Ed.60f-61w-62s†‡§	Supervision and Teaching (9 cred.; sr.; prereq. Ed. 51A,B,C)	III-IV	S	4Mu	Mr. O'Steen
Mu.Ed.63f†	Band Conducting (2 cred.; jr., sr.; prereq. 4-5-6)	VI	TTh	4NMA	Mr. Prescott
Mu.Ed.64s†	Band Organization (3 cred.; sr.; prereq. 4-5-6)	VI	MWF	4NMA	Mr. Prescott
Mu.Ed.65w†	Instrumentation (3 cred.; jr.; prereq. Phys. 15)	II	TThS	4Mu	Mr. Pepinsky

† To receive credit for any part of this course a student must complete the parts preceding the dagger.

‡ A fee of \$1 per credit is charged for this course.

§ Passing the qualifying examination is prerequisite to registration in this course.

¶ Four credits are required in Mu.Ed. 59. This course should be repeated until all four credits are earned.

|| Students following the Music Education Curriculum may elect seven credits in music in addition to the requirements, pending the development of a special curriculum for instrumental supervisors. All other electives must be in academic subjects.

No.	Title	Hour	Day	Bldg.	Instructor
Mu.Ed.70f	Accompanying and Sight Reading (2 cred.; jr., sr.)	III	TTh	3Mu	Mr. Scott
Mu.Ed.101s	Tests and Measurements in Music (2 cred.; sr., grad.; prereq. permission of instructor)	VI	TTh	4Mu	Mr. O'Steen

NURSING EDUCATION

For other courses in Nursing see the Bulletin of the Medical School. For courses in Public Health Nursing see pages 79-81. For specialized curricula in Nursing Education and Public Health Nursing see the College of Education Bulletin.

No.	Title	Hour	Day	Bldg.	Instructor
Nu.60f,w,s	Ward Administration (4 cred.; sr. nurse or grad. nurse; prereq. permission of instructor)	4:00-6:00	TTh	Ar	Miss Densford and others
Nu.63f	Motion Study (2 cred.)	VI, VII, VIII	Th	202ME	Mr. Koepke
Nu.65w	Comparative Nursing Procedures (2 cred.; sr. or grad. nurse; prereq. permission of instructor)	VI	T		Miss Petry
Nu.69w	Survey of Conditions and Trends in Schools of Nursing (3 cred.; sr., grad.; prereq. permission of instructor)	VI-VII	Th	410MeS	and others
Nu.71f,s	Curriculum Making in Schools of Nursing (3 cred.; sr., grad.; prereq. permission of instructor)	IV	MWF	Ar	Miss Densford
		VI	MWF	Ar	Miss Petry

PHYSICAL EDUCATION

The College of Education offers specialized curricula in Physical Education for Men and Physical Education for Women. For curricula see College of Education Bulletin. For schedule of courses see pages 14 to 21 of this bulletin.

PREVENTIVE MEDICINE AND PUBLIC HEALTH

The College of Education offers specialized curricula in School Health Work, Public Health Nursing, and Nursing Education. For curricula see College of Education Bulletin. For class schedule see pages 79-81 of this bulletin.

THEORY AND PRACTICE OF TEACHING

For courses formerly listed in this department, see General Courses and Curriculum and Instruction.

COLLEGE OF AGRICULTURE, FORESTRY, AND HOME ECONOMICS

All courses in the College of Agriculture, Forestry, and Home Economics are scheduled on the University Farm campus except those indicated by an asterisk (*).

AGRICULTURAL BIOCHEMISTRY

Freshman and Sophomore Courses

No.	Title	Hour	Day	Bldg.	Instructor
2f,w	Quantitative Methods (5 cred.; soph., jr., sr.; prereq. Inorg. Chem. 10 cred.) (Limited to 35)	VI, VII, VIII, IX	MWF	102BCh	Mr. Rogers
4f	Introduction to Organic and Biochemistry (5 cred.; soph., jr., sr.; prereq. Inorg. chem. 10 cred.§) (Sections limited to 150 each)	II	MTWThF	107En	Mr. Bailey and others
	Sec. 1	II	MTWThF	217En	Mr. Sandstrom and others
4w	Introduction to Organic and Biochemistry (Same as 4f) (Sections limited to 150 each)	II	MTWThF	107En	Mr. Sandstrom and others
	Sec. 1	II	MTWThF	217En	Mr. Sandstrom and others
	2	II	MTWThF	217En	Mr. Sandstrom and others
5s	Plant Biochemistry (5 cred.; soph., jr., sr.; prereq. 4, Soils 6 advised) (Sections limited to 150 each)	II	MTWThF	107En	Mr. Gortner,
	Sec. 1	II	MTWThF	217En	Mr. Bailey, and others
	2	II	MTWThF	217En	Mr. Bailey, and others
6f	Animal Biochemistry (5 cred.; soph., jr., sr.; prereq. 4, Soils 6 advised)	II	MTWThF	116BCh	Mr. Palmer

Junior and Senior Courses

101f-102w	Agricultural Quantitative Analysis (6 cred.; jr., sr.; prereq. 2)	VI, VII, VIII	MWF	208BCh	Mr. Briggs
103s	Dairy Chemistry (5 cred.; jr., sr.; prereq. 2, 6)	VI	MWF	116BCh	Mr. Palmer
	Lect.	VI	MWF	116BCh	Mr. Palmer
	Lab.	VII, VIII, IX	MWF	208BCh	Mr. Palmer
108s	Chemistry of Wheat and Wheat Products (3 cred.; jr., sr.; prereq. 5)	I	MWF	211BCh	Mr. Bailey
110s	Flour Laboratory Methods (3 to 5 cred.; jr., sr.; prereq. 101-102 or equiv.)	VI, VII, VIII, IX	MWF	202BCh	Mr. Bailey
113f-114w-115s	Biochemical Laboratory Methods (6 cred.; sr.; prereq. quant. anal., parallel 119-123)	VI, VII, VIII	TTh	202,208BCh	Mr. Sandstrom
116w	Advanced Animal Nutrition (3 cred.; jr., sr.; prereq. 6 or Physiol. Chem. 120 advised)	III	TThS	211BCh	Mr. Palmer, Miss Kennedy
117f,w,s	Laboratory Problems in Animal Nutrition (3 cred.; jr., sr.; prereq. 116, instructor's permission)	Ar	Ar	314BCh	Mr. Palmer, Miss Kennedy
118f,w,s	Laboratory Problems in Biochemistry (3 or 5 cred.; sr.; prereq. 113-114, 119; or 103 or 110)	Ar	Ar	Ar	Ar
119f	Colloids (3 cred.; sr.; prereq. Zool. or Bot. 9 cred., and 5 cred. in Org. Chem. 51-52-153)	III	MWF	113BCh	Mr. Gortner

§ By special permission of the student's adviser General College Courses 88, 89, 90 will be acceptable as prerequisites.

No.	Title	Hour	Day	Bldg.	Instructor
120w	Proteins (3 cred.; sr.; prereq. 119)	II	MWF	113BCh	Mr. Gortner
121w	Carbohydrates (3 cred.; sr.; prereq. 119)	III	MWF	113BCh	Mr. Bailey
122s	The Lipids and Fats (3 cred.; sr.; prereq. 119)	III	TThS	113BCh	Mr. Briggs
123s	Enzymes (3 cred.; sr.; prereq. 119)	III	MWF	113BCh	Mr. Sandstrom

AGRICULTURAL ECONOMICS

Freshman and Sophomore Courses

No.	Title	Hour	Day	Bldg.	Instructor
1f	Principles of Economics I (3 cred.; soph., jr., sr.; no prereq.)				
	Sec. 1	I	MWF	109HH	Mr. Lowe
	2	I	TThS	109HH	Mr. Lowe
1w	Principles of Economics I (Same as 1f)				
	Sec. 1	I	TThS	311HH	Mr. Trelogan
	2	III	MWF	109HH	Mr. Lowe
2w	Principles of Economics II (5 cred.; soph., jr., sr.; prereq. 1)				
	Sec. 1	I	MTWThF	109HH	Mr. Lowe
	2	II	MTWThF	109HH	Mr. Lowe
	3	III	MTWThF	204OD	Mr. Trelogan
2s	Principles of Economics II (Same as 2w)				
	Sec. 1	I	MTWThF	109HH	Mr. Trelogan
	2	III	MTWThF	109HH	Mr. Lowe
3f	Principles of Economics (Home Economics) (5 cred.; soph., jr., sr.; no prereq.)				
		II	MTWThF	109HH	Mr. Lowe
3s	Principles of Economics (Home Economics) (Same as 3f)				
		II	MTWThF	109HH	Mr. Lowe
7w	Natural Resources (3 cred.; soph., jr., sr.; no prereq.)				
		III	TThS	311HH	Ar
8s	Rural Economics (3 cred.; soph., jr., sr.; prereq. 2 or 3)				
		III	TThS	311HH	Mr. Jesness
25f,w	Principles of Accounting (4 cred.; soph., jr., sr. in agr., for., and home econ. only)				
	Lect.	II(f)	MWF	311HH	Mr. Koller
	Lab.	II(w)	TThS	311HH	
		VIII, IX	Th	311HH	
30f	Agricultural Prices (3 cred.; soph., jr., sr.; prereq. 2)				
		II	TThS	312HH	Mr. Trelogan
40f,s	Principles of Marketing Organization (3 cred.; soph., jr., sr.; prereq. 2)				
		I(f)	MWF	312HH	Mr. Cox
		II(s)	MWF	312HH	Mr. Cox
47s	Marketing Accounting (4 cred.; soph., jr., sr.; prereq. 25)				
	Lect.	IV	MWF	311HH	Mr. Koller
	Lab.	VIII, IX	F	311HH	

Junior and Senior Courses

50f§	Farm Finance (5 cred.; jr., sr. in agr. or for. only; prereq. 2)	IV	MTWFS	109HH	Mr. Koller
80s	Farm Management (3 cred.; jr., sr.)	I	TThS	312HH	Mr. Engene
90f§	Agricultural Statistics (5 cred.; jr., sr.)	III	TThS	312HH	Mr. Cox
	Lect.	III	TThS	312HH	Mr. Cox
	Lab.	Ar	Ar		
102w	Farm Organization (3 cred.; jr., sr.; prereq. 2)	II	TThS	312HH	Mr. Pond

§ Open to sophomores on petition.

PROGRAM

No.	Title	Hour	Day	Bldg.	Instructor
103s	Farm Operation (3 cred.; jr., sr.; prereq. 102)	II	TThS	312HH	Mr. Pond
104s	Types of Farming (3 cred.; jr., sr.; prereq. 2)	III	MWF	312HH	Ar
110f-111w	Economics of Agricultural Production I and II (6 cred.; jr., sr.; prereq. 2)	I	TThS	312HH	Mr. Dowell
126f,s	Economics of Consumption (3 cred.; jr., sr.; prereq. 2 or 3)	I	TThS	100HH	Mr. Waite
131w	Market Prices (3 cred.; jr., sr.; prereq. 30, 40)	III	TThS	312HH	Mr. Waite
135s	Methods of Price Analysis (3 cred.; sr.; prereq. 30, 191)	III	TThS	312HH	Mr. Waite
140f	Marketing Organization: Staples (3 cred.; jr., sr.; prereq. 40)	III	MWF	311HH	Mr. Cox
141w	Marketing Organization: Dairy and Poultry Products (3 cred.; jr., sr.; prereq. 40)	II	MWF	312HH	Mr. Jesness
142s	Marketing Organization: Fruits and Vegetables (2 cred.; jr., sr.; prereq. 40)	III	MW	311HH	Mr. Cox
143w	Marketing Organization: Livestock and Meats (3 cred.; jr., sr.; prereq. 40)	III	MWF	312HH	Mr. Dowell
144f	Co-operative Organization (3 cred.; jr., sr.; prereq. 40)	II	TThS	311HH	Mr. Jesness
150s	Advanced Farm Finance (3 cred.; jr., sr.; prereq. 50 or equiv.)	1:30-3:00 p.m.	WF	312HH	Mr. Jesness
170s	Land Economics (3 cred.; jr., sr.; prereq. 110)	2:30-4:00 p.m.	TTh	312HH	Mr. Dowell
191w	Advanced Agricultural Statistics (3 cred.; jr., sr.; prereq. 90)	IV	MWF	312HH	Mr. Waite

See also Economics and Business Administration.

AGRICULTURAL EDUCATION

See program of the College of Education.

AGRICULTURAL ENGINEERING

Freshman and Sophomore Courses

No.	Title	Hour	Day	Bldg.	Instructor
3f,w,s	Mechanical Drawing (3 cred.; no prereq.) (Sections limited to 60 each)	I-II(f)	TThS	303En	Mr. Neubauer
	Sec. 1	I-II(f)	TThS	303En	Mr. Neubauer
	2	III, IV(f,w)	MWF	303En	Mr. Neubauer
		VII, VIII(s)	MWF	303En	
4s	General Woodworking (3 cred.; no prereq.)	I	MWF	41En	Mr. Christopherson
	Lect.	I	MWF	41En	Mr. Christopherson
	Lab. Sec. 1	VI, VII, VIII	W	48En	
	2	VI, VII, VIII	Th	48En	
5w	Farm Building Construction (3 cred.; prereq. 4 or equiv.)	III	M	41En	Mr. Christopherson
	Lect.	III	M	41En	Mr. Christopherson
	Lab.	III-IV	WF	48En	
7w	Farm Structures (3 cred.; prereq. 3)	III	Th	305En	Mr. White
	Lect.	III	Th	305En	Mr. White
	Lab.	III, IV	TS	305En	
11w	Applied Mathematics (5 cred.; no prereq.) (Sections limited to 20 each)	III	MTWThF	103En	Mr. Neal
	Sec. 1	III	MTWThF	103En	Mr. Neal
	2	III	MTWThF	106En	
	3	IV	MTWFS	106En	
12s	Agricultural Machinery (3 cred.; no prereq.)	I	MWF	216En	Mr. Schwantes

No.	Title	Hour	Day	Bldg.	Instructor
13f,s	Gas Engines (3 cred.; no prereq.)	VI,VII,VIII(f) VI,VII,VIII(s)	MW TTh	216,37En	Mr. Torrance
14f,s	Tractors (3 cred.; prereq. 13)				
	Lect.	II(f) VI(s)	TTh WF	216En	Mr. Torrance
	Lab.	VI,VII,VIII,IX(f) VII, VIII(s)	F WF	37En 216,37En	
19f	Elementary Surveying (3 cred.; prereq. 3, 11 or trigonometry, or Draw. 3 and M.&M. 12) (Sections limited to 30 each)				
	Lect.	IV	T	105En	Mr. Neal
	Lab. Sec. 1	I, II, III	TTh	305En	Mr. Neal
	2	VI, VII, VIII	TTh	305En	
	3	VI, VII, VIII	WF	305En	Mr. Neal
19s	Elementary Surveying (Same as 19f)				
	Lect.	VI	T	105En	Mr. Neal
	Lab.	VII, VIII, IX	TTh	305En	Mr. Roe, Mr. Neal
20f	Advanced Surveying (3 cred.; prereq. 19) (Limited to 45)				
	Lect.	I	S	105En	Mr. Roe, Mr. Neal
	Lab.	VI, VII, VIII II, III, IV	M S	305En	Mr. Roe, Mr. Neal
20s	Advanced Surveying (Same as 20f)				
	Lect.	VI	M	105En	Mr. Roe, Mr. Neal
	Lab.	VII, VIII, IX	MF	305En	Mr. Roe, Mr. Neal
22s	Agricultural Machinery Laboratory (1 cred.; prereq. 12 or parallel)	VI, VII, VIII	W	105En	Mr. Schwantes
23f	General Physics (5 cred.; no prereq.) (Sections limited to 20 each)				
	Lect.	III	TThS	101En	Mr. Hustrulid
	Lab. Sec. 1	I, II	ThS	102En	Mr. Hustrulid
	2	VI, VII	TTh	102En	Mr. Tyler
23s	General Physics (Same as 23f) (Sections limited to 20 each)				
	Lect. Sec. 1	III	TThS	101En	Mr. Hustrulid
	2	IV	MWF	101En	Mr. Hustrulid
	Lab. Sec. 1	I, II	WF	102En	Mr. Hustrulid
	2	I, II	TS	102En	Mr. Hustrulid
	3	VI, VII	TTh	102En	Mr. Tyler
	4	VI, VII, VIII, IX	M	102En	Mr. Tyler
	5	VI, VII, VIII, IX	W	102En	Mr. Tyler
	6	III, IV	MW	102En	Mr. Tyler
24f	Agricultural Physics I (4 cred.; prereq. Math. 4 or equiv.) (Limited to 20)				
	Lect.	III	MWF	101En	Mr. Hustrulid
	Lab.	VI,VII,VIII	M or F	102En	
25w	Agricultural Physics II (4 cred.; prereq. 24)				
	Lect.	I	TThS	101En	
	Lab.	VI,VII,VIII	M or W	102En	
28w	Land Clearing (3 cred.; no prereq.) (Offered only in even numbered years)				
	I		TThS	103En	
31w,s	Principles of Drainage (3 cred.; no prereq.)				
	II(w)		MWF	105En	Mr. Roe
	I(s)		MWF	105En	Mr. Neal
32w	Elements of Supplemental Irrigation (3 cred.; no prereq.) (Offered only in odd numbered years)				
	I		TThS	105En	Mr. Roe
34w	Household Mechanics (3 cred.; home econ. students only; prereq. 23 or equiv.)	I, II	MWF	103En	Mr. Hustrulid, Mr. Christopherson, Mr. Dent

PROGRAM

No.	Title	Hour	Day	Bldg.	Instructor
35s	Household Physics (3 cred.; prereq. 23 or equiv.)	I, II	MWF	101,103En	Mr. Hustrulid
37f,w	Rural Sanitation (3 cred.; no prereq.)	I(f) I(w)	TThS MWF	101En 101En	Mr. Tyler Mr. Tyler
40f,s	Mechanical Training (3 cred.; no prereq.)	I, II	MWF	20,106En	Mr. Dent
41w	Metal Work (3 cred.; no prereq.)	I, II	MWF	20,106En	Mr. Dent
43s	Mechanical Laboratory (3 cred.; for prof. agr. eng. only; no prereq.)	I-IV I-II	T Th	20,106En	Mr. Dent
44s	Advanced Drawing (2 cred.; prereq. 3 or equiv.)	I	T	303En	Mr. Neubauer
	Lect.	I	T	303En	
	Lab.	Ar	Ar	303En	
<i>Junior and Senior Courses</i>					
51s	Land Reclamation (5 cred.; jr. and sr. prof. agr. eng. only; prereq. or parallel, Agr. Eng. 19, Soils 6, M.&M. 143)	IV	MTWFS	105En	Mr. Roe, Mr. Neal
67f	Farm Structures Design (3 cred.; jr., sr.; prereq. 7, M.&M. 128)	Ar	Ar	305En	Mr. White
70s	Steam Boilers and Engines (3 cred.; jr., sr.; prereq. Phys. 23, 24)	II	MWF	216En	Mr. Boss
71f	Design and Economics of Agricultural Machinery (3 cred.; jr., sr.; prereq. 12, 13, 22, M.E. 27)	VIII, IX VI, VII, VIII	M F	106En 49En	Mr. Schwantes
72w	Applied Electricity (3 cred.; jr., sr.; prereq. 25)	VI	T	101En	Mr. Hustrulid
	Lect.	VI	T	101En	
	Lab.	VII, VIII, IX VI, VII, VIII	T Th		
91f,92w,93s	Seminar (No cred.; soph. in prof. agr. eng. only)	IX(f) I(w) II(s)	3d W ea. mo. 3d T ea. mo. 3d W ea. mo.	107En 107En 103En	Mr. Boss Mr. Boss Mr. Boss
94f-95w-96s	Seminar (1 cred. for 96s only; jr. in prof. agr. eng. only)	IX(f) I(w) II(s)	3d W ea. mo. 3d T ea. mo. 3d W ea. mo.	107En 107En 103En	Mr. Boss Mr. Boss Mr. Boss
97f,98w,99s	Seminar (1 cred. for 99s only; sr. in prof. agr. eng. only)	IX(f) I(w) II(s)	3d W ea. mo. 3d T ea. mo. 3d W ea. mo.	107En 107En 103En	Mr. Boss Mr. Boss Mr. Boss
101f-102w-103s	Advanced Drainage Problems (3 to 6 cred. per qtr.; sr.; prereq. 51)	Ar	Ar	Ar	Mr. Roe, Mr. Neal
111f-112w-113s	Farm Building Problems (3 to 6 cred. per qtr.; sr.; prereq. 67)	Ar	Ar	305En	Mr. White, Mr. Neubauer, Mr. Christopherson
121f-122w-123s	Farm Power and Machinery Problems (3 to 6 cred. per qtr.; jr., sr.; prereq. 126)	Ar	Ar	Ar	Mr. Schwantes, Mr. Hustrulid
126w	Selection and Management of Agricultural Machinery (3 cred.; jr., sr.; prereq. 14, 71, Agr. Econ. 103)	III	MW	105En	Mr. Schwantes
	Lect.	III	MW	105En	
	Lab.	3 hrs. ar.	F	49En	

AGRONOMY AND PLANT GENETICS

Freshman and Sophomore Courses

No.	Title	Hour	Day	Bldg.	Instructor
1f,s	General Farm Crops (3 cred.; no prereq.)	IV	MWF	100Ad	Mr. Johnson
21w	Grain Crops (3 cred.; soph., jr., sr.; prereq. 1)	VI, VII	MWF	102Ad	Mr. Wilson
22s	Grain and Hay Grading (3 cred.; soph., jr., sr.; prereq. 1)	I, II	MWF	100Ad	Mr. Wilson
23f	Forage Crops (3 cred.; soph., jr., sr.; prereq. 1)	VI, VII	MWF	102Ad	Mr. Army
31f,w	Principles of Genetics (3 cred.; soph., jr., sr.)	I	TThS	102Ad	Mr. Immer, Mr. Myers

Junior and Senior Courses

124s	Problems in Farm Crops (3 cred.; jr., sr.; prereq. 1, 31, and at least two courses from groups 21, 23, 132, 134. Seniors and special students may register in course with approval of instructor)	III	MWF	100Ad	Mr. Wilson
126f	Crop Judging (3 cred.; jr., sr.; prereq. 22)	III	TThS	202So	Mr. Wilson
132w	Farm Crops Plant Breeding (3 cred.; jr., sr.; prereq. 31)	IV VI, VII, VIII	TS TTh	102Ad	Mr. Johnson

ANIMAL AND POULTRY HUSBANDRY

ANIMAL HUSBANDRY

Freshman and Sophomore Courses

No.	Title	Hour	Day	Bldg.	Instructor
1f-2w	Types and Market Classes of Livestock (6 cred.; no prereq.)	I, II	MWF	CSt	Mr. Peters, Mr. Harvey
1w-2s	Types and Market Classes of Livestock (Same as 1f-2w)	I, II	TThS	CSt	Mr. Ferrin, Mr. Harvey
3f-4w	Breeds of Livestock (6 cred.; soph., jr., sr.; prereq. 1-2)	III, IV	TS	WSt	Mr. Ferrin, Mr. Winters
5s	Livestock Judging (3 cred.; soph., jr., sr.; prereq. 3-4)	III, IV	MWF	CSt	Mr. Harvey

Junior and Senior Courses

50s	Fundamentals of Livestock Production (3 cred.; jr., sr. in forestry or prof. agr. eng. only; no prereq.)	II	MWF	3St	Mr. Ferrin
	For.	I	TThS	3St	Mr. Ferrin
51s	Meat Selection (3 cred.; jr., sr.; prereq. 1-2)	VI, VII, VIII	TTh	MS	Mr. Anderson
52f	Meats (3 cred.; jr., sr.; prereq. 1-2, 51)	VI, VII, VIII	TTh	MS	Mr. Anderson
53w	Advanced Meats (3 cred.; jr., sr.; prereq. 52)	VI, VII, VIII	WF	MS	Mr. Anderson
54w	Utilization of Meats (3 cred.; jr., sr. home econ. students; no prereq.)	III	ThS	MS	Mr. Anderson
		III, IV	T		

PROGRAM

No.	Title	Hour	Day	Bldg.	Instructor
56f-57w	Livestock Feeding (6 cred.; jr., sr.; prereq. 1-2)	III	MWF	3St	Mr. Ferrin
101f	Advanced Stock Judging (3 cred.; jr., sr.; prereq. 5)	VI, VII	MWF	CSt	Mr. Harvey
107s	Meat Problems (3 cred.; jr., sr.; prereq. 53)	IV	TS	MS	Mr. Anderson
	Lect.	VI, VII, VIII	F	MS	
	Lab.				
108s	Seminar (3 to 6 cred.; jr., sr.; prereq. 3-4)	II	TThS	3St	Mr. Winters
112w	Animal Breeding (3 cred.; jr., sr.; prereq. Agron. 31)	IV	MWF	3St	Mr. Winters
113s	Livestock Management (3 cred.; jr., sr.; prereq. 3-4)	III	MWF	3St	Mr. Peters
115f	The Marketing of Livestock (3 cred.; jr., sr.; prereq. 3-4)	II	TThS	3St	Mr. Peters

POULTRY HUSBANDRY

Freshman and Sophomore Courses

1w	Poultry Production (3 cred.; soph.; no prereq.)	IV	MWF	102Ve	Mr. Sloan
2w	Poultry Judging (3 cred.; prereq. 1 or parallel)	VII, VIII	TTh	102Ve	Mr. Canfield

Junior and Senior Courses

50w,s	Poultry Problems (2 to 6 cred.; jr., sr.; prereq. 6 cred. in poultry husbandry)	Ar	Ar	Ar	Mr. Sloan
51s	Incubating, Brooding, and Breeding (4 cred.; jr., sr.; prereq. 1, Agron. 31) (Formerly Course 4)	III	MWF	102Ve	Mr. Sloan
52f	Advanced Poultry Judging (3 cred.; jr., sr.; prereq. 2) (Formerly Course 5)	VII, VIII	TTh	102Ve	Mr. Canfield

ARCHITECTURE

See program of the College of Science, Literature, and the Arts.

BACTERIOLOGY AND IMMUNOLOGY

MEDICAL SCHOOL

See program of the College of Science, Literature, and the Arts.

BEEKEEPING

See Entomology and Economic Zoology, page 126.

BOTANY

See program of the College of Science, Literature, and the Arts.

CHILD WELFARE INSTITUTE

See program of the College of Science, Literature, and the Arts.

DAIRY HUSBANDRY

Freshman and Sophomore Courses

No. lf,s	Title	Hour	Day	Bldg.	Instructor
	Elements of Dairying (5 cred.; prereq. entrance credit in chem. or Inorg. Chem. 1 or 9) (Limited to 75)	III	MTWThF	100HH	Mr. Combs, Mr. Gullickson
2w	Dairy Bacteriology (3 or 5 cred.; 3 cred. for lecture, 2 cred. for lab.; soph., jr., sr.; prereq. Bact. 41) (Lecture taken separately only on permission of instructor)				
	Lect.	VI	MWF	210HH	Mr. Macy
	Lab.	VII-VIII	MWF		Mr. Nelson
3f	Testing Dairy Products (1 cred.; prereq. 1)	VII, VIII	M	210HH	Mr. Nelson
4s	Dairy Products Practice (3 cred.; soph., jr., sr.; prereq. 1)	Ar	Ar	Ar	Mr. Combs
9s	Dairy Cattle Judging (1 cred.; soph., jr., sr.; no prereq.)	VI, VII, VIII	F	DB	Mr. Allen
10s	Dairy Products Judging (1 cred.; soph., jr., sr.; prereq. 1, 2)	Ar	Ar	20HH	Mr. Coulter

Junior and Senior Courses

51s	Market Milk (3 cred.; jr., sr.; prereq. 1, 2)	IV	MW	210HH	Mr. Macy
		VI, VII, VIII	Th		
101f	Milk Production (5 cred.; jr., sr.; prereq. 1)	IV	MTWFS	210HH	Mr. Fitch
103w	Dairy Stock Feeding (3 cred.; sr.; prereq. 101, Agr. Biochem. 6) (Only 2 credits allowed to those who have completed An. Husb. 56-57)	III	MWF	210HH	Mr. Fitch
104f	Dairy Stock Selection (2 cred.; jr., sr.; prereq. 9, 101 or parallel)	VI, VII, VIII	TTh	210HH	Mr. Allen
105f	Seminar I (1 cred.; sr.; prereq. 3 courses in dy. husb.)	II	S	214HH	Mr. Fitch, Mr. Macy
106w	Seminar II (1 cred.; sr.; prereq. 105)	II	S	214HH	Mr. Fitch, Mr. Macy
110w	Dairy Products III (3 cred.; jr., sr.; prereq. 1, 3)	IV	TS	210HH	Mr. Combs, Mr. Coulter
		VI, VII, VIII	T		
111f	Dairy Products I (3 cred.; jr., sr.; prereq. 1, 2, 3)	VI	MW	100HH	Mr. Combs, Mr. Coulter
		VI, VII, VIII	F		
112s	Dairy Products II (3 cred.; jr., sr.; prereq. 1, 2, 3)	IV	TS	210HH	Mr. Combs
		VI, VII, VIII	T	210HH	Mr. Coulter
113s	Technical Control (3 cred.; sr.; prereq. 2, 111 or 112)	I, II, III	TTh	210HH	Mr. Macy, Mr. Coulter
115s	Advanced Dairy Bacteriology (3 cred.; sr.; prereq. 2, 111 or 112)	Ar	Ar	Ar	Mr. Macy
116s	Milk Secretion (3 cred.; sr.; prereq. Physiol. 9 cred. and Agr. Biochem. 103)	I	MWF	214HH	Mr. Petersen
117s	Dairy Cattle Breeding (3 cred.; jr., sr.; prereq. 101, 104, Agron. 31)	VI, VII, VIII	MW	210HH	Mr. Petersen, Mr. Allen

(For course in Dairy Chemistry see Agricultural Biochemistry 103, page 118.)

ENTOMOLOGY AND ECONOMIC ZOOLOGY

Freshman and Sophomore Courses

No.	Title	Hour	Day	Bldg.	Instructor
5f,w	Economic Entomology (5 cred.; soph., jr., sr.; prereq. Zool. 14-15 or equiv.) (Formerly Course 65)			14-15	Mr. Mickel, Mr. Hodson
13su	Field Zoology (1 cred.; no prereq.)	VI, VII, VIII	MWF	302Ad	Mr. Ruggles Mr. Mickel, Mr. Hodson
14f,s-15w-16s	Principles of Beekeeping (2 to 6 cred.; no prereq.) (14f-15w-16s)	IV III	MF MF	307Ad	Mr. Tanquary
17f,s-18w-19s	Beekeeping Practice (1 to 3 cred.; prereq. 14-15 or parallel)	II, III, IV or ar	W	307Ad	Mr. Tanquary, Mr. Haydak
20f,w,s	Advanced Beekeeping (2 to 6 cred.; prereq. 14 to 19 and 5 cred. in ent.)	Ar	Ar	Ar	Mr. Tanquary
49s	Introductory Entomology (3 cred.; fr., soph.; prereq. Zool. 14, 15 or equiv.)	VI, VII, VIII	TTh	302Ad	Mr. Mickel

Junior and Senior Courses

51f*§	Introductory Parasitology (5 cred.; jr., sr.; prereq. Zool. 14-15 or equiv.) (Sections limited. Written permission must be obtained from the Junior College office, 106 Folwell Hall)				
52w*§	Introductory Entomology (5 cred.; jr., sr.; prereq. Zool. 14-15 or equiv.) (Sections limited to 20 each)	VI, VII, VIII	MWF	208Z	Mr. Riley
	Lect.	VI	MWF	211Z	Mr. Mickel
	Lab. Sec. 1	VII, VIII	MWF	402Z	
	2	VI, VII, VIII	TTh	402Z	
56w	Forest Entomology (3 cred.; jr., sr.; prereq. Zool. 14-15 or equiv.)	VI, VII, VIII	WF	307Ad	Mr. Hodson
61s	Forest Zoology (3 cred.; jr., sr.; prereq. Zool. 14-15 or equiv.) (Formerly Course 68)				Mr. Hatfield
62w	Principles of Conservation Biology (3 cred.; jr., sr.; prereq. Zool. 1-2-3) (Offered in odd numbered years)	I	MWF	301Ad	
63f	Varieties and Habits of Fur and Game Mammals (3 cred.; jr., sr.; prereq. Zool. 1-2-3) (Formerly Course 67)	IV	MWF	301Ad	Mr. Hatfield
64w	Economic Vertebrate Zoology (3 cred.; jr., sr.; prereq. Zool. 1-2-3) (Offered in even numbered years)	I	MWF	301Ad	
66w	Game Management (3 cred.; jr., sr.; prereq. 62, 63, 64)	VI, VII, VIII	TTh	307Ad	
117f-118w-119s*	General Ecology (9 cred.; jr., sr.; prereq. 15 cred. zool. or ent.)	VI, VII, VIII	TTh	401Z	Mr. Eddy, Mr. Hodson
120s	General Ecology of Insects (3 cred.; jr., sr.; alternative to 119s, or both may be taken; prereq. 117f-118w)	VI, VII, VIII	TTh	14Ad	Mr. Hodson
125f-126w-127s*	Advanced General Entomology (9 cred.; jr., sr.; prereq. 15 cred. zool. or ent.)				
	Lect.	I, II	T	208Z	Mr. Mickel
	Lab.	I, II, III	S	402Z	
139f-140w	Histology and Development of Insects (9 cred.; jr., sr.; prereq. 125-126-127 or equiv.)	Ar	Ar	Ar	Mr. Riley

* Offered on the Minneapolis campus.

§ Open to sophomores on petition.

No.	Title	Hour	Day	Bldg.	Instructor
141f-142w	Insects in Relation to Plant Diseases (6 cred.; jr., sr.; prereq. 8 cred. ent. or plant path.)	III, IV	TThS	302Ad	Mr. Granovsky, Mr. Leach
144w-145s-146s*	Animal Parasites and Parasitism (3 to 9 cred.; jr., sr.; prereq. Zool. 9 cred.)	VI, VII, VIII	TTh	208Z	Mr. Riley
166s	Methods in Field Zoology (3 cred.; jr., sr.; prereq. 66.)	VI, VII, VIII	TTh	301Ad	
175f	Insecticides and Their Action (4 cred.; sr.; prereq. inorg. and org. chem.)	I	MWF	302Ad	Mr. Shepard
		Lab. hrs. ar.			
176w-177s	Advanced Economic Entomology (6 cred.; sr.; prereq. 56 or 65, or equiv.)	I	MWF	302Ad	Mr. Ruggles
197f,w,s,s:1	Introduction to Research (5 or more cred.; sr.; prereq. work as prescribed by the division)	I	MWF	302Ad	Mr. Ruggles
		Ar	Ar	Ar	Mr. Riley, Mr. Ruggles, Mr. Tanquary, Mr. Granovsky, Mr. Mickel, Mr. Shepard

FORESTRY

Freshman and Sophomore Courses

No.	Title	Hour	Day	Bldg.	Instructor
1f	General Forestry (3 cred.; no prereq.)	III	TThS	217En	Mr. Cheyney
2su	Field Dendrology (1 cred.; no prereq.)	Given at Itasca Park			
3w	Dendrology (3 cred.; no prereq.)				
	Sec. 1	III	TThS	102Hr	Mr. Schmitz
	2	I	MWF	102Hr	Mr. Schmitz
4s	Dendrology (4 cred.; no prereq.)				
	Lect. Sec. 1	III	MWF	102Hr	Mr. Schmitz
	2	I	MWF	102Hr	Mr. Schmitz
	Lab.	Ar	Ar	Ar	Mr. Rees
5su	Field Silviculture (2 cred.; no prereq.)	Given at Itasca Park			Mr. Cheyney
6su	Field Mensuration (1 cred.; no prereq.)	Given at Itasca Park			Mr. Brown
7f-8w	Forest Mensuration (10 cred.; all; prereq. 6, Math. 1 and 4)				
	Lect.	IV	MWF	217En	Mr. Brown
	Lab. Sec. 1	VI, VII, VIII	M	302Hr	
	2	VII, VIII, IX	M	303Hr	
	3	VI, VII, VIII	W	302Hr	
	4	II, III, IV	S	302Hr	
9su	Camp Management (1 cred.; no prereq.)	Given at Itasca Park			
10w	Farm Forestry (3 cred.; no prereq.; not open to students majoring in forestry)	VI	MWF	102Hr	Mr. Cheyney
20w	Grazing (3 cred.; soph., jr., sr.; no prereq.)	II	TThS	301Hr	Mr. Allison
29f	Sawmill and Woodworking Machinery (3 cred.; soph., jr., sr.)	IV	MWF	203OD	Mr. Hansen
48w	Forest Products (3 cred.; no prereq.)	I	TThS	301Hr	Mr. Bailey
49s	House and Furniture Woods (2 cred.; soph., jr., sr.; no prereq.; not open to students majoring in forestry)	III, IV	TS	303Hr	Mr. Rees

* Offered on the Minneapolis campus.

PROGRAM

Junior and Senior Courses

No.	Title	Hour	Day	Bldg.	Instructor
51f,w,s	Logging (3 cred.; jr., sr.)	Ar	Ar	Ar	Mr. Brown
52s	Wood Seasoning (3 cred.; jr., sr.; prereq. 53-54)	I	TThS	301Hr	Mr. Rees
53f-54w	Wood Structure and Identification (6 cred.; jr., sr.; prereq. 3-4)	VI, VII, VIII	WF	303Hr	Mr. Rees
	Sec. 1	VI, VII, VIII	TTh		
	2	VI, VII, VIII	TTh		
55w	Forest Protection (3 cred.; jr., sr.; prereq. 127)	III	MWF	301Hr	Mr. Lorenz
57f	Wood Utilization (3 cred.; sr.; prereq. 53-54)	IV	MWF	303Hr	Mr. Bailey
58w	Lumber Merchandising and Grading (3 cred.; sr.; prereq. 53-54)	IV	MWF	303Hr	Mr. Bailey
60f-61w	Forestry Seminar (2 cred.; sr.)	IX	W	302Hr	Mr. Schmitz, Mr. Allison, Mr. Cheyney
62f-63w	Forest Problems (4 cred.; sr. class)	IV	TS	102Hr	Mr. Schmitz
101w	Advanced Dendrology (3 cred.; jr., sr.; prereq. 3-4)	I	MWF	301Hr	Mr. Rees
111f,w-112w,s	Advanced Forest Mensuration (6 cred.; sr.; prereq. 8)	Ar	Ar	Ar	Mr. Brown
113f	Wood Pulp and Paper (3 cred.; jr., sr.; prereq. 53-54, Chem. 3 or 10)	III	MWF	301Hr	Mr. Allison
114f	Mechanical and Physical Properties of Wood (3 cred.; jr., sr.; prereq. 53-54)	I	TThS	301Hr	Mr. Rees
115w-116s	Mechanical and Physical Properties of Wood (6 cred.; jr., sr.; prereq. 114)	I, II	TThS	9Hr	Mr. Rees
	115w	I, II	TThS	9Hr	Mr. Rees
	116s	I, II	MWF	9Hr	Mr. Rees
119w	Advanced Wood Structure I (3 cred.; sr.; prereq. 53-54)	Ar	Ar	303Hr	Mr. Rees
120s	Advanced Wood Structure II (3 cred.; sr.; prereq. 53-54)	Ar	Ar	303Hr	Mr. Rees
125s	Wood Preservation (3 cred.; jr., sr.; prereq. 53-54)	IV	MWF	301Hr	Mr. Schmitz
126f	Silvics (3 cred.; jr., sr.; no prereq.)	III	MWF	107En	Mr. Cheyney
127w	Silviculture (3 cred.; jr., sr.; prereq. 126)	III	MWF	217En	Mr. Cheyney
128s	Silviculture Laboratory (6 cred.; jr., sr.; prereq. 127)	Given at Cloquet			Mr. Cheyney
129f,w,s	American Silvicultural Practice (3 cred.; jr., sr.; prereq. 127)	Ar	Ar	Ar	Mr. Cheyney
130f	Forest Valuation (5 cred.; jr., sr.)	I	MTWThF	102Hr	Mr. Allison
131w	Forest Policy and Administration (5 cred.; jr., sr.)	IV	MTWFS	301Hr	Mr. Allison
132s	Forest Regulation Laboratory (6 cred.; jr., sr.; prereq. 130)	Given at Cloquet			Mr. Allison
136f	Forest Economics (3 cred.; jr., sr.; prereq. 130, Agr. Econ. 2)	II	MWF	301Hr	Mr. Allison
137w	Seeding and Planting (3 cred.; jr., sr.; prereq. 126 or 127)	III	TThS	301Hr	Mr. Cheyney
140f	Forest Working Plans (3 cred.; sr.; prereq. 128, 132)	III	TThS	301Hr	Mr. Allison
141f	Principles of Silvics (3 cred.; jr., sr.; prereq. 126)	IV	MWF	301Hr	Mr. Cheyney

FRESHMAN ASSEMBLY

During the fall quarter all freshmen are required to attend the assembly fourth hour on Tuesdays, in the Auditorium, Administration Building, University Farm. See the Official Daily Bulletin in the *Minnesota Daily* for any change of place of meeting and further announcements.

HOME ECONOMICS

Freshman and Sophomore Courses

No.	Title	Hour	Day	Bldg.	Instructor
1f	Home Economics A (4 cred.; fr.; no prereq.) (Limited to 60)	I	MTWTh	313HE	Miss Brew
1w	Home Economics A (Same as 1f) (Limited to 60)	II	MTWTh	313HE	Miss Brew
1s	Home Economics A (Same as 1f) (Limited to 60)	III	MTWTh	313HE	Miss Brew
2f	Introduction to Textiles (3 cred.; all; no prereq.) (Limited to 24) (For S.L.&A., Bus., and Art Ed.)	I	MTWF	313HE	Miss Brew
		VI, VII	MWF	307HE	Miss Weller, Miss Brew
2s	Introduction to Textiles (Same as 2f) (Limited to 24)	VI, VII	MWF	307HE	Miss Brew
3s	Clothing Construction A (Same as 3f) (Sections limited to 24 each)	VI, VII, VIII	TTh	305HE	Miss Gorham
3w	Clothing Construction A (Same as 3f) (Limited to 24)	VI, VII, VIII	TTh	305HE	Miss Gorham
3s	Clothing Construction A (Same as 3f) (Limited to 24 each)	III, IV	MWF	305HE	Miss Gorham
	Sec. 1	VI, VII, VIII	TTh	305HE	Miss Gorham
	2	VI, VII, VIII	TTh	305HE	Miss Gorham
4f	Clothing Construction B (3 cred.; soph., jr.; prereq. 3, 21, and home pract. in clothing construction) (Limited to 24)	III, IV	MWF	304HE	Miss Gorham
4w	Clothing Construction B (Same as 4f) (Limited to 24)	I, II	MWF	304HE	Miss Gorham
4s	Clothing Construction B (Same as 4f) (Limited to 24)	I, II	MWF	304HE	Miss Gorham
10f	Home Economics B (2 cred.; fr.; no prereq.) (Limited to 60)	IV	WF	203HE	Miss McNeal and others
10s	Home Economics B (Same as 10f) (Limited to 60)	VI	TTh	203HE	Miss McNeal and others
15	<i>Home Economics C</i> (2 cred.; fr.; no prereq.) (Not offered in 1937-38)				
20f,w	Home Economics D (4 cred.; fr.; no prereq.) (Limited to 60)	II	MTWTh	203HE	Miss H. Gold- stein, Miss V. Goldstein
20s	Home Economics D (Same as 20f,w) (Limited to 60 each)	II	MTWTh	203HE	Miss Segolson
	Sec. 1	IV	MTWF	203HE	Miss Segolson
21f	Color and Design I (3 cred.; prereq. 20) (Sections limited to 24 each)	I, II	MWF	402HE	Miss Pease
	Sec. 1	I, II	MWF	402HE	Miss Pease
	2	I, II	TThS	402HE	Miss Pease
21w	Color and Design I (Same as 21f) (Limited to 24)	VI, VII	MWF	402HE	Miss H. Gold- stein
21s	Color and Design I (Same as 21f) (Limited to 24)	I, II	MWF	402HE	Miss Pease
22f	Color and Design II (3 cred.; all; prereq. 21) (Limited to 24 each)	VI, VII	MWF	402HE	Mrs. Mathieson

PROGRAM

No.	Title	Hour	Day	Bldg.	Instructor
22w	Color and Design II (Same as 22f)	(Sections limited to 24 each)			
	Sec. 1	III, IV	MWF	402HE	Miss Pease
	2	VI, VII, VIII	TTh	402HE	Miss V. Goldstein
22s	Color and Design II (Same as 22f)	(Limited to 24)			
		VI, VII	MWF	112HE	Miss Segolson
23w	Advanced Design (3 cred.; soph., jr.; prereq. 22)	(Limited to 24)			
		VI, VII	TTh	401HE	Mrs. Mathieson
24f	Problems in Home Planning and Furnishing (5 cred.; soph.; prereq. 20)	(Limited to 24)			
		III, IV	MTWF	401HE	Mrs. Mathieson
24s	Problems in Home Planning and Furnishing (Same as 24f)	(Limited to 24)			
		VI, VII, VIII	MW	401HE	Mrs. Mathieson
		VI, VII	F		
24af	Problems in Home Planning and Furnishing (3 cred.; 3rd qtr. fr. and soph.; prereq. 22)	(Limited to 24) (Not offered after 1937-38)			
		VI, VII, VIII	MW	401HE	Miss Segolson
25s	Design Applied to Crafts (3 cred.; prereq. 22)	(Limited to 24)			
		III, IV	TS	110HE	Mrs. Mathieson
		III	Th		
26f	Decorative Needlework and Other Crafts (3 cred.; prereq. 22)	(Limited to 24)			
		VI, VII	TTh	402HE	Mrs. Mathieson
30s*§	Introduction to Nutrition (2 cred.; no prereq.; not open to home econ. students)				
		VI	TTh	150Ph	Miss Biester
31f	Introduction to Nutrition (3 cred.; fr.; no prereq.)	(Limited to 60)			
		I	MWF	213HE	Miss Biester
31w	Introduction to Nutrition (Same as 31f)	(Sections limited to 60 each)			
	Sec. 1	II	MWF	213HE	Miss Biester
	2	IV	MWF	213HE	Miss Donelson
31s	Introduction to Nutrition (Same as 31f)	(Limited to 60)			
		VI	MWF	213HE	Miss Donelson
33f	Nutrition I (4 cred.; soph., jr., sr.; prereq. Agr. Biochem. 4, Physiol. 4 or 51)	(Limited to 24)			
	Lect.	III	MWF	211,213HE	
	Lab.	VI, VII, VIII	T		Miss Donelson
34f	Nutrition Problems (4 cred.; 3rd qtr. soph., jr., sr.; prereq. 30 or 31, 40, physiol. or human biol.)				
		I	TWThF	313HE	Miss Hunt
40f,w	Food Preparation (5 cred.; prereq. 2 qtrs. chem.)	(Sections limited to 20 each)			
	Sec. 1	I, II	MTWThF	209HE	
	2	VI, VII	MTWThF	209HE	
40s	Food Preparation (Same as 40f,w)	(Limited to 20)			
		I, II	MTWThF	209HE	
41f	Food Management and Marketing (5 cred.; soph., jr., sr.; prereq. 30, 40)	(Limited to 20)			
		II, III, IV	MW	207HE	Miss Kern
		III, IV	TF		
41w	Food Management and Marketing (Same as 41f)	(Limited to 20)			
		III, IV	MW	207HE	Miss Kern
		II; III, IV	TF		
41s	Food Management and Marketing (Same as 41f)				
	Sec. 1	II, III, IV	MW	207HE	Miss Kern
		II, III	TTh		
	2	VI, VII	MW	207HE	
		VI, VII, VIII	TTh		
42	<i>Demonstrations</i> (1 cred.; open only to sr.) (Not offered in 1937-38)				
43	<i>Food Service for Special Occasions</i> (1 cred.; open only to sr.) (Not offered in 1937-38)				
44	<i>Camp Cookery</i> (Not offered in 1937-38)				

* Offered on the Minneapolis campus.

§ Intended for students in Science, Literature, and the Arts. Open to students in Home Economics only by permission of chief of division.

Junior and Senior Courses

No.	Title	Hour	Day	Bldg.	Instructor
50f	Textiles (3 cred.; jr., sr.; prereq. 1, 22) (Limited to 24)	I, II	MWF	307HE	Miss Weller
50w	Textiles (Same as 50f) (Limited to 24)	I, II	MWF	307HE	Miss Weller
52w	Problems in Clothing Construction (3 cred.; jr., sr.; prereq. 53)	III, IV	MWF	304HE	Miss Gorham
53f	Advanced Clothing (3 cred.; jr., sr.; prereq. 4, 22, 50) (Limited to 24)	III, IV and II, III	TS	305HE	Miss Carlotta Brown, Miss Gorham
53w	Advanced Clothing (Same as 53f) (Limited to 24)	VI, VII	MWF	305HE	Miss Carlotta Brown, Miss Gorham
53s	Advanced Clothing (Same as 53f) (Limited to 24)	III, IV and II, III	TS	305HE	Miss Carlotta Brown, Miss Gorham
55f	Related Art Problems (3 cred.; jr., sr.; prereq. 22 or 56) (Limited to 24)	I, II	TThS	401HE	Miss V. Gold- stein
55w	Related Art Problems (Same as 55f) (Limited to 24)	VI, VII	MWF	401HE	Miss V. Gold- stein
55s	Related Art Problems (Same as 55f) (Limited to 24)	I, II	MWF	401HE	Mrs. Mathieson
56Af-56Bs	Applications of Color and Design (3 cred. each; no prereq.; courses must be taken in the sequence indicated; not open to home econ. students. Written permission must be obtained from the Junior College office, 106 Folwell Hall) (Limited to 24)	VI, VII, VIII	TTh	401HE	Miss H. Gold- stein
	(56Af)	VI, VII	MWF	402HE	Miss H. Gold- stein
	(56Bs)	VI, VII	MWF	402HE	Miss H. Gold- stein
61f,s	Quantity Cookery (4 cred.; jr., sr.; prereq. 40, 41) (Limited to 12)	I	S	313HE	Miss King
	Lect.	I, II, III	TTh	DH	Miss King
61w	Quantity Cookery (Same as 61f,s) (Sections limited to 12 each)	I	S	313HE	Miss King
	Lect. Sec. 1	I, II, III	TTh	DH	
	2	VII, VIII, IX	MW	DH	
62f,w,s	Institution Experience A (3 cred.; jr., sr.; prereq. 40, 41) (Limited to 12)	IV	M	DH	Miss Dunning
	Lect.	IV, V	WF		
63f,w,s	Institution Experience B (3 cred.; jr., sr.; prereq. 61, 62) (Limited to 6) (Open only to institution management majors)	I, II, III	MW	DH	Miss Dunning
	Lect. Sec. 1	VI, VII, VIII	TTh		Miss King
	2				
64f	Institution Buying (4 cred.; jr., sr.; prereq. 61 or parallel, 62 or parallel)	I	MWF	313HE	Miss King
	Lect.	VI, VII, VIII	F		
70s	Advanced Food Preparation (3 cred.; prereq. Agr. Biochem. 4, H.E. 40)	I, II, III	TTh	107HE	Miss Child
75f	Dietetics Laboratory (2 cred.; jr., sr.; prereq. 34 or 170) (Limited to 20)	I, II	TTh	207HE	Miss Hunt
75w	Dietetics Laboratory (Same as 75f) (Limited to 20)	I, II	MW	207HE	Miss Hunt
79s	Selected Problems for Dietitians (3 cred.; jr., sr.; prereq. 170 or equiv.)	II	MWF	213HE	Miss Biester
85f,w	Home Management: Operation and Maintenance, Lectures (3 cred.; jr., sr.; prereq. 40, H.E.Ed. 90 or C.W. 40 or parallel)	VIII	MWF	203HE	Miss Studley

PROGRAM

No.	Title	Hour	Day	Bldg.	Instructor
86f,w,s§	Home Management: Operation and Maintenance, Laboratory (4 cred.; jr., sr.; prereq. 85 or parallel, 40, 185 parallel, H.E.Ed. 90 or C.W. 40) (Sections limited to 12 each)				
	Sec. 1 1st half of quarter	I and	S	Home	Miss Studley
	2 2nd half of quarter	other hours		Mgt House	Miss Powell
89s*	Home Management with Special Reference to Low Income Families (3 cred.; jr., sr.; not open to students in Home Economics) (S.L.&A., especially those preparing for social work)	III	MWF	125F	Miss Studley
98w	Home Economics Extension (3 cred.; sr.; prereq. H.E.Ed. 91 or parallel)	V	MW	213HE	Miss Newton and others
	Anyone taking this course must plan to spend 4 full days in the field.				
102f,s	Advanced Textiles (3 cred.; jr., sr.; prereq. 50, Agr. Biochem. 4, Agr. Econ. 3 or parallel) (Limited to 16)	VI, VII, VIII	TTh	307,311HE	Miss Phelps
107w	Textile Analysis (3 cred.; jr., sr.; prereq. 102, Agr. Biochem. 2)	VI, VII, VIII	MWF	311HE	Miss Phelps
115w	Clothing Economics (2 cred.; jr., sr.; prereq. 50, Agr. Econ. 3)	III	TTh	313HE	Miss Weller
120f,w,s	Art History and Appreciation (3 cred.; open to Senior College and grad. students only)	VIII	MWF	313HE	Miss H. Goldstein, Miss V. Goldstein
121s	Textile Design (3 cred.; jr., sr.; prereq. 50, 55, 120)	VI, VII, VIII	TTh	402HE	Miss H. Goldstein
122s	Advanced Interior Design (3 cred.; jr., sr.; prereq. 180, 120 or permission of instructor) (Limited to 20)	I, II	TThS	401HE	Miss V. Goldstein
125w	Advanced Costume Design (3 cred.; jr., sr.; prereq. 4 or permission of instructor, 55, 26 recommended) (Limited to 20)	I, II	TThS	402HE	Mrs. Mathieson
142f	Experimental Cookery (3 cred.; jr., sr.; prereq. 40, Agr. Biochem. 4) (Sections limited to 12 each)	VI, VII, VIII	MW	107HE	Miss Child
	Sec. 1	VI, VII, VIII	MW	107HE	Miss Child
	2	VI, VII, VIII	TTh	107HE	Miss Child
142w,s	Experimental Cookery (Same as 142f)	VI, VII, VIII	TTh	107HE	Miss Child
146s	Special Food Problems (3 cred.; sr.; prereq. 142)	VI, VII, VIII	MW	107HE	Miss Child
147s	Special Food Problems (5 cred.; sr.; prereq. 142)	VI, VII, VIII	MW	107HE	Miss Child
	4 hrs. to be arranged				
163s	Institution Management Problems (3 cred.; sr.; prereq. 61, 62, 63 or parallel)	III	TTh	313HE	Miss Dunning
	Lect.	III, IV	S	DH	
	Lab.				
170f	Nutrition of the Family (3 cred.; jr., sr.; prereq. 30 or 31, 40, Agr. Biochem. 4, Physiol. 3 cred.) (Limited to 35)	II	MWF	213HE	Miss Donelson
170w	Nutrition of the Family (Same as 170f) (Limited to 35)	I	MWF	313HE	Miss Donelson

* Offered on the Minneapolis campus.

§ Students who register for H.E. 86, Section 1, will take H.E. 185 the last half of the quarter, and students who register for H.E. 86, Section 2, will take H.E. 185 the first half of the quarter.

No.	Title	Hour	Day	Bldg.	Instructor
171w,s	Child Nutrition (3 cred.; jr., sr.; prereq. 170 to 30)	170	H.E.Ed.	90 or C.W. 40	(Limited)
	Lect.	III III*	MW F	313HE Ar	Miss Leichsenring
	Lab.	IV	Ar before completing registration		Miss Donelson
173s	Nutrition in Disease (3 cred.; jr., sr.; prereq. 170, 175 also advised)	I	MWF	313HE	Miss Hunt
175w	Nutrition II (4 cred.; jr., sr.; prereq. 33) (Each lab. section limited to 24)	33	MWF	211HE	Miss Hunt
	Lect.	III	MWF	211HE	Miss Hunt
	Lab.	VI, VII, VIII	T	213HE	
176w	Advanced Nutrition (4 cred.; jr., sr.; prereq. 33, 175 or parallel, Agr. Biochem. 2) (Limited to 12)	II, III, IV	TS	313HE	Miss Biester
		II, III	Th	311HE	
177s	Digestion and Metabolism (3 cred.; jr., sr.; prereq. 175) (Limited to 15)	VI, VII, VIII	TTh	305HE	Miss Leichsenring
178f,w,s	Clinical Problems in Nutrition (2 cred.; jr., sr.; prereq. 75 or parallel, 170, 175 or parallel) (Limited to 8)	V	T	313HE	Miss Hunt
	Lect.	V, VI, VII, VIII	Th	Ar	
179f	Readings in Nutrition (2 cred.; jr., sr.; prereq. 170) (Limited to 15)	III	TTh	313HE	Miss Hunt
179s	Readings in Nutrition (Same as 179f) (Limited to 15)	I	TTh	313HE	Miss Hunt
180w	Home Planning and Furnishing (5 cred.; jr., sr.; prereq. 55 and 120 recommended) (Limited to 24)	III, IV	MTWF	401HE	Miss H. Goldstein
180s	Home Planning and Furnishing (Same as 180w) (Limited to 24)	III, IV	MTWF	401HE	Miss V. Goldstein
185f,w,s§	Family Relationships (2 cred.; jr., sr.; prereq. 86 or parallel, H.E.Ed. 90 or C.W. 40)	VII(f,w)	MWF	213HE	Miss Studley
	Sec. 1 1st half of quarter	and 1 hr. ar.			
	2 2nd half of quarter	VI(s)	MWF		
		and 1 hr. ar.			
186s	Problems in Income Management (3 cred.; prereq. 85 or parallel, 86, 170 or equiv., Agr. Econ. 126 or parallel)	VII	MWF	203HE	Miss Studley
195s	Development of Home Economics (2 cred.; sr.; permission of instructor)	III	TTh	213HE	Miss McNeal

HOME ECONOMICS EDUCATION

See program of the College of Education.

HORTICULTURE

Freshman and Sophomore Courses

No.	Title	Hour	Day	Bldg.	Instructor
6f	Fruit Growing (3 cred.; no prereq.)	II	MWF	102Hr	Mr. Angelo
10s	Home Floriculture (3 cred.; no prereq.)	III	MWF	8Hr	Mr. Longley
		1 extra lab. hr. ar.			

* Offered on the Minneapolis campus.

§ Students who register for H.E. 185, Section 1, will take H.E. 86 the last half of the quarter, and students who register for H.E. 185, Section 2, will take H.E. 86 the first half of the quarter.

PROGRAM

No.	Title	Hour	Day	Bldg.	Instructor
11s	Garden Flowers (3 cred.; prereq. Bot. 10 cred. or equiv.) (Offered only in odd numbered years)	VI, VII, VIII	TTh	8Hr	Mr. Longley
12f	Commercial Floriculture, Fall Crops (3 cred.; prereq. Bot. 1 or equiv.)	VI, VII, VIII	T	8Hr	Mr. Longley
		VI, VII	Th		Mr. Sando
14s	Commercial Floriculture, Spring Crops (3 cred.; prereq. Bot. 1 or equiv.) (Offered only in even numbered years)	VI, VII, VIII	T	8Hr	Mr. Longley
		VI, VII	Th		Mr. Sando
21f	Plant Materials, Fall and Winter Aspects (3 cred.; prereq. Bot. 10 cred. or equiv.)	VI, VII, VIII	MW	8aHr	Mr. Longley
22s	Plant Materials, Spring and Summer Aspects (3 cred.; prereq. Bot. 10 cred. or equiv.)	VI, VII, VIII	MW	8aHr	Mr. Longley
32s	Vegetable Growing (3 cred.; no prereq.) Lect.	II	MWF	102Hr	Mr. Krantz, Mr. Hutchins
40s	Horticultural Laboratory (2 cred.; prereq. Hort. 3 cred.)	VI, VII, VIII, IX	T	8Hr	Mr. Angelo, Mr. Hutchins
41f	Judging Horticultural Crops (2 cred.; soph., jr., sr.; prereq. 6 or 32) (Offered only in even numbered years)	VI, VII, VIII	T	8Hr	Mr. Angelo
<i>Junior and Senior Courses</i>					
56w	Plant Propagation (3 cred.; jr., sr.; prereq. Bot. 7 cred. or equiv.) (Offered only in even numbered years)	VI, VII, VIII VIII	T Th	8Hr	Mr. Longley Mr. Sando
74w	Principles of Landscape Design (3 cred.; jr., sr.; prereq. 21 or 22, Arch. 21 or Agr. Eng. 3)	VI, VII, VIII	MW	107Hr	Mr. Longley
107f	Orchard Management (3 cred.; jr., sr.; prereq. 6) (Offered only in even numbered years)	III VI, VII	TTh Th	106Hr	Mr. Brierley
110w	Horticultural Crop Breeding (3 cred.; jr., sr.; prereq. Agron. 31)	III	TThS	106Hr	Mr. Wilcox
111f	Systematic Pomology (3 cred.; jr., sr.; prereq. 6, Bot. 10 cred. or equiv.) (Offered only in odd numbered years)	VI, VII, VIII	TTh	106Hr	Mr. Brierley
121w	Small Fruit Culture (3 cred.; jr., sr.; prereq. 6 or 32, Bot. 10 cred. or equiv.)	I	MWF	106Hr	Mr. Brierley
135f	Potatoes (3 cred.; jr., sr.; prereq. 32, Bot. 10 cred. or equiv.)	Ar	Ar	Ar	Mr. Krantz
137w	Vegetable Crops (3 cred.; jr., sr.; prereq. 32, Bot. 10 cred. or equiv.)	Ar	Ar	Ar	Mr. Currence
153w	Conservatory Plants and Florists' Flowers (3 cred.; jr., sr.; prereq. Bot. 10 cred. or equiv.) (Offered only in odd numbered years)	VI, VII, VIII	T	8aHr	Mr. Longley
		VI, VII	Th		Mr. Sando
176s	Landscape Construction (3 cred.; sr.; prereq. 74) (Offered only in odd numbered years)	VI, VII, VIII, IX	F	107Hr	Mr. Longley
		1 hr. lect. ar.			
190f-191w-192s	Special Problems (6 to 12 cred.; jr., sr.; prereq. instructor's permission)	Ar	Ar	Ar	Mr. Alderman and staff
193f-194w	Horticultural Seminar (2 cred.; sr.; prereq. Hort. 9 cred.)	Ar	Ar	Ar	Horticultural staff

For course in Food Plants of Game Animals see Plant Pathology 53, page 136.

INORGANIC CHEMISTRY
INSTITUTE OF TECHNOLOGY

See program of the College of Science, Literature, and the Arts.

MATHEMATICS

See program of the College of Science, Literature, and the Arts.

MILITARY SCIENCE AND TACTICS

See program of Military Science and Tactics, page 12.

PHYSICAL EDUCATION FOR MEN

See program of Physical Education for Men, page 14.

PHYSICAL EDUCATION FOR WOMEN

See program of Physical Education for Women, page 17.

PHYSIOLOGY

See Human Physiology, College of Science, Literature, and the Arts, page 59.

PLANT PATHOLOGY AND BOTANY

Freshman and Sophomore Courses

No.	Title	Hour	Day	Bldg.	Instructor
1f	Plant Pathology (5 cred.; soph., jr., sr.; prereq. 10 cred. in plant sciences of which at least 7 shall be in botany. Not open to students who have taken Course 10)	VII, VIII, IX	MWF	106,107PP	Mr. Stakman, Mr. Eide
1s	Plant Pathology (See 1f)	VII, VIII, IX	MWF	106,107PP	Mr. Eide
7w,8s¶	Weeds and Grasses (6 cred.; fr., soph., jr., sr.; prereq. Bot. 7 cred.)	III IV	TThS TS	100PP 100PP	Mr. Larson
9f	Weeds and Seed Testing (3 cred.; fr., soph., jr., sr.; prereq. Bot. 7 cred.)	III IV	TThS TS	100PP 100PP	Mr. Larson
10w	Forest Pathology (5 cred.; soph., jr., sr.; prereq. Bot. 9 cred.) (Not open to those who have completed Course 1)	VII, VIII, IX	MWF	106,107PP	Mr. C. Chris- tensen
10s	Forest Pathology (Same as 10w)	I I, II	MWF TThS	107PP 106,107PP	Mr. C. Chris- tensen
51f,w,s	Special Problems in Forest Pathology (2 to 5 cred.; jr., sr.; prereq. 10)	Ar	Ar	Ar	Mr. C. Chris- tensen
52w	Seed Problems (3 cred.; jr., sr.; prereq. 9)	Ar	Ar	Ar	Mr. Larson

¶ May be started winter or spring and either quarter may be taken separately for credit.

PROGRAM

No.	Title	Hour	Day	Bldg.	Instructor
53s	Food Plants of Game Animals (3 cred.; jr., sr.; prereq. one yr. of botany and one yr. of zool. or equiv.)	IV	MWF	100PP	Mr. Larson, Mr. Angelo
105f-106w-107s	Mycology (3 or 5 cred. per qtr.; jr., sr.; prereq. 1 or 10 or equiv.)	Ar	Ar	302PP	Miss Dosdall
110w	Principles of Pathology (3 cred.; jr., sr.; prereq. 1 or 10, Bact. 41)	III, IV	MWF	106,107PP	Mr. Stakman, Mr. Eide
111w	Diseases of Field Crops (3 cred.; jr., sr.; prereq. 1 or 10)	VI, VII	MWF	106,107PP	Mr. J. J. Christensen
112s	Diseases of Fruit and Vegetable Crops (3 cred.; jr., sr.; prereq. 1 or 10)	III, IV	MWF	107PP	Mr. Leach, Mr. Eide
114w	Advanced Forest Pathology (3 cred.; jr., sr.; prereq. 1 or 10)	Ar	Ar	Ar	Mr. Stakman, Mr. C. Christensen
118f	Bacterial Diseases of Plants (3 cred.; jr., sr.; prereq. 1 or 10)	Ar	Ar	106,107PP	Mr. Leach
119s	Principles of Plant Disease Control (3 cred.; jr., sr.; prereq. 1 or 10)	VI, VII, VIII	TTh	107PP	Mr. Leach, Mr. Eide, Mr. Moore
141f-142w	Insects in Relation to Plant Disease (6 cred.; jr., sr.; prereq. 8 cred. in ent. or plant path.)	III, IV III	TS Th	302Ad	Mr. Granovsky, Mr. Leach
143f	Methods (3 cred.; jr., sr.; prereq. 1 or 10)	Ar	Ar	Ar	Mr. Eide, Miss Hart
160f or w	Plant Microchemistry (3 cred.; sr.; prereq. bot. and elem. chem.)	Ar	Ar	Ar	Mr. Harvey, Mr. Landon
161w	Transport, Storage, and Ripening of Fruits and Vegetables (3 cred.; sr.; prereq. Plant Physiol. 5 cred.)	Ar	Ar	Ar	Mr. Harvey
162w	Physiological Relations of Crop Plants to Temperature (3 cred.; sr.; prereq. Phys. 23)	Ar	Ar	206PP	Mr. Harvey
163s	Applied Plant Physiology (3 cred.; jr., sr.; prereq. Plant Physiol. 3 cred., Org. Chem. 5 cred.)	Ar	Ar	206PP	Mr. Harvey, Mr. Landon

POLITICAL SCIENCE

See program of the College of Science, Literature, and the Arts.

PREVENTIVE MEDICINE AND PUBLIC HEALTH

MEDICAL SCHOOL

See program of the College of Science, Literature, and the Arts.

PSYCHOLOGY

See program of the College of Science, Literature, and the Arts.

PUBLICATIONS AND RURAL JOURNALISM

No.	Title	Hour	Day	Bldg.	Instructor
50f-51w-52s	Agricultural Journalism (9 cred.; jr., sr.; prereq. Journ. 13-14-15, Journ. 51-52, and permission of instructor)	VI	MWF	Ar	
53w	Publicity (3 cred.; jr., sr.; prereq. Eng. A-B-C, Comp. 4-5-6, or exemption and permission of instructor)	I	TThS	Ar	

For additional courses see under Journalism, College of Science, Literature, and the Arts, page 61.

RHETORIC

Freshman and Sophomore Courses

No.	Title	Hour	Day	Bldg.	Instructor
1f	Rhetoric I (3 cred.; no prereq.) (Sections limited to 35 each)				
	Sec. 1	II	MWF	216En	Mr. Randel
	2	II	TThS	310En	Mr. Randel
	3	III	TThS	308En	Miss Thurston
	4	I	MWF	307En	Mr. Randel
	5	I	MWF	310En	Mr. Brown
	6	IV	MWF	312En	Mr. Lansing
1w	Rhetoric I (Same as 1f) (Limited to 35)	I	MWF	310En	Mr. Brown
1s	Rhetoric I (Same as 1f)	II	TThS	306En	Mr. Randel
2f	Rhetoric II (3 cred.; prereq. 1 or exemption on basis of placement test) (Sections limited to 35 each)				
	Sec. 1	II	MWF	308En	Miss Thurston
	2	III	MWF	105En	Mr. Randel
	3	III	MWF	310En	Mr. Brown
	4	III	MWF	308En	Miss Thurston
	5	II	TThS	307En	Mr. Lansing
2w	Rhetoric II (Same as 2f) (Sections limited to 35 each)				
	Sec. 1	II	MWF	310En	Mr. Brown
	2	II	TThS	310En	Mr. Brown
	3	III	MWF	310En	Mr. Randel
	4	I	MWF	307En	Mr. Lansing
	5	II	MWF	216En	Mr. Randel
	6	III	TThS	310En	Mr. Brown
2s	Rhetoric II (Same as 2f) (Limited to 35)	IV	MWF	310En	Mr. Brown
3f	Rhetoric III (3 cred.; prereq. 2) (Limited to 35)	IV	MWF	310En	Mr. Brown
3w	Rhetoric III (Same as 3f) (Sections limited to 35 each)				
	Sec. 1	III	TThS	308En	Miss Thurston
	2	III	TThS	105En	Mr. Randel
	3	IV	MWF	308En	Miss Thurston
	4	II	TThS	216En	Mr. Randel
3s	Rhetoric III (Same as 3f) (Sections limited to 35 each)				
	Sec. 1	II	MWF	310En	Mr. Brown
	2	III	MWF	312En	Mr. Lansing
	3	I	TThS	308En	Miss Thurston
	4	I	MWF	306En	Mr. Randel
	5	III	TThS	306En	Mr. Randel
11f	Argumentation (3 cred.; soph., jr., sr.; prereq. 3, 22 recommended) (Limited to 30)	II	MWF	307En	Mr. Lansing
11s	Argumentation (Same as 11f) (Limited to 30)	II	MWF	307En	Mr. Lansing

PROGRAM

No.	Title	Hour	Day	Bldg.	Instructor
22f*	Public Speaking (3 cred.; soph., jr.; prereq. 3) (Sections limited to 25 each)				
	Sec. 1	IV	MWF	311En	Mr. Routledge
	2	III	MWF	311En	Mr. Routledge
	3	I	TThS	311En	Mr. Routledge
	4	III	TThS	311En	Mr. Routledge
	5	II	TThS	311En	Mr. Routledge
22w*	Public Speaking (Same as 22f) (Sections limited to 25 each)				
	Sec. 1	IV	MWF	311En	Mr. Routledge
	2	II	MWF	311En	Mr. Routledge
	3	III	MWF	311En	Mr. Routledge
	4	III	TThS	311En	Mr. Routledge
	5	II	TThS	311En	Mr. Routledge
22s*	Public Speaking (Same as 22f) (Sections limited to 25 each)				
	Sec. 1	III	MWF	311En	Mr. Routledge
	2	II	TThS	311En	Mr. Routledge
23s*	Public Speaking (5 cred.; soph., jr., sr.; prereq. 3) (Limited to 30)				
		IV	MTWFS	311En	Mr. Routledge
24s	Advanced Public Speaking (3 cred.; soph., jr., sr.; prereq. 22)				
		II	MWF	311En	Mr. Routledge
28	<i>Play Production</i> (3 cred.; soph., jr., sr.; prereq. 3) (<i>Not offered in 1937-38</i>)				
31f	Survey of English Literature I (5 cred.; soph., jr., sr.; prereq. 3) (Limited to 40)				
		III	MTWThF	307En	Mr. Lansing
31w	Survey of English Literature I (Same as 31f) (Limited to 40)				
		II	MTWThF	308En	Miss Thurston
31s	Survey of English Literature I (Same as 31f) (Limited to 40)				
		III	MTWThF	308En	Miss Thurston
32f	Survey of English Literature II (3 cred.; soph., jr., sr.; prereq. 3) (Limited to 40)				
		III	TThS	310En	Mr. Brown
32s	Survey of English Literature II (Same as 32f) (Limited to 40)				
		III	TThS	310En	Mr. Brown
34f,w,s	Books and Reading (1 cred.; no prereq.) (Sections limited to 50 each)				
		II	F	103En(fall)	Mr. Brown
		IV	F	216En(winter)	
	Sec. 1	I	F	307En(spring)	
	2	III	W	307En(spring)	

Junior and Senior Courses

51f	Exposition (3 cred.; jr., sr.; prereq. 3) (Limited to 35)				
		II	TThS	308En	Miss Thurston
51w	Exposition (Same as 51f)				
	Sec. 1	II	TThS	105En	Mr. Lansing
	2	III	MWF	308En	Miss Thurston
51s	Exposition (Same as 51f)				
	Sec. 1	II	TThS	308En	Miss Thurston
	2	IV	MWF	307En	Mr. Lansing
59	<i>Advanced Play Production</i> (3 cred.; jr., sr.; prereq. permission of instructor) (<i>Not offered in 1937-38</i>)				
60w,s	Contemporary Literature (3 cred.; jr., sr.; prereq. 3)				
		IV	MWF	105En(winter)	
		III	TThS	105En(spring)	
					Mr. Lansing

SOCIOLOGY AND SOCIAL WORK

See program of the College of Science, Literature, and the Arts.

SOILS

Freshman and Sophomore Courses

No.	Title	Hour	Day	Bldg.	Instructor
6w	Soils (5 cred.; soph., jr., sr.; prereq. Agr. Biochem. 4)				
		II	MTWThF	204So	Mr. Rost

* Students may not receive credit for both Rhetoric 22 and 23.

Junior and Senior Courses

No.	Title	Hour	Day	Bldg.	Instructor
50s	Forest Soils (2 cred.; jr. in forestry; prereq. Agr. Biochem. 4)	Given at Cloquet			Mr. McMiller
101f	Chemical Analysis of Soils (3 to 5 cred.; jr., sr.; prereq. 6, quant. anal.)	IV	T	204So	Mr. Rost
	Lect.	Ar	Ar	Ar	
103s	Soil Erosion (3 cred.; jr., sr.; prereq. 6)	II	TThS	204So	Mr. Rost
104s	Soil Mapping (3 cred.; jr., sr.; prereq. 108)	Ar	Ar	Ar	Mr. McMiller
107f	Fertilizers (3 cred.; jr., sr.; prereq. 6)	II	TThS	204So	Mr. Rost
108w	Physical Properties of Soils (3 cred.; jr., sr.; prereq. 6)	Lect. VI	W	204So	Mr. McMiller
	Lab.	VII, VIII, IX	W	201So	Mr. McMiller
		VI, VII, VIII	F	201So	

VETERINARY MEDICINE

Freshman and Sophomore Courses

No.	Title	Hour	Day	Bldg.	Instructor
2f-3w-4sf	Comparative Anatomy and Physiology of Domestic Animals (9 cred.; fr., soph., jr., sr.; no prereq.) (May be started at opening of any quarter)	I	TThS	103Ve	Mr. Kernkamp

Junior and Senior Courses

50	<i>Physiology of Reproduction</i> (4 cred.; jr., sr.; prereq. 2-3-4) (<i>Not offered in 1937-38</i>)				
51w-52s	Veterinary Studies (6 cred.; § jr., sr.; prereq. Bact. 41 for Vet. 52)	II	MWF	102Ve	Dr. Boyd
53¶	<i>Infectious Diseases</i> (3 cred.; jr., sr.; prereq. 2-3-4, Bact. 41) (<i>Not offered in 1937-38</i>)				
101w-102s	Advanced Anatomy of Domestic Animals (6 cred.; jr., sr.; prereq. 2-3-4 or equiv.) (Limited to 9)	Ar	Ar	Ar	Mr. Kernkamp
103-104	<i>Advanced Comparative Physiology</i> (<i>Not offered</i>)				

ZOOLOGY

See program of the College of Science, Literature, and the Arts.

† To receive credit for any part of this course a student must complete the parts preceding the dagger.

§ Full credit will not be allowed for this course when other courses in this division are completed. Students pursuing other courses in veterinary medicine should apply to the division for adjustment of credit. The full course must be completed before credit will be given.

¶ Those who have completed Course 51-52 can obtain only half credit for this course

SCHOOL OF BUSINESS ADMINISTRATION

ECONOMICS

Junior College advisers.—Mr. Borak, Mr. Allen, Mr. Boddy, Mr. Haas, Mr. Langum, Mr. Lund, Mrs. Youngs.

Majors advisers in the College of Science, Literature, and the Arts.—Mr. Garver, Mr. Marget, Mr. Myers.

Major sequence in the College of Science, Literature, and the Arts.—A student majoring in Economics is required to earn at least 33 credits in Senior College courses as follows: (1) required courses: Economics 103-104, 141, 161; (2) at least 6 credits from Economics 105, 106, 149, 176, 191-192; (3) at least 6 credits from Economics 154, 160, 172, 185; and (4) 9 additional credits from any Senior College economics courses listed in this bulletin. Students who expect to take postgraduate work in business or economics in this or another university are advised to include in their program the following courses: Economics 5 and 113-114 in statistics; and Economics 25-26 in accounting.

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

(Prerequisites: Economics 3 and 6-7. In addition the student is urged to earn at least 9 credits in History, Political Science, or Sociology.)

Honors Course.—Students whose records show that they are capable of doing better than average work, and who wish to study for graduation honors or to pursue a special interest should consult a major adviser for modification of the sequential requirements.

Junior College Courses

No.	Title	Hour	Day	Bldg.	Instructor
1f	Introduction to Economics (5 cred.; fr. only; no prereq.)				
	Lect.	III	TTh	BuAud	Mr. Filipetti,
	Sec. 1	I	MWF	112Bu	Mr. Heaton,
	2	I	TThS	301B	and others
	3	I	TThS	211Bu	
	4	II	MWF	112Bu	
	5	II	TThS	6B	
	6	III	MWF	14P	
	7	III	MWF	206P	
	8	IV	MWF	10P	
	9	IV	MWF	6F	
	10	V	MWF	102B	
	11	V	MWF	202B	
	12	VI	MWF	112Bu	
	13	VI	MWF	111Bu	
	14	VII	MWF	202B	
	15	VII	MWF	209B	
1w	Introduction to Economics (See 1f)				
	Lect.	III	TTh	166Ph	Mr. Filipetti,
	Sec. 1	I	MWF	204F	Mr. Heaton,
	2	III	MWF	111Bu	and others
	3	VI	MWF	210P	
1s	Introduction to Economics (See 1f)				
		IV	MTWFS	9F	Ar
3f	Elements of Money and Banking (5 cred.; 2nd and 3rd qtr. fr., soph.; no prereq.)				
	Lect.	II	TTh	JAud	Mr. Stehman
	Sec. 1	I	MWF	322F	and others
	2	II	MWF	303F	
	3	III	TThS	14P	
	4	IV	MWF	104F	
	5	VI	MWF	101F	

No.	Title	Hour	Day	Bldg.	Instructor	
3w	Elements of Money and Banking (See 3f)					Mr. Stehman and others
	Lect.	III	TTh	BuAud		
	Sec. 1	I	MWF	302B		
	2	I	TThS	209B		
	3	II	MWF	102B		
	4	II	MWF	206P		
	5	II	TThS	14P		
	6	II	TThS	206P		
	7	III	MWF	205F		
	8	III	MWF	25F		
	9	IV	MWF	200Pt		
	10	IV	MWF	109J		
	11	V	MWF	102B		
	12	V	MWF	202B		
	13	VI	MWF	111Bu		
	14	VI	MWF	14P		
15	VII	MWF	111Bu			
16	VII	MWF	6B			
3s	Elements of Money and Banking (See 3f)					Mr. Stehman and others
	Lect.	III	TTh	150Ph		
	Sec. 1	II	MWF	206P		
	2	III	MWF	14P		
	3	IV	MWF	112Bu		
	4	V	MWF	102B		
5	VI	MWF	111Bu			
6	VII	MWF	2F			
5f*	Elements of Statistics (5 cred.; 3rd qtr. fr., soph.; no prereq.) (Formerly Course 14)					Mr. Kozelka and others
	Lect.	III	M	JAud		
	Sec. 1	I	TThFS	5F		
	2	II	TThFS	5F		
	3	III	TThFS	108F		
	4	IV	TWFS	11F		
5	VI	TWThF	206P			
5w*	Elements of Statistics (See 5f)					Mr. Kozelka and others
	Lect.	III	M	JAud		
	Sec. 1	I	MWFS	6F		
	2	II	MWFS	101F		
	3	III	WThFS	302F		
	4	V	MTWF	209B		
5	VI	MWThF	206P			
5s*	Elements of Statistics (See 5f)					Mr. Kozelka and others
	Lect.	III	T	BuAud		
	Sec. 1	I	MTThS	206P		
	2	I	MTThS	11F		
	3	II	MTThS	11F		
	4	II	MTThS	208P		
	5	II	MTThS	6F		
	6	III	MWFS	302F		
	7	III	MWFS	6F		
	8	III	MWFS	209½F		
	9	IV	MWFS	25F		
	10	IV	MWFS	316F		
	11	V	MTWF	302B		
	12	V	MTWF	202B		
	13	VI	MWThF	206P		
	14	VI	MWThF	306F		
	15	VI	MWThF	321F		
16	VII	MWThF	111Bu			
17	VII	MWThF	109J			

* Not open to students who have received credit in Econ. 14, Sociol. 45, or B. A. 70.

PROGRAM

No.	Title	Hour	Day	Bldg.	Instructor
6f-7w†‡	Principles of Economics (10 cred.; soph., jr., sr.; no prereq.; not open to students who have received credit in Econ. 4)				
	Lect.	II	F	BuAud	Mr. Hansen
	Sec. 1	I	MTThS	11F	and others
	2	I	MTThS	208P	
	3	II	MTThS	11F	
	4	II	MTThS	145Ph	
	5	III	MTWF	200Pt	
	6	III	MTWF	125F	
	7	IV	MTFS	208P	
	8	IV	MTFS	25F	
	9	V	MTWF	221Bu	
	10	V	MTWF	104J	
	11	VI	MWThF	221Bu	
	12	VI	MWThF	200Pt	
	13 (fall only)	VI	MWThF	125F	
	14	VII	MWThF	112Bu	
	15	VII	MWThF	200Pt	
6w-7st	Principles of Economics (See 6f-7w)				
	Lect.	IV	T	JAud	Mr. Hansen
	Sec. 1	I	MTThS	313Z	and others
	2	III	MTThS	15F	
	3	IV	MWFS	125F	
	4	V	MTWF	209Bu	
	5	VI	MWThF	112Bu	
	6	VII	MWThF	210P	
6st	Principles of Economics (1st qtr. of 6-7. See 6f-7w)				
	Lect.	II	F	BuAud	Mr. Hansen
	Sec. 1	II	MTThS	125F	and others
	2	VI	MWThF	200Pt	
7ft	Principles of Economics (2nd qtr. of 6-7. See 6f-7w)				
	Lect.	II	W	14P	Mr. Hansen
	Sec. 1	II	MTThS	110P	and others
	2	VI	MWThF	15F	
8f-9w	General Economics (Open to engineering, architecture, and chemistry students only) (6 cred.; soph., jr., sr.; no prereq.)				
	Sec. 1	I	MWF	136E	Mr. Filipetti
	2 (fall only)	I	MWF	5E	and others
	3	II	MWF	135E	
	4	III	MWF	135E	
	5	IV	MWF	135E	
20f¶	Elements of Accounting (3 cred.; 3rd qtr. fr., soph.; no prereq.)				
	Sec. 1	I	MWF	200Pt	Mr. Heilman
	2	I	TThS	302B	and others
	3	II	MWF	200Pt	
	4	II	TThS	322F	
	5	III	MWF	111Bu	
	6	III	TThS	301B	
	7	IV	MWF	200Pt	
	8	VI	MWF	302B	
	9	VI	MWF	301B	
	10	VII	MWF	109J	
20w¶	Elements of Accounting (See 20f)				
	Sec. 1	I	MWF	200Pt	Mr. Heilman
	2	II	MWF	200Pt	and others
	3	III	TThS	302B	
	4	V	MWF	6B	
	5	VI	MWF	301B	

† To receive credit for any part of this course a student must complete the parts preceding the dagger.

‡ The final examination in this course and in any course which has lectures at MW II will be given at the same time. Therefore, students must not register for two such courses.

¶ Students who have had high school training or other experience in bookkeeping and who pass the placement test may be exempt from this course and admitted to Economics 25.

No.	Title	Hour	Day	Bldg.	Instructor
20s§	Elements of Accounting (See 20f)				
	Sec. 1	I	MWF	301B	Mr. Heilman and others
	2	I	TThS	303F	
	3	II	MWF	200Pt	
	4	II	TThS	301B	
	5	III	TThS	10P	
	6	IV	MWF	301B	
	7	VI	MWF	221Bu	
	8	VII	MWF	302B	
25f-26w	Principles of Accounting (6 cred.; soph., jr., sr.; prereq. Econ. 20)				
	Sec. 1	I	TThS	303F	Mr. Heilman and others
	2	III	MWF	203F	
	3	V	MWF	302B	
	4	VI	MWF	208P	
25w+26s	Principles of Accounting (See 25f-26w)				
	Sec. 1	I	TThS	221Bu	Mr. Heilman and others
	2	I	TThS	302F	
	3	II	MWF	301F	
	4	II	TThS	110F	
	5	III	MWF	321F	
	6	III	TThS	301B	
	7	III	TThS	108F	
	8	VI	MWF	206Pt	
	9	VII	MWF	104J	
25s	Principles of Accounting (1st qtr. of 25-26. See 25f-26w)				
	Sec. 1	I	MWF	10P	Mr. Heilman and others
	2	II	TThS	10P	
	3	III	MWF	200Pt	
	4	IV	MWF	206Pt	
	5	VI	MWF	204F	
26f	Principles of Accounting (2nd qtr. of 25-26. See 25f-26w)				
	Sec. 1	II	TThS	306F	Mr. Heilman and others
	2	III	MWF	206Pt	
	3	VI	MWF	14P	
28f	Business Law (Open to engineering, architecture, and chemistry students only) (3 cred.; soph., jr., and sr. with 6 cred. in econ. or sr. without econ. cred.)				
		I	MWF	135E	Mr. Palmer
28s	Business Law (Open to engineering, architecture, and chemistry students only) (See 28f)				
		I	MWF	135E	Mr. Palmer
29f	Principles of Accounting (Open to engineering, architecture, and chemistry students only) (3 cred.; soph., jr., sr.; no prereq.)				
		IV	MWF	205E	Mr. Lund
29s	Principles of Accounting (Open to engineering, architecture, and chemistry students only) (See 29f)				
		I	MWF	205E	Mr. Lund
32f-33w*†‡¶	Secretarial Training: Typewriting (2 cred.; 2nd qtr. fr., soph., jr.; prereq. consent of instructor)				
	Sec. 1	IV	MTWFS	1B	Miss Donaldson and others
	2	VI	MTWThF	1B	
32w*†‡¶	Secretarial Training: Typewriting (1st qtr. of 32-33. See 32f-33w)				
		V	MTWThF	1B	Miss Donaldson and others
33s*†‡¶	Secretarial Training: Typewriting (2nd qtr. of 32-33. See 32f-33w)				
		V	MTWThF	1B	Miss Donaldson and others

* Students who have had one year of high school typewriting are admitted to Economics 33.

† To receive credit for any part of this course a student must complete the parts preceding the dagger.

‡ A fee of \$2.50 a quarter is charged students registering for one or more of these courses.

§ Students who have had high school training or other experience in bookkeeping and who pass the placement test may be exempt from this course and admitted to Economics 25.

¶ This course carries credit only if required in the student's major sequence.

PROGRAM

No.	Title	Hour	Day	Bldg.	Instructor
34f††	Secretarial Training: Advanced Typewriting (1 cred.; soph., jr.; prereq. consent of instructor)	V	MTWThF	1B	Miss Donaldson and others
34s††	Secretarial Training: Advanced Typewriting (See 34f)	VI	MTWThF	1B	Miss Donaldson and others
37f-38w-39s†††**	Secretarial Training: Shorthand (9 cred.; soph., jr.; prereq. 33 or consent of instructor)				
	Secretarial students	II	MTWThF	1B	Miss Donaldson and others
	Commercial education students	III	MTWThF	1B	
40f-41w-42s†††**	Secretarial Procedure (9 cred.; soph., jr., sr.; prereq. 33 and 39 or consent of instructor)				
	Secretarial students	I	MTWThF	1B	Miss Donaldson and others
	Commercial education students	VII	MTWThF	1B	

Senior College Courses

82f§	Competition and Monopoly in Modern Industry (3 cred.; jr., sr.; no prereq.)	II	TThS	102B	Mr. Vaile
83w§	The Inequality of Incomes (3 cred.; jr., sr.; prereq. Econ. 82)	II	TThS	102B	Mr. Schmidt
84s	Comparative Economic Systems (3 cred.; jr., sr.; prereq. Econ. 4 or 6-7 or 83)	I	TThS	202B	Mr. Hansen
97f,98w,99s	Honors Course in Economics (Cred. ar.; jr., sr.; prereq. consent of major advisers)	Ar	Ar	Ar	Ar
103f-104w†*	Advanced Economics: Competition, Monopoly, and Inequality of Incomes (6 cred.; jr., sr., grad.; prereq. 20 cred. in soc. sci. including Econ. 4 or 6-7 or 83)	II	MWF	6B	Mr. Vaile
105s	History of Economic Ideas: The Classical Economists (3 cred.; jr., sr., grad.; prereq. B. A. 101-102 or Econ. 103-104 or consent of instructor)	VII	MWF	102B	Mr. Garver
106	<i>History of Economic Ideas: The Critics of the Classical Economists</i> (3 cred.; jr., sr., grad.; prereq. B. A. 101-102 or Econ. 103-104 or consent of instructor) (<i>Not offered</i>)				
113w-114s†	Theory of Statistics (6 cred.; jr., sr., grad.; prereq. Econ. 5 or 14)	I	MWF	102B	Mr. Mudgett
115w	Probability and Statistics (3 cred.; jr., sr., grad.; prereq. Econ. 4 or 6-7 or 83)	VI½-VII	TTh	202B	Mr. Altschul
117w	Modern European Economic Problems (3 cred.; jr., sr., grad.; prereq. Econ. 4 or 6-7 or 83)	VII	MWF	202B	Mr. Altschul
124w	Comparative Banking: British Systems (3 cred.; jr., sr., grad.; prereq. Econ. 141 or B. A. 142)	III	MWF	6B	Mr. Myers
125	<i>Comparative Banking: European Systems</i> (3 cred.; jr., sr., grad.; prereq. Econ. 141 or B. A. 142) (<i>Not offered</i>)				
127s	Comparative Banking: South American Systems (3 cred.; jr., sr., grad.; prereq. Econ. 141 or B. A. 142)	II	MWF	6B	Mr. Myers
128s	Business Cycle Theory in German Literature (3 cred.; jr., sr., grad.; prereq. Econ. 4 or 6-7 or 83)	VI½-VII	TTh	209B	Mr. Altschul

* Not open to School of Business Administration students.

† To receive credit for any part of this course a student must complete the parts preceding the dagger.

‡ A fee of \$2.50 a quarter is charged students registering for one or more of these courses.

§ Not open to students who have received credit for Econ. 4 or 6-7.

¶ This course carries credit only if required in the student's major sequence.

|| This course may not be included as a part of the Senior College work required for a minor in economics in the College of Science, Literature, and the Arts.

** Students who have had one year of high school shorthand are admitted to Econ. 38; those who have had two years of high school shorthand are admitted to Econ. 40.

No.	Title	Hour	Day	Bldg.	Instructor
131f	Introduction to Mathematical Analysis in Economics (3 cred.; sr., grad.; prereq. Econ. 4 or 6-7 or 83)				
		VI½-VII	TTh	102B	Mr. Altschul
140s	The Co-operative Movement (3 cred.; jr., sr., grad.; prereq. Econ. 4 or 6-7 or 83)	VII	MWF	6B	Ar
141f¶	Monetary and Banking Policy (3 cred.; jr., sr., grad.; prereq. Econ. 3, and either Econ. 4 or 6-7 or 83)	I	TThS	6B	Mr. Marget
141s¶	Monetary and Banking Policy (See 141f)	VI	MWF	6B	Mr. Uppgren
149f	Business Cycles (3 cred.; sr., grad.; prereq. Econ. 141 or B. A. 142 or consent of instructor)	III	TThS	302B	Mr. Marget
149w	Business Cycles (See 149f)	I	MWF	6B	Mr. Marget
149s	Business Cycles (See 149f)				
	Sec. 1	II	TThS	6B	Mr. Marget
	2	VI	MWF	202B	Mr. Hansen
154s¶	Public Utilities (3 cred.; jr., sr., grad.; prereq. 20 cred. in soc. sci. incl. Econ. 4 or 6-7 or 83)	II	TThS	102B	Mr. Garver
160w¶	The Modern Corporation (3 cred.; jr., sr., grad.; prereq. Econ. 3, and either 4 or 6-7 or 83)	IV	MWF	102B	Mr. Stehman
161f	Labor Problems and Trade Unionism (3 cred.; jr., sr., grad.; prereq. Econ. 4 or 6-7 or 83)	III	MWF	102B	Mr. Yoder
	Sec. 1	IV	MWF	202B.	Mr. Yoder
161w	Labor Problems and Trade Unionism (See 161f)	III	TThS	202B	Mr. Yoder
161s	Labor Problems and Trade Unionism (See 161f)				
	Sec. 1	III	TThS	209B	Mr. Yoder
	2	IV	MWF	6B	Mr. Schmidt
162w	Labor and Socialist Movements (3 cred.; jr., sr., grad.; prereq. Econ. 161)	VI	MWF	102B	Mr. Hansen
163	<i>Economic Aspects of Population and Immigration</i> (3 cred.; jr., sr., grad.; prereq. Econ. 4 or 6-7 or 83) (Not offered)				
164s	Labor Legislation and Social Insurance (3 cred.; jr., sr., grad.; prereq. Econ. 161)	III	TThS	102B	Mr. Schmidt
166f	International Economic Problems (3 cred.; jr., sr., grad.; prereq. Econ. 4 or 6-7 or 83)	VII	MWF	102B	Mr. Hansen
172f	Economics of Transportation (3 cred.; jr., sr., grad.; prereq. 20 cred. in soc. sci. including Econ. 4 or 6-7 or 83)	IV	MWF	102B	Mr. Schmidt
176f	International Commercial Policies (3 cred.; jr., sr., grad.; prereq. Econ. 4 or 6-7 or 83)	I	MWF	209B	Mr. Blakey
176s	International Commercial Policies (See 176f)	I	MWF	209B	Mr. Blakey
185w	Economics of Marketing (3 cred.; jr., sr., grad.; prereq. Econ. 4 or 6-7 or 83)	I	TThS	302B	Mr. Vaile
191f-192w†§	Public Finance (6 cred.; jr., sr., grad.; prereq. Econ. 4 or 6-7 or 83)	III	MWF	209B	Mr. Blakey
193s	State and Local Taxation (3 cred.; jr., sr., grad.; prereq. Econ. 191-192 or B. A. 58)	III	MWF	209B	Mr. Blakey

COURSES OPEN TO GRADUATE STUDENTS ONLY

203f-204w	Seminar in Economic Theory (6 cred.; grad.)	VIII½-IX	MW	302B	Mr. Garver
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† To receive credit for any part of this course a student must complete the parts preceding the dagger.

§ Credit may not be received for both Economics 191-192 and B. A. 58.

¶ Not open to School of Business Administration students.

PROGRAM

No.	Title	Hour	Day	Bldg.	Instructor
206s	Seminar in Market Prices (3 cred.; grad.)	VIII½-IX	MW	302B	Mr. Vaile
215	<i>Mathematical Economics</i> (3 cred.; grad.) (<i>Not offered</i>)				
233f-234w	Seminar in Public Finance	VII-VIII½	MTh	302B	Mr. Blakey
243-244	<i>Seminar in Money and Banking</i> (6 cred.; grad.) (<i>Not offered</i>)				
248f-249w	Seminar in Unemployment and Business Cycles (6 cred.; grad.)	VIII½-IX	TF	302B	Mr. Hansen
	Discussion of Papers in European Periodicals	3:30	Th	202B	Mr. Altschul

BUSINESS ADMINISTRATION

For advisers see the Bulletin of the School of Business Administration.

COURSES OPEN TO BUSINESS ADMINISTRATION STUDENTS ONLY

No.	Title	Hour	Day	Bldg.	Instructor
51f*	Business Law: Contracts (3 cred.; jr., sr.; prereq. Econ. 4 or 6-7)				
	Lect.	IV	T	BuAud	Mr. Dalzell
	Sec. 1	I	ThS	200Pt	
	2	II	ThS	200Pt	
	3	III	ThS	200Pt	
	4	{ V	Th	200Pt	
		{ IV	S	200Pt	
52w*	Business Law: Agency, Partnership, and Corporations (3 cred.; jr., sr.; prereq. B. A. 51)				
	Lect.	IV	T	BuAud	Mr. Dalzell
	Sec. 1	I	ThS	200Pt	
	2	II	ThS	200Pt	
	3	III	ThS	200Pt	
	4	{ V	Th	200Pt	
		{ IV	S	200Pt	
53s*	Business Law: Negotiable Instruments (3 cred.; jr., sr.; prereq. B. A. 51)				
	Lect.	IV	T	BuAud	Mr. Dalzell
	Sec. 1	I	ThS	200Pt	
	2	II	ThS	200Pt	
	3	III	ThS	200Pt	
	4	{ V	Th	200Pt	
		{ IV	S	200Pt	
57f¶	Money and Banking (3 cred.; jr., sr.; no prereq.)				
	Sec. 1	III	MWF	6B	Mr. Upgren
	2	III	TThS	6B	Mr. Upgren
58f§¶¶	Elements of Public Finance (3 cred.; jr., sr.; prereq. Econ. 4 or 6-7)				
		IV	MWF	209B	Mr. Borak
58w§¶¶	Elements of Public Finance (See 58f)				
		IV	MWF	202B	Mr. Blakey
58s§¶¶	Elements of Public Finance (See 58f)				
	Sec. 1	IV	MWF	202B	Mr. Blakey
	2	VI	MWF	102B	Mr. Borak
59f	Life Insurance (3 cred.; jr., sr.; prereq. Econ. 4 or 6-7)				
		III	TThS	102B	Mr. Graves
60w	Fire and Marine Insurance (3 cred.; jr., sr.; prereq. Econ. 4 or 6-7)				
		III	MWF	102B	Mr. Graves
61s	Casualty Insurance (3 cred.; jr., sr.; prereq. Econ. 4 or 6-7)				
		III	MWF	102B	Mr. Graves
62f¶¶	Elementary Accounting: Combined Course (5 cred.; jr., sr.; no prereq.)				
		I	MTWThF	301B	Mr. Lund

* No credit will be allowed for B. A. 51, 52, or 53 until all three are completed.

§ Credit may not be received for both Economics 191-192 and B. A. 58.

¶ Credit may not be received for both Economics 3 and B. A. 57.

¶¶ A combination of Economics 20 and Economics 25.

¶¶¶ Economics 191-192 (6 cred.) may be substituted for B. A. 58 as a core group requirement.

No.	Title	Hour	Day	Bldg.	Instructor
64f	Graphic Arts I: Elementary Principles of Design—Identical with Drawing and Descriptive Geometry 64 (3 cred.; jr., sr.; prereq. permission of adviser in School of Business Administration or in Department of Journalism)	IV	MWF	206E	Mr. Doseff
65w	Graphic Arts II: Processes—Identical with Drawing and Descriptive Geometry 65 and Journalism 65 (3 cred.; jr., sr.; prereq. permission of adviser in School of Business Administration or in Department of Journalism)	IV	MWF	206P	Mr. Barnhart
68f	Sales Management (3 cred.; jr., sr.; prereq. Econ. 2 or B. A. 77)	II	TThS	209B	Mr. Chute
69w	Retail Store Management (3 cred.; jr., sr.; prereq. Econ. 2 or B. A. 77)	II	TThS	6B	Mr. Chute
70f§	Statistics Survey (3 cred.; jr., sr.; prereq. Econ. 4 or 6-7)	I	MWF	6B	Mr. Kozelka
	Sec. 1	I	MWF	6B	Mr. Kozelka
	2	VII	MWF	6B	Mr. Graves
71f	Transportation: Services and Charges I (3 cred.; jr., sr.; prereq. Econ. 4 or 6-7)	I	MWF	202B	Mr. Nightingale
	Sec. 1	I	MWF	202B	Mr. Nightingale
	2	VI	MWF	202B	Mr. Nightingale
71w	Transportation: Services and Charges I (See 71f)	III	TThS	209B	Mr. Nightingale
	Sec. 1	III	TThS	209B	Mr. Nightingale
	2	VI	MWF	209B	Mr. Nightingale
71s	Transportation: Services and Charges I (See 71f)	II	MWF	209B	Mr. Nightingale
	Sec. 1	II	MWF	209B	Mr. Nightingale
	2	VI	MWF	209B	Mr. Nightingale
72w	Transportation: Services and Charges II (3 cred.; jr., sr.; prereq. B. A. 71)	VII	MWF	102B	Mr. Nightingale
77f*	Survey in Marketing (3 cred.; jr., sr.; no prereq.)	I	TThS	209B	Mr. Chute
77w*	Survey in Marketing (See 77f)	I	MWF	202B	Mr. Chute
77s*	Survey in Marketing (See 77f)	I	TThS	209B	Mr. Chute
78	Marketing of Raw Materials (3 cred.; jr., sr.; prereq. Econ. 2 or B. A. 77) (Not offered)				
86s	Office Organization and Management (3 cred.; jr., sr.; prereq. Econ. 4 or 6-7)	III	MWF	6B	Miss Donaldson
87f	Report Writing (1 cred.; jr., sr.)	VI	T	202B	Mr. Heilman and others
87w	Report Writing (See 87f)	IV	S	202B	Mr. Heilman and others
87s	Report Writing (See 87f)	VI	T	202B	Mr. Heilman and others
88s	Advertising (3 cred.; jr., sr.; prereq. Econ. 2 or B. A. 77, and Psy. 56)	II	TThS	209B	Mr. Vaile
89f	Production Management (3 cred.; jr., sr.; no prereq.)	II	MWF	202B	Mr. Filipetti
89w	Production Management (See 89f)	II	MWF	202B	Mr. Filipetti
89s	Production Management (See 89f)	I	MWF	6B	Ar
	Sec. 1	I	MWF	6B	Ar
	2	II	MWF	202B	Mr. Filipetti
91f	Tabulating Equipment Laboratory (1 cred.; jr., sr.; prereq. Econ. 26 and either 5 or 14 or B. A. 70)	VIII-IX	F	102B	Mr. Boddy
91w	Tabulating Equipment Laboratory (See 91f)	IV-V	T	102B	Mr. Boddy
91s	Tabulating Equipment Laboratory (See 91f)	IV-V	T	102B	Mr. Boddy
	Sec. 1	IV-V	T	102B	Mr. Boddy
	2	VIII-IX	M	102B	Mr. Boddy
92w	Accounting Practice Laboratory (1 cred.; jr., sr.; prereq. B. A. 132 or concurrent; open to accounting majors only)	VI-VII	T	302B	Mr. Lund

* Not open to students who have received credit in Economics 2.

§ Not open to students who have received credit in either Economics 5 or 14.

PROGRAM

No.	Title	Hour	Day	Bldg.	Instructor
92s	Accounting Practice Laboratory (See 92w)				
	Sec. 1	III-IV	S	302B	Mr. Lund
	2	VI-VII	T	302B	Mr. Lund
97f,98w,99s	Honors Course in Business Administration (Cred. ar.; jr., sr.; prereq. permission of the dean)	Ar	Ar	Ar	
101f-102w†	Advanced General Economics (6 cred.; sr., grad.; prereq. Econ. 4 or 6-7)				
	Sec. 1	I	TThS	202B	Mr. Boddy
	2	II	TThS	202B	Mr. Garver
	3	III	MWF	301B	Mr. Mudgett
	4	IV	MWF	301B	Mr. Mudgett
101w-102s†	Advanced General Economics (See 101f-102w)				
	Sec. 1	I	TThS	6B	Mr. Garver
	2	VI	MWF	302B	Mr. Boddy
109w	Business Policy (3 cred.; sr., grad.; prereq. B. A. 101-102)	II	MWF	301B	Mr. Reighard
109s	Business Policy (See 109w)	II	MWF	102B	Mr. Reighard
112f	Business Statistics (3 cred.; jr., sr., grad.; prereq. Econ. 5 or 14 or B. A. 70)				
	Sec. 1	III	TThS	209B	Mr. Mudgett
	2	VI	MWF	209B	Mr. Kozelka
112w	Business Statistics (See 112f)				
	Sec. 1	I	TThS	301B	Mr. Kozelka
	2	II	MWF	209B	Mr. Kozelka
112s	Business Statistics (See 112f)				
	Sec. 1	II	MWF	301B	Mr. Kozelka
	2	II	TThS	202B	Mr. Kozelka
130f	Cost Accounting (General Survey) (3 cred.; jr., sr., grad.; prereq. Econ. 25-26)	I	MWF	102B	Mr. Ostlund
130s	Cost Accounting (General Survey) (See 130f)	I	TThS	302B	Mr. Ostlund
132	This course has been renumbered 152-153.				
133s	Cost Accounting Methods (3 cred.; jr., sr., grad.; prereq. B. A. 130 or 153)	II	TThS	302B	Mr. Ostlund
134f	Income Tax Accounting (3 cred.; jr., sr., grad.; prereq. B. A. 139 or 151)	I	MWF	302B	Mr. Reighard
135f	Auditing and Public Accounting (3 cred.; jr., sr., grad.; prereq. B. A. 139 or 151)	III	MWF	302B	Mr. Reighard
136s	Internal Auditing and Accounting Control (3 cred.; jr., sr., grad.; prereq. B. A. 139 or 151)	III	MWF	301B	Mr. Reighard
138	This course has been renumbered 150-151.				
139f	Advanced General Accounting (3 cred.; jr., sr., grad.; prereq. Econ. 25-26)	IV	MWF	302B	Mr. Heilman
139w	Advanced General Accounting (See 139f)				
	Sec. 1	I	MWF	209B	Mr. Fraine
	2	VI	MWF	6B	Mr. Heilman
139s	Advanced General Accounting (See 139f)	IV	MWF	209B	Mr. Heilman
142f	Advanced Money and Banking (3 cred.; jr., sr., grad.; prereq. Econ. 3, and either 4 or 6-7)				
	Sec. 1	II	MWF	209B	Mr. Myers
	2	VI	MWF	6B	Mr. Marget
142w	Advanced Money and Banking (See 142f)				
	Sec. 1	II	TThS	209B	Mr. Marget
	2	IV	MWF	209B	Mr. Marget
142s	Advanced Money and Banking (See 142f)				
	Sec. 1	I	MWF	202B	Mr. Marget
	2	III	TThS	6B	Mr. Marget
145s	Foreign Exchange (3 cred.; jr., sr., grad.; prereq. B. A. 142)	IV	MWF	102B	Mr. Myers

† To receive credit for any part of this course a student must complete the parts preceding the dagger.

No.	Title	Hour	Day	Bldg.	Instructor
146f	Investments (3 cred.; jr., sr., grad.; prereq. B. A. 155)	VI	MWF	102B	Mr. Uppgren
147f	Bank Administration (3 cred.; jr., sr., grad.; prereq. B. A. 142)	I	MWF	301B	Mr. Myers
148w	The Securities Market (3 cred.; sr., grad.; prereq. B. A. 146 and Econ. 149)	II	TThS	301B	Mr. Fraine
150f-151w†	Accounting Practice and Procedure (6 cred.; jr., sr., grad.; prereq. Econ. 25-26)	II	MWF	302B	Mr. Heilman
150w-151s†	Accounting Practice and Procedure (See 150f-151w)	III	MWF	302B	Mr. Heilman
152f-153w†	Cost Accounting (6 cred.; jr., sr., grad.; prereq. Econ. 25-26)	II	TThS	302B	Mr. Ostlund
152w-153s†	Cost Accounting (See 152f-153w)	IV	MWF	302B	Mr. Ostlund
155f	Corporation Finance (3 cred.; jr., sr., grad.; prereq. Econ. 3, and either 4 or 6-7)	III	MWF	202B	Mr. Stehman
155w	Corporation Finance (See 155f)	VI	MWF	202B	Mr. Uppgren
	Sec. 1	III	MWF	202B	Mr. Stehman
	2	VI	MWF	202B	Mr. Uppgren
155s	Corporation Finance (See 155f)	III	MWF	202B	Mr. Stehman
	2	VII	MWF	202B	Mr. Uppgren
156f	Finance Management (3 cred.; jr., sr., grad.; prereq. B. A. 155)	I	TThS	102B	Mr. Stehman
157w	Advanced Accounting Theory (3 cred.; sr., grad.; prereq. B.A. 139 or 151)	III	TThS	102B	Mr. Stevenson
158s	Governmental Accounting (3 cred.; sr., grad.; prereq. B.A. 139 or 151)	I	TThS	301B	Mr. Heilman
159s	Public Utility and Railroad Accounting (3 cred.; sr., grad.; prereq. B.A. 139 or 151)	II	MWF	302B	Mr. Stevenson
165f	Economics of Public Utilities (3 cred.; jr., sr., grad.; prereq. Econ. 3, and either 4 or 6-7)	II	MWF	102B	Mr. Schmidt
	Sec. 1	III	TThS	202B	Mr. Garver
	2	III	TThS	202B	Mr. Garver
165w	Economics of Public Utilities (See 165f)	III	TThS	6B	Mr. Schmidt
165s	Economics of Public Utilities (See 165f)	I	MWF	302B	Mr. Schmidt
167w	Personnel Administration (3 cred.; jr., sr., grad.; prereq. Econ. 161)	I	TThS	102B	Mr. Yoder
168s	Advanced Personnel Administration (3 cred.; jr., sr., grad.; prereq. B. A. 167)	I	TThS	102B	Mr. Yoder
177s	Foreign Trade (3 cred.; jr., sr., grad.; prereq. Econ. 176)	III	TThS	202B	Mr. Vaile
180f-181w-182s	Senior Topics Courses (School of Business Administration seniors)				
	A. Accounting (3 cred.; winter only)	I	MWF	301B	Mr. Reighard
	B. Business Finance (6 cred.; winter and spring only)	VII	MWF	209B	Mr. Uppgren(w) Mr. Stehman(s)
	C. Marketing (9 cred.)	VI½-VII	TTh	301B	Mr. Vaile(f,w) Mr. Chute(s)
	D. Personnel Management (9 cred.)	VI½-VII	TTh	6B	Mr. Yoder
	E. Secretarial Practice (6 cred.; fall and winter)	IV	MWF	6B	Miss Donaldson
	F. Statistics (9 cred.)	Ar	Ar	Ar	Mr. Kozelka(f,w) Mr. Mudgett(s)

† To receive credit for any part of this course a student must complete the parts preceding the dagger.

PROGRAM

No.	Title	Hour	Day	Bldg.	Instructor
	G. § Production Management (9 cred.)	VII	MWF	301B	Mr. Filipetti
	H. Insurance (3 cred.; spring only)	Ar	Ar	Ar	Mr. Graves
	I. Public Utilities and Transportation (6 cred.; fall and winter only)	Ar	Ar	Ar	Mr. Schmidt
	J. Office Management (3 cred.; spring only)	IV	MWF	1B	Miss Donaldson
183f,w,s	Practice Course (Cred. ar.; jr., sr., grad.; prereq. consent of adviser)	Ar	Ar	Ar	Members of the staff
184s§	Scientific Management in Industry (3 cred.; sr., grad.; prereq. Econ. 4 or 6-7)	VI	MWF	301B	Mr. Filipetti
194s	Advanced Advertising Procedure (3 cred.; jr., sr., grad.; prereq. B. A. 88)	IV	MWF	206P	Mr. Vaile and others

§ Credit may not be received for both B. A. 181G and B. A. 184.

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Bulletin of
UNIVERSITY OF MINNESOTA
Department of Agriculture

VEGETABLE GROWERS

Short Course



January 25-February 5, 1937

University Farm, St. Paul

Vol. XL

No. 5

January 8, 1937

Entered at the post office in Minneapolis as second-class matter, Minneapolis, Minn. Acceptance for mailing at special rate of postage provided for in section 1103, Act of October 3, 1917, authorized July 12, 1918.

Vegetable Growers Short Course

THE Vegetable Growers Short Course is being given at the request of the growers in the vicinity of the Twin Cities for the younger group, presumably from 18 to 24 years of age, who have completed their formal education in the grade and secondary schools and who are interested in the commercial growing of vegetables.

The purpose of the course is to enable persons who intend to follow the business of commercial vegetable growing to become better acquainted with agricultural science and its relation to the vegetable industry. The principles underlying production and distribution problems will be stressed. Nutrition, breeding, propagation, soils, fertilizers, power and equipment, control of weeds, diseases and insects, economics of prices, marketing and distribution, and related topics will be discussed.

The course will start January 25 and will continue for 5 days each week, Monday to Friday inclusive, for 2 weeks, ending February 5. Registration, limited to 40 persons, may be made by mail or in person, at Room 203, Administration Building. A fee of \$3.00, payable at the time of registration, will be the only charge for attendance at this course.

Wednesday, February 3

Use of electricity in growing plants, T. M. CURRENCE

*Discussion of methods of insect control, A. G. RUGGLES

Competition from other growing regions, R. W. COX

Flower diseases and their control, LOUISE DOSDALL

Diseases of greenhouse vegetables and their control, R. C. ROSE

Thursday, February 4

The origin of vegetable crops, A. E. HUTCHINS

*Further study of methods of insect control, A. G. RUGGLES

Retailing margins and their importance, R. W. COX

Diseases of fruits and their control, C. J. EIDE

Diseases of celery, tomatoes, and miscellaneous vegetables and their control, J. G. LEACH

Friday, February 5

Potato breeding, F. A. KRANTZ

*Some vegetable crop insects, A. G. RUGGLES

Present trends in vegetable production, F. A. KRANTZ

*The work of the experiment station in plant disease control, E. C. STAKMAN



OTHER UNIVERSITY FARM EVENTS FOR 1937

Eight Weeks' Creamery Short Course—January 7—March 4

Retail Meat Dealers' Short Course—January or February

Greenskeepers' Short Course—March 1-5

Farm Structures Conference—March 5

Ice Cream Manufacturers' Short Course—March 15-20

Horticulture Short Course—March 23-25

Cattle Feeders' Day—May or June

Four-H Club Week—June 8-11

Veterinarians' Short Course—July 8 and 9

Scouting Leadership Short Course—July 25-31 (at Itasca Park)

Swine Feeders' Day—October or November

For information on these events write to L. A. Churchill,
Office of Short Courses, University Farm, St. Paul, Minnesota.

Thursday, January 28

- Growth requirements of different vegetables, F. A. KRANTZ
Improvement of normally cross-pollinated vegetables, melons, beets, and asparagus, T. M. CURRENCE
Landscaping the home grounds, L. E. LONGLEY
Management of soils for truck crops, G. H. NESOM
*Soil insects infesting vegetables, A. A. GRANOVSKY

Friday, January 29

- The role of temperature and light in the growth of vegetables, F. A. KRANTZ
*Introduction to economic entomology, relations of insects, cost of fighting, etc., A. G. RUGGLES
Changes in general level of prices and their importance, W. C. WAITE
Improvement of cucurbits, cabbage, and carrots, A. E. HUTCHINS
Production of bedding plants, L. E. LONGLEY

Monday, February 1

- The effect of cultural practices on the nutrition of vegetables, F. A. KRANTZ
Production and distribution of vegetable seed, A. E. HUTCHINS
Packaging and handling of market garden crops, J. D. WINTER
Factors influencing the demand for vegetables, W. C. WAITE
Nature and causes of plant disease, M. B. MOORE
Principles of plant disease control, M. B. MOORE

Tuesday, February 2

- Cultural practices which modify temperature and light, F. A. KRANTZ
Cultural practices in relation to quality in vegetables, F. A. KRANTZ
Storage of vegetables, A. E. HUTCHINS
The organization of the marketing of vegetables, R. W. COX
Potato diseases and their control, J. G. LEACH
Cabbage diseases and their control, R. C. ROSE

DAILY PROGRAM

Room 8, Horticulture Building

Six one-hour lectures, three in the forenoon starting at 9:15 and three in the afternoon starting at 1:15, will be the general schedule. However, some two-hour classes have been arranged and these are indicated by the asterisk (*). The division between morning and afternoon classes is indicated by spacing.

Monday, January 25

Registration—Registrar's Office, Administration Building
(8:30 a.m.)

Growth and development of vegetable crops, F. A. KRANTZ

*Power and equipment for growing vegetables, A. J. SCHWANTES (Agricultural Engineering Bldg., Room 216)

Origin and formation of soils, G. H. NESOM

How characters are inherited, T. M. CURRENCE

Growing small fruits, W. G. BRIERLEY

Tuesday, January 26

Nutrition in relation to growth and development, F. A. KRANTZ

Methods employed in vegetable breeding, T. M. CURRENCE

Fruit Breeding, A. N. WILCOX

Physical properties of soils and their relation to crop production, G. H. NESOM

*Weeds and their control, A. H. LARSON

Wednesday, January 27

Primary factors involved in the growth of vegetables, F. A. KRANTZ

Improvement of normally self-pollinated vegetables, tomatoes, peppers, beans, and peas, T. M. CURRENCE

Principles of landscape design, L. E. LONGLEY

The chemistry of the soil, G. H. NESOM

*Plant propagation, E. ANGELO

The Bulletin
of the University of
Minnesota

General Information
for the Year 1937-1938



Vol. XL No. 8 March 4 1937

Entered at the post office in Minneapolis as second-class matter
Minneapolis, Minnesota

Accepted for mailing at special rate of postage provided for in section 1103,
Act of October 3, 1917, authorized July 12, 1918

UNIVERSITY OF MINNESOTA

MAIN CAMPUS

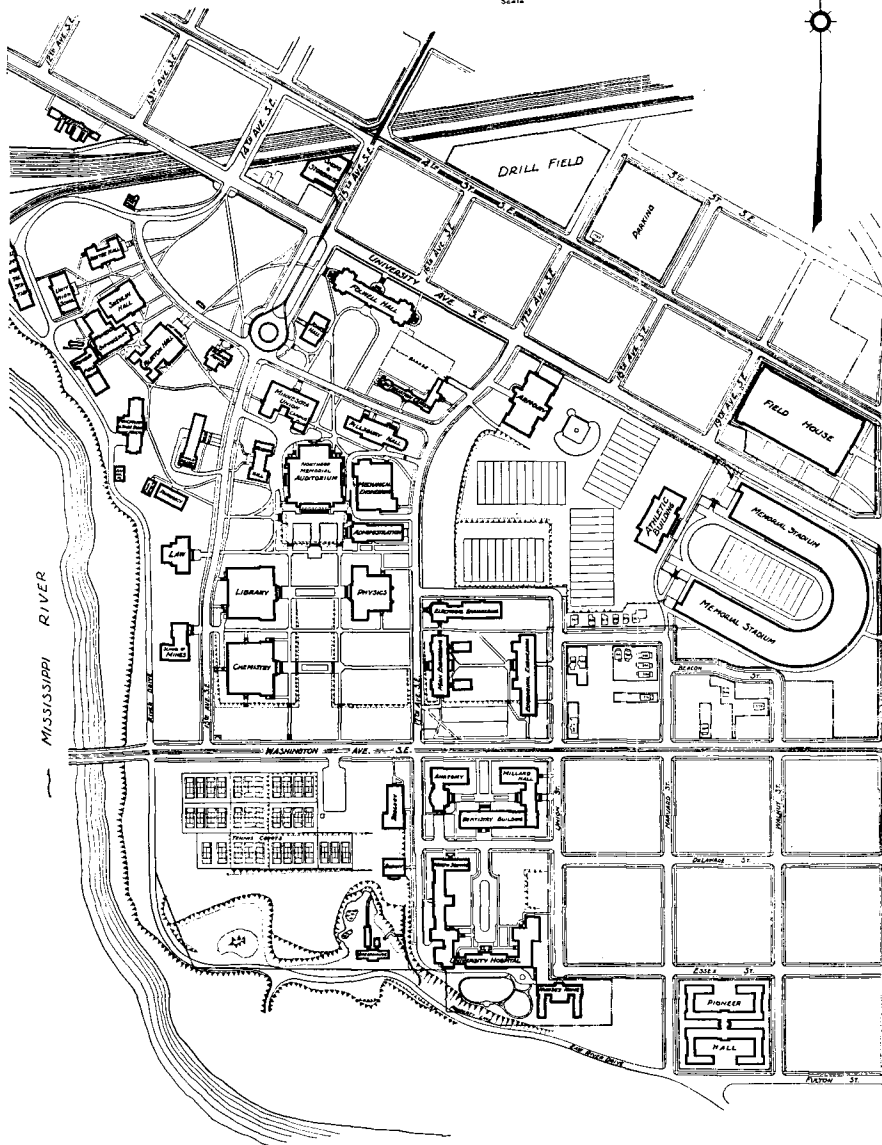


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THE PURPOSE OF COLLEGE TRAINING

Each high school senior must decide which of four things he can and should do: go to work, if work be available, in the type of job for which he is already trained and which will give him satisfaction and success; enter a vocational school for such work as mechanical, secretarial, clerical, or general business; enter college to prepare for a profession; attend college for a year or two to secure that cultural and social training which will make life richer and more satisfying and assist in the making of a vocational choice. This decision can be made only after a student has determined accurately just what kinds and how much ability he has; and then he must discover in which part of the world's work he can use his ability with success and satisfaction to himself and others.

Each student must decide for himself whether he may profit from college training; this decision is to be made only in the light of his interests, desires, skills, and abilities, and by determining what he wants out of life. Human beings differ markedly from each other. A few are best suited for life-long study and research in library and laboratory; some for public service as in teaching, law, and governmental work; some for science as in medicine and engineering; some for management and administration in business; some for a combination of these with outdoor interests as in agriculture and forestry. But there is no short road to success in any of these. A college degree in any of these fields guarantees neither job nor success in the job if one is procured. Particularly is this true in modern society wherein unemployment is widespread and competition is keen. To meet such competition in the professions, a student must devote all his time and energy over a considerable period of years to both general and special preparation, to building himself up in knowledge, skill, and power to analyze and apply what he learns to real situations and problems.

College, university, and graduate professional study are offered primarily for those who have these qualities and who want intensely to become leaders in the field of their choice. But that many people do not really want to become leaders is indicated by the fact that even in college a large proportion do not concentrate on preparation for leadership. There is much truth in the statement that most people fundamentally desire to live simply. They do not want to assume heavy burdens of responsibility. They really wish rather to strike a balance in their living, using their job as support for their marriage, home, social, and recreational activities.

On the other hand, some students desire to become leaders in a special field but do not have the combination of special skills and abilities which may be trained by the educational process for ac-

complishment. It is, therefore, necessary for each student to find out all he can about himself. This may be done by thinking carefully about various tryout experiences in summer and part-time work, about the school courses he has liked best, found most profitable, and in which his achievement is of a high level. He should consult with his teachers to find out the answer to the questions: "What kind of a person am I? What are my special interests and my weaknesses?" And finally, each student should take as many of the achievement and aptitude tests as he can. Out of such an analysis is likely to come a judgment as to what he wants and can do.

Altho students should attempt to make a vocational decision before leaving high school, that choice need not, and in many cases should not, be too definite. Many have not had opportunity to try out their abilities adequately and others have not been well advised in judging what their experiences mean. For these students it is well to make a tentative choice and then to seek more experiences and advice before finally deciding.

Those students who decide to enter the University will find here facilities for helping them make a more definite vocational choice. After they have consulted high school teachers they should feel free to call upon the University for this service. Bulletins of the various colleges in the University contain descriptions of the general and professional training offered. The deans and advisers of the colleges are available for consultation. The University Testing Bureau also offers its services in deciding upon an occupation. It is advisable to visit the University during the summer to discuss vocational and other problems.

As each student attempts to understand himself, he probably will discover certain handicaps or weaknesses of which he was unaware. It is all too easy to hide weaknesses under a cloak of self-confidence. For example, some students discover that their ability to handle the mathematics of engineering subjects is less than they thought they possessed. Frequently these handicaps are so serious as to make necessary a change of vocational plans. In other cases it is necessary to take steps to overcome these handicaps through additional training. Some may be forced to recognize that it will be extremely difficult, if not impossible, to reach as high a professional goal as is desired. It is only by facing the results of such an analysis that students are prepared to understand serious professional training.

Some students choose a vocation, not because of interest or demonstrated ability, but because they have heard there are more opportunities for jobs in one vocation than in others. This is not a sensible way of making a choice. No one can guarantee that four years hence there will be plenty of jobs in such fields of work. Everyone recognizes that some fields are overcrowded now but he who can predict the future is indeed a prophet.

Because some students make the mistake of overemphasizing financial rewards as a measure of professional success, it is well to emphasize the fact that the state of Minnesota provides inexpensive professional training with the expectation that college graduates will contribute to social progress through better citizenship, civic and political leadership, or contributions to knowledge. In this connection, a number of students become interested in the occupation of research and teaching. Their desire to make a social contribution through training youth or through research should be encouraged and recognized as equal in importance to success in other professions.

After deciding upon an occupation and also where to get the necessary professional training, students should recognize that the University expects them to assume certain responsibilities in return for this training opportunity. The transition from high school to college may prove difficult for some if they fail to recognize they are undertaking a distinctly new type of work. College differs from high school in a number of respects. Instruction is given by means of lectures, textbooks, laboratory work, assigned reading to be done in the library, theme writing, translations and composition in foreign languages, class recitations and discussions, written quizzes, and final examinations. Various combinations of these methods of instruction are used in different subjects and by different instructors. Probably every student will have lectures in a considerable part of his work and will therefore need to develop skill in taking notes. Every student will find also that, as compared with the high school, more responsibility is left to him to do the assigned reading, to read and review his notes, to study the textbook, and to do all the things necessary to master each subject as presented by the instructor.

Students are especially urged not to allow themselves to fall behind in assignments but to work systematically day by day and week by week. They will be judged by the results of examinations and other required exercises. The efforts which the college makes at admission to help students to avoid work for which they are not fitted, are intended to save them from discouragement and failure. Every student is offered further advice and help as he goes along, but eventually those who cannot do the work or will not make the necessary effort must fail. College students are young men and women and must learn to assume responsibility.

NOTICE TO PROSPECTIVE STUDENTS

FRESHMAN STUDENTS

Every new student must file an application blank and an official copy of his record from the last school attended.

Application blanks may be obtained at any Minnesota high school, or from the registrar, University of Minnesota.

Applicants are advised to file these papers with the registrar not later than July 1.

Later applications will be accepted, but late applicants may be refused entrance through lack of time to make up discrepancies between the credits they present and the University's requirements for admission.

Whenever possible, credentials should be sent in directly by the proper official at the school last attended, and should not be presented in person by the student.

The university year is divided into four quarters. The fall, winter, and spring quarters make up the college year from September to June. The fourth quarter includes two summer terms.

Students may enter any college of the University at the opening of the fall quarter. The admission of new students at the opening of the winter and spring quarters is limited to those colleges of the University in which satisfactory programs can be arranged.

There is no restriction in the College of Science, Literature, and the Arts, General College, College of Agriculture, Forestry, and Home Economics, or College of Education.

Freshmen are advised not to enter the Institute of Technology, College of Pharmacy, or Course for Dental Hygienists, except at the opening of the fall quarter unless merely a partial program of work is desired in preparation for regular admission in the fall.

Entering classes in Nursing are accepted at the opening of the fall and spring quarters.

Following are the more important registration dates for 1937-38:

Fall quarter

Freshman Week—Registration.....	September 20-21
Freshman Week.....	September 22-25
Classes begin.....	September 27

Winter quarter

Registration.....	January 3 and 4
Classes begin.....	January 5

Spring quarter

Registration.....	March 26 and 28
Classes begin.....	March 29

A detailed calendar for the year 1937-38 will be found on pages 46-48.

Freshmen entering any college except those of the Institute of Technology (Engineering and Architecture, Chemistry, and Mines and Metallurgy) are required to write the college aptitude test. Freshmen entering the College of Science, Literature, and the Arts, College of Education, and College of Pharmacy are also required to write an English placement test and an English theme. Applicants from Minnesota high schools should take advantage of the opportunity to write these tests as offered during their senior year in high school. Other applicants may take the tests at the University at any time and are urged to do so if possible before Freshman Week in order to avoid delays in registration.

Each applicant must present for registration :

- a. Admission certificate as issued by the Board of Admissions.
- b. The necessary test cards for the college for which he is applying.

Read the Instructions for Registration carefully noting : (a) the place to report ; (b) the time of reporting ; (c) the documents which must be presented and how they are to be obtained.

Instructions for Registration will be mailed with the admission certificate or, following the admission certificate, about a month before the opening of the quarter.

STUDENTS ENTERING WITH ADVANCED STANDING

Each applicant is required to file with the Board of Admissions :

- a. Application blank properly filled out. (Blanks may be obtained from any Minnesota state high school or from the registrar, University of Minnesota, Minneapolis.)
- b. An official transcript of record from any college previously attended.
- c. An honorable dismissal from the last institution attended.

Transcripts of record and letters of honorable dismissal should be sent direct from the institution concerned to the University of Minnesota and should not be presented in person by the applicant.

Applicants who are unable to present at least a full year of advanced standing will be admitted as freshmen on the basis of their high school credits and should present the same documents and follow the same procedure as outlined for freshmen in the foregoing section and in the Instructions for Registration.

Each applicant must present for registration :

- a. Admission certificate as issued by the Board of Admissions.
- b. Record of advanced standing.

Read the Instructions for Registration carefully noting : (a) the place to report ; (b) the time of reporting ; (c) the documents which must be presented and how they are to be obtained.

Instructions for Registration will be mailed with the admission certificate or, following the admission certificate, about a month before the opening of the quarter.

FRESHMAN WEEK

The University recognizes the need of giving its newly entering students an introduction to their work and to university life which is new and strange to them. For this purpose it requires freshmen to come to the University for part of the week before classes begin. This Freshman Week is devoted to efforts to help the freshman get a right start.

The period of September 22-25, inclusive, will be used by the freshman for the following duties:

- a. Making his living arrangements.
- b. Registration and paying his fees.
- c. Physical examination. (Physical examinations for women are conducted by women physicians.)
- d. Aptitude tests.
- e. Other tests or examinations which will enable the faculty to place him in the class for which he is best fitted.
- f. Interviews with advisers.
- g. Hearing lectures on such subjects as:
 1. The use of the library.
 2. How to study.
- h. Making visits to acquaint himself with the University Library, scientific laboratories, and other points of interest in connection with his choice of studies and future occupations.
- i. Special exercises intended to acquaint him with the peculiar conditions or requirements of the college which he enters.
- j. Musical and social entertainment in the evenings arranged with the co-operation of the Student Council and the various religious bodies.

In several colleges of the university new students may register as early as September 16. See special Instructions for Registration which will accompany or follow certificate of admissions.

During the process of registration faculty advisers talk with all students, helping them to make the best selection of studies.

The Committee on Vocational Information is in session for conferences with freshmen regarding their general vocational and educational problems.

Administrative officers, faculty, student government councils, upper class students, and organizations for religious work all co-operate to make Freshman Week a period during which the freshmen find themselves, learn how to go about their university work, and how to profit by the opportunities for recreation.

NOTE THAT ALL FRESHMEN MUST REGISTER FOR FRESHMAN WEEK BEFORE SEPTEMBER 20 AND MUST BE IN ATTENDANCE THROUGHOUT THE FRESHMAN WEEK PERIOD CLOSING ON SEPTEMBER 25 UNLESS REGISTRATION FOR THE FALL QUARTER IS COMPLETED PRIOR TO FRESHMAN WEEK.

All who have not completed the psychological and English tests must report not later than Monday, September 20.

COURSES AND DEGREES

Brief summarized statements of the courses of study offered by the University of Minnesota, together with the degree to which each leads, are listed below.

The University does not issue a complete catalog of courses in one volume but a full outline of each of these courses of study together with descriptions of the subject-matter courses which they include will be found in the announcement of the college or school in which the course of study is offered.

These announcements may be obtained by addressing the Registrar, University of Minnesota, Minneapolis, Minnesota.

GENERAL COLLEGE

The plan of the General College is a new departure in education. It calls primarily for a two-year rounded course, leading to the degree of associate in arts. This offers cultural education for intelligent citizenship and for the fullest enjoyment of home life and leisure in an immediate future wherein present trends indicate that a drastic reduction in our working hours will be made. A broad curriculum of new courses in the General College gives the individual wide freedom of choice. Combination programs of courses in special fields in other departments together with courses in the General College can be arranged to meet the needs of individual students. The counselors and instructors of the General College are available at all times to help students with their many problems and questions, in order that their university course be made interesting, valuable, and meaningful.

Emphasis is placed upon the present-day problems in economics, government, history, sociology, and science. Functional mathematics, courses in practical application of psychology and human development and personal adjustment are available. Art appreciation for the layman involves work in the movies, the theater; in music, including band, symphony, and jazz. Appreciation of the graphic arts is taught in the studio by working with the artist's mediums of clay, pen, pencil, the etching needle, and oils.

Individual help, discussion sections, visual education equipment, new type comprehensive examinations, how to study, vocational information courses, writing laboratory, and special work in speech give an opportunity to every student to make his college course a real and vital part of his living now and in the future.

A limited number of students in other colleges may also be permitted to take one or two of the General College overview courses. The usual provision has been made to accommodate adult auditors.

The degree, associate in arts, is granted upon completion of two years creditable work in the General College. Students must pass six comprehensive examinations. Possible exemptions from this requirement, based upon comparable work in other colleges, may be discussed with the director.

Provision is made for the counseling and guidance of individual students in this college. Individual needs, desires, and abilities will be recognized and

combination programs will be made out for students who have exceptional abilities in art, music, etc.; and for students with personal, educational, and vocational problems.

COLLEGE OF SCIENCE, LITERATURE, AND THE ARTS

The College of Science, Literature, and the Arts serves three main groups of students in the University: candidates for the degrees bachelor of arts and bachelor of science given by this college, students preparing for entrance to one of the professional schools (see page 35), and students enrolled in the professional schools and the Graduate School. Each of these groups claims about one third of the total teaching time of the faculty of this college.

For the most part, all students, altho enrolled in different colleges and candidates for different degrees, do their work together in the same classes in English, German, French, history, zoology, etc. The class schedules are so arranged that students can get the various subjects required in their respective curricula without conflict.

The course of study leading to the degree of bachelor of arts is elective under certain broad limitations. It is expected that the four-year course will be a period of intellectual growth. Each student begins with relatively elementary studies in the freshman and sophomore years and goes on in the junior and senior years to more advanced and intensive studies. In the first two years the student is required to make suitable preparation for the advanced studies. In the last two years the student has the option of a general cultural course or a course for specialization. Every student is allowed, with the help and approval of an adviser, to plan a program of studies to suit his individual needs and interests.

The following special curricula have been outlined to meet the wants of particular groups of students. An indefinite number of other study programs may be arranged by individuals as noted in the last paragraph.

Course in Training for State and Federal Administration.—A five-year course leading to the degree of bachelor of arts at the end of the first four years. Students whose programs satisfy the requirements of the Graduate School may receive the degree of master of arts at the end of the fifth year.

Course in Training for Diplomatic and Consular Service.—A five-year course leading to the degree of bachelor of arts at the end of the first four years. At the end of the fifth year students whose programs satisfy the requirements of the Graduate School may receive the degree of master of arts.

Course in Training for Social and Civic Work.—A five-year course, during the first four years of which the student secures a broad education with special attention to history, economics, political science, and sociology. The fifth year is devoted to technical subjects with professional training in social work. The degree of bachelor of science is given at the end of four years, and either a special certificate or the degree of master of arts upon the completion of the fifth year.

Course in Arts and Music.—A four-year course leading to the degree of bachelor of arts, in which the theoretical and practical work in music is

combined with the study of psychology, modern languages, English literature, and history. The object is to provide a well-rounded cultural course for those who are preparing for professional work in music.

Course in Journalism.—Professional training in this field is given by a major in the Department of Journalism together with required or advised work in other fields.

Course in Training for Library Service.—A four-year course including three years in this college and a full year (45 quarter credits) in professional library instruction subjects. At the end of the fourth year students may receive the degree bachelor of science. The same degree is also given to college graduates who take a complete year in Library Instruction.

Course in Preventive Medicine and Public Health.—Students in this college may major in this field.

Combined courses in Arts and Medicine.—An eight-year course leading to the degrees of bachelor of science and doctor of medicine, and an eight-year course leading to the degrees of bachelor of arts and doctor of medicine.

Combined course in Arts and Law.—A six-year course leading to the degrees of bachelor of arts and bachelor of laws.

Combined course in Arts and Dentistry.—A six-year course leading to the degrees of bachelor of arts at the end of five years and doctor of dental surgery at the end of the sixth year.

Combined course in Arts and Architecture.—A six-year course in Arts and Architecture leading to the degrees of bachelor of arts at the end of four years and bachelor of architecture at the end of the sixth year.

Combined course in Arts and Interior Architecture.—A four-year course leading to the degree of bachelor of interior architecture. The third and fourth years are spent in the Institute of Technology.

Course in Training for Medical Technologists. A four-year course including the two-year premedical course in this college and two years of work in the Medical School.

Preprofessional training.—In this college is given also the academic work required for admission to the Medical School, the Law School, the School of Dentistry, the School of Business Administration, the College of Education, and the course preliminary to nursing education in the College of Education.

INSTITUTE OF TECHNOLOGY

The Institute of Technology, established in 1935, embraces the College of Engineering and Architecture, the School of Chemistry, and the School of Mines and Metallurgy.

The College of Engineering and Architecture offers professional courses of study in the following fields:

Aeronautical Engineering	Engineering and Business Administration (5 years)
Civil Engineering	Architecture (5 years)
Electrical Engineering	Landscape Architecture
Mechanical Engineering	Interior Architecture
Engineering Prebusiness	
Agricultural Engineering (in co-operation with the College of Agriculture, Forestry, and Home Economics)	

The School of Chemistry offers professional four-year courses of study in the following fields:

Chemistry

Chemical Engineering

The four-year course leading to the degree of bachelor of physics (B.Phys.) includes a minimum of 55 credits in physics, 34 credits in mathematics, and 39 credits in chemistry. The course is designed for students who desire to enter the field of industrial physics or special graduate work in physics as a major.

Each of these courses leads to the Bachelor's degree in the corresponding field (as bachelor of aeronautical engineering or bachelor of chemistry). Optional groups of electives are available in some of the courses for students who desire to devote special attention to certain branches, such as Engineering Administration.

The School of Mines and Metallurgy offers professional four-year courses of study in the following fields:

Mining Engineering

Mining Engineering (Petroleum)

Mining Engineering (Geology)

Metallurgical Engineering

These courses lead to the respective degrees: engineer of mines, engineer of mines in geology, engineer of mines in petroleum, and metallurgical engineer.

The Engineering Prebusiness Course requires the first two years of work in the Institute of Technology. This is followed by two years in the School of Business Administration upon the satisfactory completion of which the degree of bachelor of business administration is conferred.

Five-year combined courses in *Engineering and Business Administration* are available for students who desire more extensive preparation for administrative positions while including one of the regular engineering or chemistry curricula. The student is thus able to obtain the degree of bachelor of business administration at the end of the fifth year, after having also completed his engineering or chemistry course for his Bachelor's degree.

The first two years of the course in *Interior Architecture* are taken in the College of Science, Literature, and the Arts, and the last two years in the Institute of Technology.

Work is also offered in the Graduate School leading to the Master's degree in the appropriate branch of engineering, architecture, or chemistry, or to the Doctor's degree.

The professional degree of aeronautical, agricultural, architectural, chemical, civil, electrical, or mechanical engineer will be conferred upon those who have received the Bachelor's degree in the corresponding field of engineering when they have completed the equivalent of one additional year's college work in that field, and four years of approved engineering experience in positions of responsibility, and have presented a satisfactory professional thesis. Graduates of this University may be granted permission to pursue the year of graduate study *in absentia* under the direction of the faculty. It is recommended, however, that this year be spent in residence at this or some other university and that the Master's degree be obtained in this manner. There are many advantages in taking this year of study immedi-

ately following graduation from the four-year course, thus making a five-year course leading to the Master's degree. Then after four years of approved experience and the preparation of the thesis, the professional degree may be obtained. This procedure is especially recommended to those students whose undergraduate work is of high grade and who desire additional preparation for the higher positions which require strong character and leadership. Candidates for the professional engineer degree register in the Graduate School.

The Engineering Experiment Station is a research organization, which provides facilities for studies, experiments, and investigations in the various fields of engineering and architecture, under the direction of members of the staff. Several research fellowships are available for part-time graduate students. Results of investigations are published in the *Bulletin of the Engineering Experiment Station*. Research funds are provided by industries in some cases to support special studies.

COLLEGE OF AGRICULTURE, FORESTRY, AND HOME ECONOMICS

The College of Agriculture, Forestry, and Home Economics offers four-year courses in the fields of agriculture, forestry, and home economics, leading to the bachelor of science or equivalent degree.

The following curricula are offered:

AGRICULTURE

Technical Agriculture Curricula.—These curricula are arranged for students who plan to enter one or more of the technical or applied fields of agriculture immediately upon graduation. Students may, however, continue in graduate work for further specialization. Training is offered for all types of farming in this area, for county agent and extension work, and for technical agricultural work in agricultural industries in dairy and animal husbandry, agronomy and plant industries, horticulture, agricultural engineering, landscape gardening, farm management, agricultural economics, and agricultural business.

Agricultural Science Curriculum.—This curriculum provides for more intense specialization, particularly in the sciences basic to many fields of agriculture. Only that amount of technical training in practical agriculture is required which deals with the special science or field selected. Selection of the Agricultural Science Curriculum should, in practically all cases, be followed by graduate study to at least the Master's degree. Students who do not have records in high school considerably above average should not attempt the science curricula.

Wild Life Management Curricula.—Open to students registering according to the various following curricular patterns in the fields of forestry and agriculture: Forestry (game management), Technical Agriculture, Agricultural and Forest Sciences. (See *Wild Life Management Curriculum* in the *Bulletin of the College of Agriculture, Forestry, and Home Economics*.) The curriculum or pattern will be selected and built up with the aid of an

adviser for the special vocational or professional objectives which the student has in mind. The work involves a wide range of activities including the management of upland game, big game, waterfowl, fish, and fur bearers in parks and forests and on wild life preserves and privately owned lands; it also includes the artificial propagation of game and fur species and the encouragement of nongame species. Students may also prepare themselves for teaching in colleges and universities, for research and experimental work in various state and federal departments, and for management and extension work in state and federal departments concerned with utilization of our natural resources.

Preveterinary Medicine Curriculum.—This curriculum of one year may vary in accordance with the veterinary college to be selected by the student. In general, the requirements would follow the plan of the Agricultural Science Curriculum, but special variations from this curriculum may be provided upon recommendation of the adviser. Because of the grade requirements for entrance to veterinary colleges an average grade of C or above in preveterinary medicine is essential.

Agricultural Education Curriculum.—Designed especially for those who plan to teach agriculture in the public schools. This curriculum (given jointly with the College of Education) follows in general the technical agriculture groups and permits emphasis on majors in special technical agricultural fields, such as dairying, horticulture, farm management, etc. In addition, it offers special training in education and leads to certificates for teaching agriculture and sciences in elementary and high schools of the state.

Agricultural Engineering Professional Curriculum.—Offered jointly with the Institute of Technology. This is a technical engineering course leading to the degree of bachelor of agricultural engineering. The first two years are spent largely in work in the Institute of Technology and the last two in work in the College of Agriculture, Forestry, and Home Economics and the Institute of Technology. High school mathematical preparation required for all engineering curricula is also required here. The Agricultural Engineering Professional Curriculum is designed to train specialists in various types of engineering fundamental to agricultural practices and industries.

Students desiring a major in agricultural engineering with special reference to the technical application and without the professional engineering training should register for a Technical Agriculture Curriculum.

Agricultural Business Administration Curriculum.—Offered jointly with the School of Business Administration. Designed for those who wish to prepare for some branch of agricultural business, such as marketing, finance, farm real estate, merchandising, etc. More opportunity is offered for business and economic courses than in the Technical Agriculture Curricula, where greater stress is on the agricultural subjects.

Agricultural Journalism Curriculum.—Offered jointly with the Department of Journalism of the College of Science, Literature, and the Arts. Designed for those who wish to prepare especially for some field of journalism relating to agriculture. The student is offered general courses in technical agriculture, but the major part of the last three years is occupied with

special preparation for technical journalism. Particular stress is also laid on economic and business courses related to agriculture.

FORESTRY

The curricula in Forestry provide an opportunity in the junior and senior years to major in one of the following:

General Forestry Curriculum.—Preparation for technical forest work in public and private service involving management of forests and forest crops.

Commercial Lumbering Curriculum.—For those who wish to enter some field of lumbering.

Forest Technology Curriculum.—Preparation for manufacture of pulp, paper, and other wood products.

Grazing Curriculum.—Preparation for range and forest management work.

Wild Life Management Curriculum.—Preparation for combined forestry and wild life management (game management). See also under Agriculture, page 14.

Forest Sciences Curriculum.—Opportunity for specialization in the sciences basic to the various fields in forestry. Should not be selected unless the student has a high school record or a college freshman year record considerably above the average. It is assumed that the student will take graduate work at least to the Master's degree.

HOME ECONOMICS

Curriculum for Dietitians.—For women expecting to become hospital dietitians. Students selecting this course should be sure of an aptitude for, and ability in, the physical and biological sciences and should have a high school record of better than average.

Curriculum for Home Economics Education.—Offered jointly with the College of Education for those who wish to teach home economics in the high schools and obtain a teacher's certificate. Students should be sure of an aptitude for, and ability in, the natural sciences and should have a high school record of better than average.

Curriculum for Home Economics in Business.—For students planning to enter business fields that are closely related to home economics, such as foods and nutrition, related art, textiles and clothing. Given with the cooperation of the School of Business Administration.

Curriculum for Institution Management.—Preparation for management of such institutions as tearooms, cafeterias, dormitories, and institutional homes, etc.

Curriculum for General Home Economics.—A college course in Home Economics offering a broad, general education designed especially for the important business of homemaking.

Home Economics and Nursery School Education.—A combination course designed for those who have ability and interest in the two fields.

Curriculum for Preparation for Research in (a) Textiles and Clothing or (b) Foods and Nutrition.—An undergraduate preparation for graduate

work as a basis for more intense specialization in these fields of home economics research. For those who plan a scientific research career. Students who do not have a high school record or a college freshman record considerably above the average should not attempt this course. Graduate work to at least the Master's degree is assumed.

Curriculum for College Teaching.—A specialized curriculum for undergraduate preparation for graduate work leading to teaching home economics at the college level. Previous teaching experience and special aptitude are essential. Graduate work is, of course, assumed.

Home Economics Science Curriculum.—Opportunity for specialization in the sciences basic to the various fields in home economics. Should not be selected unless the student has a high school record or a college freshman year record considerably above the average. It is assumed that the student will take graduate work at least to the Master's degree.

Graduate work is offered in special lines of agriculture, forestry, and home economics. For the most part the special problems are correlated with the investigational work of the Agricultural Experiment Station and its branches.

DEPARTMENT OF AGRICULTURE

Schools of agriculture offer three-year courses, giving special training in farm life and home economics, adapted especially to the needs and opportunities of farm boys and farm girls. The Central School is at University Farm, St. Paul; the Northwest School, at Crookston; the West Central School, at Morris; and the North Central School, at Grand Rapids.

Short courses offer opportunity for the study of a great variety of subjects related to agriculture, to industries based on agriculture, to home economics, and to rural life.

Farm and Home Week, in January, offers instruction in regular classes in agriculture and home economics and gives opportunity for conferences of many important agricultural organizations of the state, which hold their annual meetings at University Farm in the course of the week.

Other short courses offered during the year are: an Advanced Creamery Operators' Short Course of two weeks in October; a Beekeepers' Short Course of three days in November; an Ice Cream Makers' Short Course of ten days in December; a Creamery Operators' Short Course of six weeks in January and February; a Retail Meat Dealers' Short Course of two days in February; a Commercial Florists' and Retailers' Short Course of three days in February; a Land Management Short Course of two days in February; a Farm Structures Short Course of two days in March; a Horticultural Short Course of three days in March; a Greenskeepers' Short Course of two days in March; an Editors' Short Course of three days in May; a Boys' and Girls' Short Course in June; a Short Course in Veterinary Medicine in July; a Forestry, Woodcraft, Scouting, and Camping Leadership Short Course in August; and a Scout Executive Seminar of three days in October.

The Experiment Station provides facilities for investigation of the numerous and varied problems involved in the agricultural industry. The results of these investigations contribute largely to the subject-matter included

in the courses of instruction given in the College of Agriculture, Forestry, and Home Economics, in the schools of agriculture, and to that used by the extension specialists in their work among farmers. The Experiment Station organization also offers some research advantages to students taking advanced work in the Graduate School. The main or Central Station is located at the University Farm, St. Paul, with branch stations at Crookston, Morris, Grand Rapids, Waseca, Zumbra Heights, and Duluth, and forest experiment stations at Cloquet and Itasca.

The Agricultural Extension Division of the University Department of Agriculture carries to the farmers and homemakers of the state the information made available by the research divisions of the department and the United States Department of Agriculture, and the experience of successful farm practice. This is done through county extension workers, organized local rural leadership, demonstrations, lectures, institutes, contests, bulletins, farm papers, correspondence, and personal visits.

LAW SCHOOL

The work of the lawyer is primarily that of an adviser. In most cases it consists chiefly of drawing legal papers, such as wills and contracts, settling estates and dealing with property, assisting in the organization and management of corporations, advising on business activities, and otherwise helping clients to make plans for the future. Court work, of which the public hears so much, is really a very small and comparatively unimportant part of the work of most lawyers.

Many law graduates go at once into business where legal knowledge, such as insurance, real estate, or banking, will be useful, while others find business opportunities in connection with their practice.

The Law School offers courses leading to the degrees of bachelor of laws and bachelor of science in law.

Six years of college and Law School study are required for the degree of bachelor of laws. Two possible courses are offered leading to this degree. The degree will be conferred upon students who have completed:

(a) Two years of college work and four years of work in the Law School, or

(b) Three years of college work and three years of work in the Law School.

(After November 1, 1937, only students with a B.A. or equivalent degree at the time of transfers will be admitted to the three-year law course. For all others the law course will be four years.)

The same number of years is required to complete both courses; the difference is that course (a) offers one more year of work in the Law School instead of a year in the College of Science, Literature, and the Arts. The extra year in the Law School is an opportunity to cover additional subjects not included in the three-year Law School course, which are of value in preparation for the legal profession. For this reason, course (a) is recommended in the usual case for students who are looking forward to the profession of law. Students taking course (a) may qualify for the degree of

bachelor of science in law at the end of the second year in the Law School, in the manner specified below.

Students taking course (b) may qualify for the degree of bachelor of arts on completing the first year in law, provided they have satisfied the requirements of the College of Science, Literature, and the Arts for that degree. The first year in law is accepted as a substitute for the fourth year in that college.

The degree of bachelor of science in law is conferred on students who have completed two years, including English, English constitutional history, political science, economics, psychology, logic, and philosophy, in the College of Science, Literature, and the Arts, or equivalent work in some other accredited college, and two years of work in the Law School. Graduates of the School of Business Administration and of the Institute of Technology are eligible as candidates for this degree. The law work may be chosen in accordance with the objective of the student, and may be restricted generally to commercial law. One purpose of this course is to provide a training in law for business purposes, and the degree is appropriate for those who wish to study law, but do not intend to practice the profession. This degree will not qualify for admission to the bar, but graduates of good standing in the course may obtain the degree of bachelor of laws by two years of additional study.

The prelegal course will be found in the bulletins of the College of Science, Literature, and the Arts and the Law School.

The Law School affords an opportunity for a course leading to the degree of master of laws, under the direction of the Graduate School. Candidates must have completed two years of college work and must have secured the degree of bachelor of laws from a school which is a member of the Association of American Law Schools.

MEDICAL SCHOOL

The Medical School offers three principal courses: one for physicians, one for nurses, one for medical technologists.

The Medical Course proper leads to the degree of doctor of medicine and the usual career of graduates is the practice of medicine. For the academic years 1937-38 and 1938-39 the minimum preparation for entering this course will remain at two years of college work, including biology, general and organic chemistry, physics, English, and a reading knowledge of German.

Altho during the above specified period two years of college work will constitute the minimum requirement for admission to the Medical School, a physician should have a thoro and broad education. Hence, students are strongly advised to take three or four years of college work before beginning the medical course; and, other qualifications being approximately equal, the admissions committee will give preference to those applicants who have had the better educational background.

Beginning with the academic year 1939-40 the minimum requirement for admission to the Medical School will be three years of college work, with psychology, genetics, and physical chemistry added to the specific require-

ments. The time during these three (or four) years of college work which is not taken up with specifically required subjects should be devoted to a program of studies, carefully selected to serve as a background for a liberal education. (See Medical School Bulletin for details of entrance requirements and for suggestions for elective studies.)

Premedical study may be pursued in any good college. The medical course must be taken in a legally chartered medical school. This course is four years in length and leads, at Minnesota, to the degree of bachelor of medicine. After a further year as intern (that is, resident doctor) in some good hospital, the student is granted his degree of doctor of medicine. He may then engage in practice or undertake additional graduate work as preparation for the practice of a specialty or for a career in teaching and research.

It will be seen that the complete time of study for a physician is seven to ten years above the high school. The course is difficult and only competent students should undertake it.

The School of Nursing offers a five-year combined course leading to the degrees of bachelor of science and graduate in nursing. The first five quarters in this course may be spent in any good university and are devoted to the study of biological and other sciences, and to additional cultural courses fundamental to nursing. The next two and one-half years are spent in the clinical field of hospital, outpatient, or other community nursing practice. The last three quarters (one academic year) are divided between the clinical field (a chosen elective), and academic work contiguous to nursing.

Students taking this course are prepared, depending upon their choice of elective in the last year, for positions of bedside nursing, administration, supervision, teaching, school nursing, public health nursing, and other similar types.

The work of present-day nursing demands a comprehensive preparation such as may be secured in the five-year combined course. Graduates of this course are in demand and hold excellent positions in the various representative nursing fields in this country and abroad.

The school offers, also, a three-year course leading to a diploma of graduate in nursing. High school graduates meeting the entrance requirements of the University are eligible for this course.

The School of Nursing co-operates with the College of Education in offering a course in nursing education for graduate nurses leading to a degree of bachelor of science.

The school provides, in addition, postgraduate courses in communicable disease, medical, surgical, operating room, pediatric, and obstetrical nursing. These courses are twelve months in length and include clinical experience within the hospital and in other phases of community nursing practice outside the hospital. Students in these courses are expected to carry the equivalent of one-half year of related scientific and other academic work during the year. Nurses completing these courses are prepared primarily for combined administrative and teaching head nurse positions.

The school receives students from affiliating schools for class and clinical experience in such fields as medical, surgical, obstetrical, pediatric, dietary, gynecological, communicable, and outpatient phases of nursing.

For extension and summer courses see bulletins of the General Extension Division and the Summer Session, respectively.

Public Health Nursing.—Courses in public health nursing are conducted in the Medical School under the direction of the Department of Preventive Medicine and Public Health. Graduate nurses who are eligible and seniors in the five-year nursing course may secure the degree of bachelor of science with a major in public health nursing. The degree is awarded through the College of Education. Graduate courses in public health leading to a Master's degree are also available for qualified public health nurses. Students who are interested should ask the registrar for application blanks including the nursing supplement and should direct special inquiry to the Director, Public Health Nursing Course, 121 Millard Hall, University of Minnesota, Minneapolis, Minnesota.

The Course for Medical Technologists is four years in length and leads to the degree of bachelor of science. Three years are devoted to college study with emphasis on courses in biological and chemical science. The fourth year of training is taken in a hospital laboratory gaining actual experience.

A medical technologist is trained to make accurate medical tests, such as chemical analyses, microscopic examinations, X ray, etc. This work requires intelligence and reliability of high order.

The Course in Embalming.—See the Bulletin of the Course in Embalming. Much of this course is given in the Medical School under the administration of the General Extension Division.

Short courses for physicians are offered throughout the year by the medical faculty and other specialists under the administration of the General Extension Division and the Center for Continuation Study.

SCHOOL OF DENTISTRY

By action of the Board of Regents, students admitted to the School of Dentistry in the fall of 1937 may register for the three-year course or for the new four-year course, the combined number of students to be accepted into the two courses to be limited to the facilities of the medical and dental departments. In the fall of 1938, all students will be registered for the four-year course.

The curriculum is based upon what a dentist must know in order to be graduated and qualify to engage in the general practice of dentistry. The minimum requirement for admission to the School of Dentistry is the completion of a four-year high school course and two years of college work, sixty (60) semester or ninety (90) quarter credits. The two years of pre-dental work may be taken in the College of Science, Literature, and the Arts at the University of Minnesota or at any accredited university or college.

The pre-dental course must include English and the sciences of chemistry, physics, and zoology. All the other subjects are elective, but the student is advised to secure as broad and as cultural an education as possible by selecting courses such as psychology, sociology, history, economics, statistics, and government. Technical drawing is also recommended as valuable training for a prospective dentist.

A broad, cultural education is of such great value to the professional man that the University of Minnesota offers the opportunity for a student to secure both the bachelor of arts and the doctor of dental surgery degrees in six years. Under the new four-year curriculum, it will require seven years to obtain the two degrees. To accomplish this the student completes three years' work with a satisfactory record in the College of Science, Literature, and the Arts, and then enters the School of Dentistry. Upon the completion of the accredited medical science subjects in the first two years of the dental curriculum, the student becomes eligible for the bachelor of arts degree from the College of Science, Literature, and the Arts. Upon the completion of the required curriculum of the School of Dentistry, the student is recommended by the faculty in dentistry for the degree doctor of dental surgery.

After graduation a dentist secures a license to practice by passing the State Board Dental Examination required by the state in which he desires to locate.

The School for Dental Hygienists.—The Course for Dental Hygienists is offered by the School of Dentistry. Admission is based upon the completion of a four-year high school course or its equivalent. It offers to young women a two-year university course leading to the degree graduate dental hygienist.

The subjects included in this course aim to prepare young women for educational and practical dental hygiene work in public schools, hospitals, industrial institutions, and private dental offices. The cultural subjects include English composition, sociology, psychology, and public speaking. Physiology, physiological chemistry, zoology, bacteriology, and elementary anatomy serve as the fundamental background for the specialized courses pertaining to dental hygiene and pathology. Dental prophylaxis, administration of anesthetics, X ray, and dental laboratory technic, and assisting at the dental chair are included in the course of training. Instruction in office methods, records, banking, typewriting, and correspondence helps to prepare the dental hygienist for the various duties she performs.

Upon graduation the dental hygienist is required to pass the Minnesota State Board Examination in order to secure a license to practice dental hygiene within the state. Thirty-three other states have similar laws governing the practice of dental hygiene.

Extension courses.—Courses in Crown and Bridge Work, Oral Surgery, Orthodontia, and Prosthetic Dentistry are conducted from time to time by the General Extension Division, for the benefit of dental practitioners.

COLLEGE OF PHARMACY

The regular course of the College of Pharmacy leads to the degree of bachelor of science in pharmacy. It extends over four university years and includes one year of prescribed academic work of a minimum of 45 quarter credits. The 1929 Legislature passed an act reading partly as follows: "To be entitled to examination by the Board of Pharmacy the applicant shall be at least 21 years old and shall be a graduate of a college approved

by, or a member of, the American Association of Colleges of Pharmacy." This act went into effect upon passage. The same legislative session passed a bill providing that: "After January 1, 1930, there shall be no examinations for registration or registration of any person as an 'assistant pharmacist.'"

A minimum of four years of study is required for graduation by all colleges of pharmacy that are members of the American Association of Colleges of Pharmacy. The College of Pharmacy of the University of Minnesota is a member of this association and has been on the four-year basis since 1926 (Board of Regents' action, April 1, 1926). The legislature has therefore established the graduating course in the College of Pharmacy as the minimum educational requirement preliminary to the state examination for license to practice pharmacy in Minnesota. Courses leading to the degrees master of science and doctor of philosophy (in the science fields of pharmacy) are offered in the Graduate School.

COLLEGE OF EDUCATION

The College of Education offers many courses of study designed to train students for the different positions in public and private schools and in other educational agencies. The satisfactory completion of a four-year course leads to the bachelor of science degree and to a certificate for school work from the Minnesota State Department of Education. In many cases a five-year program leads to the Master's degree.

Some of the courses of study prepare the student to teach an academic subject in high school, as English, German, history, or science, or to teach one of the special subjects as agriculture, art, business subjects, home economics, industrial arts, natural science, physical education, health subjects, or music education. Other courses of study entitle the graduate to the kindergarten-primary certificate, or to the elementary school or junior high school certificate, and prepare for positions in nursery schools, kindergartens, elementary schools, and junior high schools. There are also courses of study for teachers of subnormal children, for visiting teachers, for teachers of speech correction, and for those interested in educational and vocational guidance, psychological testing in schools, public school health work, public health nursing, and nursing education.

The four- and five-year programs in administration and supervision prepare for positions as superintendents of schools, principals of elementary schools and high schools, supervisors of elementary and high school subjects, critic teachers in teachers colleges and practice schools, and teachers of professional education subjects.

In nearly all cases the student registers for two years in the College of Science, Literature, and the Arts and transfers to the College of Education at the beginning of the junior year. In certain courses of study, as in elementary education and administration, a number of prerequisite subjects must be completed during the junior college period. In art education, industrial education, physical education, music education, and school health work, the student registers in the College of Education as a freshman. In agriculture and home economics the freshman and sophomore years are taken

in the College of Agriculture, Forestry, and Home Economics. The programs in nursing education and public health nursing are based on preliminary work in the School of Nursing.

SCHOOL OF BUSINESS ADMINISTRATION

The School of Business Administration offers a two-year course leading to the degree of bachelor of business administration. This course requires as a prerequisite the completion of two years of work in the College of Science, Literature, and the Arts, the Institute of Technology, or the College of Agriculture, Forestry, and Home Economics in which certain prebusiness courses are prescribed.

In addition to the general courses in business, several specialized sequences are offered. Among them are courses in Accounting, Advertising, Agricultural Business, Finance, Insurance, Merchandising, Department Store Training, Foreign Trade, Personnel Management, Industrial Administration, Traffic and Transportation, Secretarial Training, and Statistics. In each of these a sequence of courses has been arranged which enables the student to obtain the professional training essential for entrance into the specialized field. Instruction is directed toward the broader aspects of the business professions rather than detailed drill in various technical processes. The business courses are combined with a sufficient amount of instruction in other fields to afford a well-rounded university education.

Five-year combined courses in the Institute of Technology and Business Administration are available for students preparing for administrative positions in industrial establishments that require technical training in both engineering and business. A student is enabled to obtain degrees in both engineering and business administration on satisfactorily completing one of the five-year curricula as approved by the official advisers of the School of Business Administration and the Institute of Technology. These combined courses are available to students in the various curricula in the Institute of Technology.

A limited number of positions are available to students in the junior and the senior years to supplement the university training. Students selected for these positions are employed by accounting firms, department stores, financial institutions, or other business concerns. The terms and period of employment are arranged to meet the needs of individual students by the employing firms that are co-operating with the school. Employment under these conditions affords an excellent opportunity for laboratory experience. The positions available have been selected by the faculty with special consideration as to the educational value of the work. University credit is allowed for work which has been successfully carried under proper supervision.

The degree master of business administration is awarded through the Graduate School to students who have completed certain specified course requirements beyond the Bachelor's degree. Students who have obtained the bachelor of business administration degree here or in another institution of equal standing may satisfy these requirements in one year. Students who

have obtained a bachelor of arts degree from a liberal arts college will generally find it necessary to spend two years in completing this requirement.

LIBRARY INSTRUCTION

The Division of Library Instruction with a full year of professional training in librarianship for students of senior standing has a separate organization, but is under the direction of the university librarian and closely affiliated in its work with other departments of the University. Its course is accepted by the College of Science, Literature, and the Arts, the College of Education, and the University College as the senior requirement for graduation. Certain courses will also be credited by the School of Business Administration and the College of Agriculture, Forestry, and Home Economics. Recent changes have been made in the curriculum to meet legislative changes in the certification of school librarians.

INDIVIDUAL CURRICULA

In practically all of the colleges, students of mature age and adequate preparation are permitted to pursue, under the direction of the faculty, one or two distinct lines of study.

A student who is unable to find in any of the curricula of the colleges a program of study suited to his special intellectual interests or professional aims may, with the advice and approval of the University College Committee, arrange a course of study best adapted to his needs. Any course offered in the University may be drawn upon in making up such a program. The satisfactory completion of an approved curriculum entitles the student to the degree of bachelor of arts or bachelor of science.

GRADUATE SCHOOL

The Graduate School gathers into a single organization and unites for the purpose of administration all the activities of the University in all its schools and colleges in so far as they relate to advanced instruction offered for the second or higher degrees, namely, master of arts, master of science, master of business administration, electrical engineer, mechanical engineer, civil engineer, chemical engineer, and doctor of philosophy. The privileges of this school are in general open to all who have received Bachelor's degrees from reputable colleges and universities, based on courses substantially equivalent to those at this University.

Graduate work in medicine is maintained jointly by the Medical School and the Mayo Foundation for Medical Education and Research (see special bulletin). The degrees of bachelor of science (or equivalent) and doctor of medicine and one year of intern service in an acceptable hospital are prerequisite for admission to the clinical departments. Properly qualified college graduates may be admitted to the medical laboratory departments (Anatomy, Physiology, Bacteriology, Biophysics, Pharmacology, and Pathology) without the medical degree and internship. A number of fellowships and scholar-

ships are provided for selected students undertaking graduate courses in chosen specialties in medicine. These courses cover a period of three years and lead to the degree of master of science or of doctor of philosophy in the various fields.

Graduate work in certain problems related to dentistry is offered to qualified students in the fundamental or laboratory departments mentioned above. Clinical material and opportunities to supplement this research are available from the Dental Clinic, the Medical Dispensary, and the University of Minnesota Hospitals.

UNIVERSITY SUMMER SESSION

The university Summer Session is organized for two terms, one of six weeks and one of five weeks, from June to September, under the authority of the Board of Regents, as a regular part of the University. Courses in the Colleges of Science, Literature, and the Arts, Agriculture, Forestry, and Home Economics, and Education, the Institute of Technology, the Schools of Medicine, Dentistry, and Business Administration, the Institute of Child Welfare, and the Department of Library Instruction, with special attention given to graduate work, are offered. These courses are, in the main, regular courses, the same as are offered during the academic year, but wherever necessary, are adapted to meet the needs of students in the Summer Session. Address your inquiries to the associate director of the Summer Session.

UNIVERSITY EXTENSION

The General Extension Division conducts late afternoon and evening extension classes in the Twin Cities, Duluth, and in some other communities for the benefit of those who are employed during the usual working hours and are, therefore, not able to attend the regular day classes of the University. It also conducts correspondence study courses which are available to anyone no matter where he may live. These classes and correspondence study courses cover a wide range of subjects, representing the offerings of the Colleges of Science, Literature, and the Arts, and Education, the Institute of Technology, and the School of Business Administration.

Instruction, by both class and correspondence study methods, is also open to, and employed by, regularly matriculated students as a means of earning credits toward degrees. Extension classes conducted in Minneapolis, St. Paul, or Duluth, are classed as residence work; credits earned in them satisfy residence as well as credit requirements. Credits earned by correspondence study do not classify as residence, but are accepted for a part of the credit requirements for most undergraduate degrees. (The Institute of Technology has special requirements which students must follow.) Students, therefore, who are temporarily out of residence (except dropped students) are privileged to register for either form of instruction.

The General Extension Division also provides a number of other educational facilities, such as: lectures by faculty members and others, lyceum courses, popular lectures, concerts and entertainments; it lends lantern slides

and films for both entertainment and instruction; it maintains a Municipal Reference Bureau; it holds annual short courses in a number of subjects including a year course for embalmers; it gives advice to schools and other organizations on the selection and production of plays; and it administers the university radio broadcasting station for educational purposes.

For further information, and for bulletins of extension classes, correspondence study, and lecture courses, address the General Extension Division, 402 Administration Building, University of Minnesota, Minneapolis, Minnesota.

The work of the Agricultural Extension Division (entirely separate from that of the General Extension Division) is indicated on page 18.

UNIVERSITY LIBRARY

The University Library comprises all the collections of books belonging to the University. It now contains 860,000 volumes.

The University Library Building contains not only the general collection but also several important college and departmental collections aggregating about 725,000 volumes.

In addition to the General Library, branches are maintained in the Department of Agriculture, the Institute of Technology, and the Law School. Small collections of books constantly in use in departmental work are deposited in many important departments of the University.

The *Library Handbook*, copies of which may be had gratis upon application at the library, contains information essential to the proper use of the library. It should be read carefully by every student.

SPEECH SERVICE

The Speech Clinic is available to any student in need of remedial treatment for defective speech, such as lisping, dialect, oral inaccuracy, stuttering, or inadequate speech personality. Often it is found that students have difficulty in college adjustments because of inadequacy in left-handed writing, transferred handedness, or mixed hand dominance. Services to these students include clinical and consultant aid.

Speech proficiency is essential to adequate success in any profession. Speech defectives have an opportunity of receiving help before graduation. The services of the clinic are open to students without charge provided they are registered for at least 10 hours and are working toward a degree. Students desiring full-time clinical work may register in the outpatient unit of the Speech Clinic. The tuition is \$33 per quarter. The number of outpatients is limited by the facilities of the clinic.

The Speech Clinic is located on the fourth floor of Folwell Hall. Inquiries may be made to the director in 411 Folwell Hall.

STUDENTS' HEALTH SERVICE

Through the Students' Health Service the University makes available to students medical care, physical examinations, and health consultations. General service is provided free of charge, but for services which are spe-

cialized and individual in character, such as dentistry, X ray, board and laundry in the student hospital, outpatient calls, minor surgery, etc., special fees are charged. No student, however, will be denied service because of inability to pay these fees. Major surgical operations or prolonged medical care ordinarily are secured through private physicians selected by the students or their families, but, if necessary, operations may be arranged for through the Students' Health Service upon the established basis.

On the Main campus the offices of the Health Service and the Students' Hospital and Dispensary are located in the Health Service Building. On the University Farm campus the hospital and dispensary also are located in a special Health Service Building. The services of the hospital and dispensary are available at all hours of the day and night. Physicians of the Health Service are in attendance daily. The telephone call for the Health Service on the Main campus is Main 8551; for the one on the University Farm campus, Nestor 7611.

The facilities of the dispensary, medical and dental, are such that a large number of students can be given attention in a day. The normal capacity of the two hospitals is one hundred beds. In emergencies, this capacity can be increased. Ample provisions are made for the isolation of communicable diseases.

The Health Service has been established for the purpose of safeguarding the health of students. Its aims are (1) to help each student entering the University of Minnesota to possess a healthy, vigorous, active, and harmoniously developed body, thereby contributing much to his success while in college and in later life; (2) to reduce to the very minimum the prodigious academic and economic loss due to indisposition and illness of students. Positive health is its goal.

VOCATIONAL INFORMATION

Freshmen who are undecided as to what occupation or profession to choose and what college course to take are encouraged to communicate with the University Testing Bureau, Room 310, Northrop Memorial Auditorium. This bureau is organized for the purpose of assisting students in making vocational decisions. If possible, they and their parents should come to the University during the summer for an interview and a discussion of their problems. During Freshman Week the Committee on Vocational Information will be available for this type of service, but freshmen are urged to seek help prior to Freshman Week. The services of the University Testing Bureau are not intended to duplicate the advice students may receive from the dean of the college in which they plan to enroll; they should therefore seek advice from both agencies. Inquiries should be addressed to the director, University Testing Bureau.

MILITARY SCIENCE AND TACTICS

Courses in military science and tactics are elective. All students electing these courses are given the instruction prescribed for the Basic and Advanced Courses, Coast Artillery Corps, Signal Corps, and Medical Corps.

Reserve Officers' Training Corps, and will be governed by the following conditions :

BASIC COURSES

The Basic Courses consist of six quarters of three hours of work per week, for which one credit per quarter is accepted towards graduation. The Signal Corps Course is open to physically qualified male students in Electrical Engineering only. The Medical Corps Course is open to physically fit male students enrolled in the Medical School only. The Basic Coast Artillery Course is open to all physically qualified male students registered in the Institute of Technology and the Division of Forestry, without additional prerequisites. Students in all other colleges may register for the Basic Coast Artillery Course, provided that they have had the prerequisite advanced algebra and plane trigonometry, or provided that they agree to take and complete these subjects some time during their freshman year (Science, Literature, and the Arts, Math. 1, Higher Algebra, and Math. 4 or 6, Trigonometry; 1 and 6 preferred). For those who are planning to take the Advanced Coast Artillery Course, the course in college algebra is recommended (Science, Literature, and the Arts, Math. 7, College Algebra, or Math. 8, Commerce Algebra).

ADVANCED COURSES

Subject to the recommendation of the professor of military science and tactics and the approval of the president of the University, any student is eligible for enrolment who has completed the Basic Course, Senior Division, R.O.T.C., or other equivalent military work. The course consists of six quarters of five hours of classroom work per week, for which three credits per quarter are offered.

Students enrolled in the Advanced Course are furnished a uniform and receive from the Federal Government a fixed sum of pay per day while pursuing this course. They are required to enter into an agreement to continue in the course during their time at the University until completion and to attend such summer training camps as are prescribed by the secretary of war. All expenses incident to training camp attendance are borne by the government. The university degree will be withheld until this contract is discharged. Upon the successful completion of the Advanced Course, students are, upon the recommendation of the president of the University and the professor of military science and tactics, eligible for appointment as reserve officers in the army of the United States in the lowest grade of the branch of service to which they are assigned.

ADMISSIONS

GENERAL

All matters relating to admission to the University and to credit for work at other schools and colleges are handled by the University Board of Admissions. The registrar is the secretary of this board. All credits, applications for admission, and inquiries about admission should be addressed to the Registrar, University of Minnesota, Minneapolis, Minnesota.

APPLICATIONS FOR ADMISSION

Each student who wishes to enter the University, either as a freshman or with credits from another institution, must fill out the information called for on pages 1 and 2 of the official application blank. This blank can be obtained from the registrar or from any Minnesota state high school.

The applicant for admission from high school should then give the application blank to the high school principal or superintendent with the request that it be completed and forwarded to the registrar of the University.

The applicant for admission from another college may send the information on pages 1 and 2 direct to the registrar and, in addition, he should request the college last attended to forward to the University of Minnesota an "official transcript of record" and an "honorable dismissal."

The applicant for admission by examination should submit the information on pages 1 and 2 direct to the registrar who will issue an authorization for the entrance examination.

ADMISSION FROM HIGH SCHOOL

Admission to the freshman class is either by examination (see page 34) or by certificate.

Most students entering the freshman classes of the University are high school graduates. In order to enter without entrance examinations the applicant must be a graduate of an accredited high school of Minnesota, or of a high school on the approved list of some other recognized state or regional accrediting institution.

The public and private high schools on the Minnesota accredited list will be found on pages 54-57.

In addition to being a graduate of an accredited school, the applicant must meet certain requirements set up by the University.

In order to understand the statement of these requirements the following definitions are given:

A "unit" of high school work means not less than five recitations of forty minutes each week for a school year of thirty-six weeks. In such subjects as shop, drawing, cooking, typewriting, and similar courses, a "unit" means the equivalent of ten recitation periods a week for thirty-six weeks. Double laboratory periods will not be required from schools organized on a sixty-minute class period schedule.

"Admission group" refers to the special grouping of the high school subjects as they appear below.

A "major" means at least three units in one admission group.

A "minor" means at least two units in one admission group.

The admission groups and the minimum and the maximum number of units in any one subject that will be accepted for admission are as follows:

Group A: English.—Composition and literature, one to three units. Not to exceed one unit of public speaking or journalism may be presented in partial satisfaction of these requirements.

Group B: Foreign languages.—Requirements for a major in this group, three units in one language; for a minor, two units in one language.

French, one to four units

German, one to four units

Greek, one to four units

Latin, one to four units

Scandinavian languages, one to four units

Spanish, one to four units

Group C: History and social sciences.—Requirements for a major in this group include at least two units in history; for a minor, at least one unit in history.

History—

American, one-half or one unit

English, one-half or one unit

European, one or two units

Social sciences—

American government, one-half or one unit

Commercial geography, one-half or one unit

Elementary economics, one-half unit

History of commerce, one-half or one unit

Sociology, one-half or one unit

Group D: Mathematics

Elementary algebra, one unit

Higher algebra, one-half or one unit

Plane geometry, one unit

Solid geometry, one-half unit

Trigonometry, one-half unit

Unified mathematics, two units

Group E: Natural sciences.—For a major or minor in this group, not more than two half-unit courses may be included.

Astronomy, one-half unit

Biology, one unit

Botany, one-half or one unit

Chemistry, one unit

Geology, one-half unit

Physics, one unit

Physiography, one-half or one unit

Physiology, one-half unit

Zoology, one-half or one unit

Group F: Vocational and miscellaneous subjects, one-half to three units. In this group there may be included any subjects not specifically listed in Groups A, B, C, D, or E which have been accepted by the high school toward its diploma.

For admission to any college of the University which accepts students without preliminary college training, an applicant must present a record

of at least twelve units completed in Grades X, XI, and XII (senior high school).

At least nine of these twelve units must be subjects listed in Admission Groups A, B, C, D, and E. The other three units may be in Group F.

The nine units from Admission Groups A, B, C, D, and E must include a major and two minors, or preferably, two majors and one minor from at least three different admission groups.

Either one major or one minor must be in Admission Group A (English).

From either Admission Group B (foreign languages) or Admission Group D (mathematics), *but not from both*, one unit completed in Grade IX may be used to make a major or a minor. If this is done, however, the unit completed in Grade IX may not be counted as a part of the minimum of twelve units required from Grades X, XI, and XII.

In addition to the above requirements, the individual colleges have specified certain group and subject-matter requirements as indicated below:

SPECIAL REQUIREMENTS OF THE INDIVIDUAL COLLEGES

Applicants entering by the examination method (page 34) are not required to meet these special group requirements.

College	Major in Group	Major or Minor in Group	Major or Minor in Group	Specific Subjects Required	Special Requirements and Recommendations, See below
General	Elective	A	Elective	None	1
Science, Literature, and the Arts	A	D	Elective	None	2
Institute of Technology	Elective	D	A	None	3
Agriculture, Forestry, and Home Economics: Forestry and Agricultural Science courses	Elective	D	A	E, 1 unit	4
All other courses	Elective	A	Elective	None	
Nursing	A	D	Elective	None	5
Dental Hygienists	Elective	A	Elective	None	
Pharmacy	A	D	Elective	Latin, 1 unit Physics, 1 unit	6
Education: Music Education	A	D	Elective	None	
Other courses except those requiring pre-education work	A	Elective	Elective	None	

Admission to the other schools and colleges of the University requires two or more years of preprofessional work. Except as indicated on page 35, this preprofessional work is offered in the College of Science, Literature, and the Arts, and the requirements for admission to that college should be met.

RECOMMENDATIONS OF THE COLLEGES

The numbers of the following paragraphs refer to the numbers appearing in the last column of the table of special college requirements above.

1. *General College*.—Because the college offers courses in general education there are no specific admission requirements other than those of the University as stated on pages 10-11, inclusive.

2. *The College of Science, Literature, and the Arts.*—Applicants for admission to this college must show evidence in the college aptitude rating and other information that they will find suitable educational opportunities in the work of this college.

3. *Institute of Technology.*—Applicants who stand in the upper 60 per cent of their high school class on the basis of scholarship will be admitted directly. Others will be given individual consideration and may be permitted to take special tests to qualify for admission.

All students entering the institute are urged to include in their high school courses: additional mathematics, including both higher algebra and solid geometry; English, three units; chemistry; physics; Latin, two units; German or French, two units; ancient, modern, and American history; and American government or civics. French is desirable for students in architecture. German is important for students entering the School of Chemistry.

4. *College of Agriculture, Forestry, and Home Economics.*—Students entering with a unit of high school chemistry are permitted to take a two-quarter course of five credits each in general chemistry in college instead of a three-quarter course of four credits each. Students presenting a unit of high school physics are not required to take an elementary course in college physics.

Every prospective student in agricultural curricula is urged to obtain at least six months practical experience on a farm before entering college. Those whose farm experience credentials are not satisfactory will be examined as to their familiarity with farm practices and farm experience, or such experience as the committee may consider equivalent will be required during the college course in accordance with the results of these examinations. It is also recommended that major and minors be taken in Groups A, D, and E.

For all students intending to enter any course in forestry it is recommended that major and minors be taken in Groups A, D, and E.

Students in forestry are urged to complete higher algebra in high school. This will exempt them from the higher algebra requirement in the forestry curriculum.

For students entering any of the fields of the college, viz., agriculture, forestry, and home economics, success and experience in high school mathematics and science are valuable assets.

5. *School of Nursing.*—Applicants must be not less than eighteen nor more than thirty-five years of age. They must submit satisfactory evidence of physical and mental fitness and of good character and pass a satisfactory general physical examination by the University Health Service. Final selection is made on the basis of scholarship, character, and general fitness.

6. *College of Pharmacy.*—One unit of high school Latin and one unit of high school physics, or their equivalents, are prerequisites to the professional subjects of the sophomore year in the College of Pharmacy. Therefore, high school students are urged to include these subjects as part of their high school course. Students entering the College of Pharmacy with advanced standing must meet the Latin and physics requirement. Their individual cases will be considered by the Students' Work Committee.

ADMISSION BY EXAMINATION

Applicants who are not graduates of accredited high schools may meet the admission requirements in one of the following ways:

1. By presenting Minnesota State High School Board Certificates in the necessary subjects;
2. By presenting similar certificates from examining boards of other states;
3. By presenting certificates representing examinations given by the College Entrance Board; or
4. By passing successfully the University of Minnesota entrance tests as described below.

UNIVERSITY OF MINNESOTA ENTRANCE TESTS

These tests may be taken by any high school graduate whose high school credits do not meet the special requirements of the college he wishes to enter.

They may be taken also by any individual who is not a high school graduate provided he is nineteen years of age or older.

Any applicant who passes these tests will be admitted provisionally subject to one year of satisfactory work at the University.

Most graduates of Minnesota high schools will have taken these tests in connection with the state testing program conducted in the high schools throughout the state each year.

In order to take the tests at the University, the official application blank should be filed with the registrar according to the instruction on page 30. Detailed information as to where and when to report for the tests and an authorization for the tests will then be forwarded.

In special cases, arrangements will be made to have the tests given near the applicant's home in order to save the expense of travel to the University. In such cases a \$5 fee is charged. There is no fee if the tests are taken at the University.

These tests are of the objective type, intended to measure aptitudes for college work rather than specific information in high school fields. No special preparation for the tests is practicable.

Each applicant for admission by means of the university entrance tests will be required to take the college aptitude test and an English placement test. For admission to some of the colleges additional placement tests are required as follows:

Institute of Technology	Mathematics (including arithmetic, elementary algebra, and plane geometry) and chemistry
College of Pharmacy	Latin and physics (see special requirements and recommendations 6, page 33)
Music Education (College of Education)	Mathematics and music
Art Education (College of Education)	Art

ADMISSION TO SENIOR PROFESSIONAL SCHOOLS

Admission to the schools and colleges listed below requires two or more years of preprofessional work as indicated, either at the University of Minnesota or at some other recognized college or university. The bulletin of the college concerned should be obtained from the registrar and consulted for the specific preprofessional requirements. On entering the University for the preprofessional work, the applicant must meet the admission requirements of the college in which the preprofessional work is to be taken. (See Courses and Degrees, pages 10-29.)

Institute of Technology, Course in Interior Ar- chitecture	Two years in Science, Literature, and the Arts
Law School	Two or three years in Science, Literature, and the Arts
Medical School	Two or three years in Science, Literature, and the Arts (three years after July 1, 1939)
School of Dentistry	Two or three years in Science, Literature, and the Arts
College of Education	Two years in Science, Literature, and the Arts; or in Agriculture, or in Home Eco- nomics; or in the General College; or five quarters in Science, Literature, and the Arts and ten quarters in the School of Nursing. Exceptions are the special four- year courses of study in Art Education, Industrial Education, Music Education, Physical Education, and School Health Work.
School of Business Administration	Two years in Science, Literature, and the Arts; Agriculture, Forestry, and Home Economics; or the Institute of Technology.

ADMISSION TO ADVANCED STANDING

This University accepts credits from other colleges and universities toward the University's degrees. Such credits are accepted as far as they represent courses equivalent to those offered in the University of Minnesota. The certified record of courses taken in other institutions must be upon the official transcript blank of the institution granting the certificate and should be accompanied by a letter or statement of honorable dismissal.

Applications for advanced standing should be made, if possible, at least one month before the time when the student expects to enter the University and on the official application blank, copies of which may be obtained from the registrar's office, University of Minnesota.

All statements concerning advanced standing and classification are provisional, subject to the satisfactory completion of one year's work at the University.

Candidates wishing to gain advanced standing by examination are allowed examinations without charge, provided they are taken within six weeks after admission.

See page 58 for a list of institutions in Minnesota that are recognized for advanced standing credit.

ADULT SPECIAL STUDENTS

Persons of mature age (twenty-four years or older) and experience who may desire a special and limited course of study may be admitted to any of the colleges of the University.

Such applicants must submit the information called for on the regular application blank, and must obtain the recommendation of the dean of the college concerned and the approval of the Board of Admissions.

An adult special student may not be a candidate for a degree without meeting the admission requirements in a way satisfactory to the Board of Admissions.

EXPENSES

For a detailed statement of university fees and basis for refunds, see pages 48-53.

The following table estimates the expenses of the average first year. The columns give estimates for the different colleges. This estimate does not include expenses for clothing, railroad fare, vacations, and amusements.

ESTIMATED EXPENSES OF THE ORDINARY STUDENT DURING HIS FIRST YEAR IN COLLEGE

	Academ., Agric., For, H.E., Educ., Gen., Grad.	Bus. Adm.	Law	Inst. of Tech.	Dent.	Dent. Hyg.	Med.	Phar- macy
Incidental fee	\$ 18.00	\$ 18.00	\$ 18.00	\$ 19.20	\$ 18.00	\$ 18.00	\$ 18.00	\$ 18.00
Matriculation fee	15.00§	15.00	15.00	15.00	15.00	5.00	15.00	15.00
Course and lab. fees	6.00	6.00	6.00	6.00	3.00	9.00	6.00	6.00
Laundry	36.00	36.00	36.00	36.00	36.00	36.00	36.00	36.00
Room rent	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
Board	225.00	225.00	225.00	225.00	225.00	225.00	225.00	225.00
¶Tuition	60.00	90.00	120.00	90.00	180.00	75.00	225.00	105.00
Books and instruments	35.00	35.00	45.00	35.00	200.00*	38.00†	140.00‡	35.00
Total	\$485.00	\$515.00	\$555.00	\$516.20	\$767.00	\$496.00	\$755.00	\$530.00

* Of this mount \$160 is for instruments.

† Of this mount \$25 is for instruments.

‡ Of this amount \$100 is for a microscope.

§ Matriculation deposit for the Graduate School is \$3.

¶ This is the tuition charge for a resident of the state of Minnesota. For additional charges for nonresident tuition see nonresident fees, page 49.

For women the matriculation fee is \$5 in place of \$15. There is a difference of from \$5 to \$25 (\$50 in the Medical School) between resident and nonresident tuition.

Tuition, incidental, and course fees are payable quarterly in advance and must be paid promptly to avoid late fees. These payments are due in September, December, and March—the final dates for payment will be found in the university calendar, pages 46-48.

The matriculation deposit fee is payable on first registration. Additional deposits may be required at any time that the balance is deemed insufficient. The balance will be refunded on graduation or when the student leaves the institution.

By obtaining cheaper board and room many students will be able to live for less than the amount estimated in the above table. Likewise, other students will pay more for board, room, and incidentals, and will not be able to live for the amounts estimated. To live within the minimum amount

a student must forego all luxuries and economize in every way possible. For students living at home several items in the above table will have to be modified.

BOARD AND ROOM

GENERAL REGULATIONS

1. It is understood that a room is engaged for a complete quarter, unless otherwise arranged with the householder. Only when a student withdraws from the University is such student released from payment.
2. It is understood that a room is automatically released at the conclusion of each quarter, but ten days' notice must be given.
3. A \$5 deposit is made to a householder when a room is engaged.
4. It is advisable to make separate arrangements for board and room.
5. Students are advised—when possible—to board where they room.
6. No rebate in room rent is allowed for absence.
7. Rebate in charges for board is made only if absence exceeds a week, or if arrangements have been made in advance with the householder. This rule applies to absence during vacations as well as to all other absences.
8. A special charge is made for meals served to guests, or for extra services to guests.

WOMEN

Sanford Hall.—Sanford Hall, the dormitory residence for women students, is situated at 1100 University Avenue S.E., three blocks from the main entrance to the campus. Two hundred twenty-five students may be accommodated. The building is fireproof and modern in every way and is comfortable and homelike.

Board and room may be obtained for as low as \$90 per quarter or approximately \$30 a month. These are double rooms in the basement.

Single rooms in the basement with board are \$100 per quarter or approximately \$33 per month. All rooms in the basement are light and pleasant.

For occupants of the double rooms on the first, second, and third floors the charge is \$105 per quarter with board, or approximately \$35 per month.

Single rooms on the first, second, and third floors are \$115 per quarter with board, or approximately \$38 per month.

Fourth floor rooms are \$5 less per quarter, or approximately \$33 per month per student for double rooms and approximately \$36.50 per month for single rooms.

Rooms are furnished with a bed, dresser, study table, rugs, chair, clothes closet, and one pair of blankets for each resident. Bed linen is also furnished and laundered.

A tennis court, ping-pong room, and library with late books, magazines, and daily papers provide recreational opportunities.

Students are permitted to pay their fees as follows: \$45 the first month in advance, \$35 the second month, and the balance the first day of the last month of the quarter.

All applications for residence must be made for the entire school year.

It is best to apply as early as possible. Applications will be considered in the order in which they are received.

Communications requesting residence or further information should be addressed to the house director, Sanford Hall.

Co-operative cottages.—Eight co-operative cottages, each in charge of a chaperon, offer comfortable homes for about one hundred women. By assisting with the work of the houses, the students are able to keep expenses under \$25 a month. In assigning students to these cottages preference is given to women earning a part of their expenses. It is understood that students engage rooms for the school year and will not be released until their places can be filled.

Application may be made to the manager of university cottages, Shevlin Hall.

College Girls' Dormitory, University Farm.—A dormitory residence for girls in the College of Agriculture, Forestry, and Home Economics is located on the University Farm campus. About fifty students may be accommodated. The dormitory is closed during vacations.

The charge per quarter is \$30 for a single room and \$24 per student for a double room. The number of single rooms is limited. Meals are not served at the dormitory, but can be obtained at the University Farm cafeteria at reasonable rates.

Necessary bedding is provided and the bed linen laundered. Girls should provide their own couch covers.

Applications for rooms should be made early. A deposit of \$10 to be paid by August 1 is necessary to secure a reservation. The balance is due the first week of the quarter. Communications regarding reservations or further information should be addressed to Cashier, University Farm, St. Paul, Minnesota.

Rooming houses.—Attention is called to the ruling of the Board of Regents that women students are not allowed to reside in any house which is not on the approved list except by special arrangement with the dean of women. About seventy-five houses are approved by the University as residences for women. Women students do not reside in any house where men are taken as roomers. All women students should bring at least three sheets, two pillow cases, and towels, all to be marked with the full name of the owner. No electric light stronger than fifty watt is required in a student's room. No electric appliances are to be used except by permission of the householder. Room rent varies from \$10 to \$15 a month for each student; board at the present time is from \$5 to \$6 a week for two meals per day.

For further information and lists of addresses, application may be made to the director of the Housing Bureau, Shevlin Hall.

Shevlin cafeteria.—Breakfast and luncheon on the cafeteria plan are served at Shevlin Hall daily, with the exception of Saturday and Sunday. Fountain service is available throughout the entire day.

School of Nursing expenses.—Students in the five-year nursing course are registered in the academic college during the first five and last three quarters of the course and have the same expenses in regard to maintenance,

tuition, etc., as other students in that college. Estimate of expenses during the time they are in the School of Nursing is as follows:

Payable at the time of registration	
Tuition and deposit	\$ 36
Books	15
Payable during the first quarter	
Room and board	80-115
Payable at the end of the first month	
Uniform cape and initial set of uniforms	55
Payable during remainder of first year	
Books	15
Miscellaneous	5
Payable during junior year	
Books	10
Miscellaneous	10
Payable during senior year	
Books	10
Miscellaneous	20
Graduation fee	7.50
	<hr/>
	\$263.50 to \$298.50

Room and board are furnished by the associated hospitals without charge to the student except as indicated above. Students in the School of Nursing receive no salary and have no opportunity for earning money while in training. After the first year they are eligible to apply for aid from the student loan funds. The above estimate does not include clothing, incidentals, rail-road fare, nor provisions for the vacation periods.

Expenses of students in the three-year nursing course are similar to those of the five-year group during the latter's enrolment in the School of Nursing.

Postgraduate students receive maintenance during the major portion of their courses. For details of expense see the School of Nursing Bulletin, which may be had from the registrar.

MEN

Pioneer Hall.—The residence hall for men at the University of Minnesota was erected for the purpose of providing comfortable and attractive individual living quarters for men students. It is ideally located overlooking the Mississippi River on the East River Drive, one block east of the medical buildings. This fine building is four stories high, covers an entire city block, and houses 536 residents. It is quadrangular in form and is divided into sixteen houses, each house having a separate entrance. Approximately thirty-four students are accommodated in each house. Most of the rooms are arranged in three-room suites for two students—separate bedrooms and a common study. Single and double rooms are also provided for students who prefer this arrangement. Rooms are furnished with a combination wardrobe and dresser, bed, chair, study table, arm chair, rug, wastebasket, curtains, bed linen, and bed cover. Students are expected to furnish blankets, study lamps, towels, and other personal necessities.

Recreation rooms and private dining rooms are also provided for the accommodation of the students. The dining halls will provide the residents of the houses three meals per day.

Rates are as follows:

Double rooms (11 only) with board, per student	\$102.00 per quarter (\$34.00 per month)
Double rooms (large) with board, per student	\$115.00 per quarter (\$38.33 per month)
Fourth floor three-room suites (three men) with board, per student ..	\$115.00 per quarter (\$38.33 per month)
Single rooms with board	\$125.00 per quarter (\$41.67 per month)
Three-room suites for two men (two bedrooms and a common study) with board, per student	\$125.00 per quarter (\$41.67 per month)
Bay window three-room suites with board, per student	\$130.00 per quarter (\$43.35 per month)

Students are permitted to pay their fees as follows: \$50 the first month in advance, \$40 the second month, and the balance the first day of the last month of the quarter.

Students interested in residence in the hall should write to the director of Pioneer Hall, University of Minnesota, for a copy of the special bulletin and an application form. Assignments will be made in the order of application.

Approved boarding and rooming houses.—A list of approved boarding and rooming houses may be secured at the Housing Bureau. Good double rooms for two men can be obtained within easy walking distance of the campus for from \$20 to \$25 per month. Good single rooms rent for from \$12 to \$15 per month. Board at the present time varies from \$5 to \$6 per week for two meals per day.

Minnesota Union.—At the Minnesota Union, the men's clubhouse on the campus, breakfast and luncheon are served daily on the cafeteria plan. Several private dining rooms accommodating both small and large groups are available for luncheons and banquets.

AIDS FOR STUDENTS

The University offers some opportunities to those who need assistance in meeting the expenses of their education and who have shown through good scholarship in the University that such aid is warranted.

The various types of aids are classified as fellowships, scholarships, prizes, and loan funds, and the Employment Bureau.

The University has no scholarships to offer new freshman students. For full information concerning these "aids" write to the registrar for the bulletin University Aids for Student Expenses. Information may be obtained also from the dean of the college in which the student is registered, the head of the department particularly concerned, the registrar, the dean of student affairs, or the dean of women. In general, all applications for loans should be made to the dean of student affairs and all applications for scholarships for women should be made to the dean of women. No student is

eligible to borrow from any university loan fund until he has completed two quarters' work at the University of Minnesota.

INTERCAMPUS CAR

For students who are registered for class work on both the Minneapolis campus and the University Farm campus, free transportation on the inter-campus car is provided. Passes will be issued to students registered in the College of Agriculture, Forestry, and Home Economics at the registrar's office on the University Farm campus, and to those registered in other colleges at the university post office on the Main campus.

Students who are registered for classes on the Minneapolis campus and who live in the College of Agriculture dormitories will also be given free transportation. These passes will be issued at the registrar's office on the University Farm campus.

Tickets for the intercampus car may be purchased at the cashier's office on either campus. Campus to campus tickets are sold 25 rides for one dollar, and Eustis Station tickets are sold 25 rides for seventy-five cents.

UNIVERSITY EMPLOYMENT BUREAU

The University maintains an Employment Bureau for the purpose of helping both men and women students who seek work, and of developing in all proper ways opportunities for self-help. This bureau co-operates with the Vocational Guidance Department. Each tries to help students to balance both jobs for support and time for classes and study, so that neither the education nor the work will suffer.

The University, itself, offers a certain amount of opportunity for employment in its several instructional and service departments.

To those who are without support of any kind it may be said that many students, with the aid of the money saved from summer employment are making all of their college expenses. A few are able to make their expenses during the college year, but this can be done only by students of unusual force and adaptability, or with exceptional opportunities. The majority of self-supporting students must meet stern competition; must live economically; must guard their health while preserving a fair balance between time given to studies and to outside work.

It is not a good policy to begin life in a new community entirely without resources. In addition to tuition fees prospective students should have at least \$150 or the equivalent; and then it will be necessary for them to live very economically.

While it must be remembered that there are always more applicants than positions, the Twin Cities, nevertheless, offer many opportunities to the self-supporting student. Students are employed as clerks, stenographers, bookkeepers, cashiers, store clerks, drug clerks, salesmen, solicitors, telephone and telegraph operators, teachers, tutors, mechanics, musicians, waitresses and waiters, domestic workers, laborers, janitors, and in many other capacities, some of which are highly specialized. However, a student, espe-

cially one who is new and unacquainted, may not be able to place himself or get the work he would like best at first.

While every effort is made to secure work for all who need it, the positions that come to the bureau cannot be assigned in the order in which the applications are made. The places open are so varied that it would be impossible to assign them in order, without regard to the ability and qualifications of different applicants. The employer must be given the best person for his particular job. Fitness must be the first consideration.

Applicants should also know that during the opening week of school hundreds of students apply to the Employment Bureau for work. It is manifestly impossible to place all of these students as soon as they apply and some students have to wait for days or weeks before they can secure work. The amount of work available varies with employment conditions.

It is usually not advisable for a student to make a sacrifice to come to the city before the opening of the school year in the hope that he can get a position before the other students arrive, because much of the work for self-supporting students is created by the presence of the other students on the campus. Therefore, until the other students are here there are very few part-time jobs available.

Those who find themselves without funds at the beginning of the college year can register in some of the evening extension classes and seek employment during the day rather than run the risk of not being able to finance themselves while carrying regular university work. By choosing extension courses for which university credit is allowed, students can make their future university work much easier and give themselves more time for outside work.

The correspondence study courses offered by the General Extension Division are open to all. Students who can meet the usual requirements for college entrance are allowed university credit for most of these courses.

The University Employment Bureau is not equipped to find full-time employment for extension and correspondence study students.

APPENDIX

ORGANIZATION OF THE UNIVERSITY

The University is organized in schools, colleges, and divisions as follows:

GENERAL COLLEGE

COLLEGE OF SCIENCE, LITERATURE, AND THE ARTS

INSTITUTE OF TECHNOLOGY, including—

- COLLEGE OF ENGINEERING AND ARCHITECTURE, including—
 - ENGINEERING EXPERIMENT STATION
- SCHOOL OF MINES AND METALLURGY, including—
 - MINES EXPERIMENT STATION
- SCHOOL OF CHEMISTRY

DEPARTMENT OF AGRICULTURE, including—

COLLEGE OF AGRICULTURE, FORESTRY, AND HOME ECONOMICS

SCHOOLS OF AGRICULTURE, including—

- CENTRAL SCHOOL, UNIVERSITY FARM
- NORTHWEST SCHOOL, CROOKSTON
- WEST CENTRAL SCHOOL, MORRIS
- NORTH CENTRAL SCHOOL, GRAND RAPIDS

AGRICULTURAL EXPERIMENT STATIONS, including—

- STATE EXPERIMENT STATION, UNIVERSITY FARM
- NORTHWEST EXPERIMENT STATION, CROOKSTON
- WEST CENTRAL EXPERIMENT STATION, MORRIS
- NORTH CENTRAL EXPERIMENT STATION, GRAND RAPIDS
- NORTHEAST DEMONSTRATION FARM AND EXPERIMENT STATION, DULUTH
- SOUTHEAST DEMONSTRATION FARM AND EXPERIMENT STATION, WASECA

FRUIT BREEDING FARM, ZUMBRA HEIGHTS

FOREST EXPERIMENT STATIONS, ITASCA AND CLOQUET

AGRICULTURAL EXTENSION DIVISION, including—

THE SHORT COURSES IN AGRICULTURE

LAW SCHOOL

MEDICAL SCHOOL, including—

- MEDICAL TECHNOLOGISTS
- SCHOOL OF NURSING

SCHOOL OF DENTISTRY, including—

- SCHOOL FOR DENTAL HYGIENISTS

COLLEGE OF PHARMACY

COLLEGE OF EDUCATION, including—

- UNIVERSITY HIGH SCHOOL

GRADUATE SCHOOL, including—

- MAYO FOUNDATION

SCHOOL OF BUSINESS ADMINISTRATION

UNIVERSITY EXTENSION SERVICE, including—

- GENERAL EXTENSION DIVISION
- AGRICULTURAL EXTENSION DIVISION

CENTER FOR CONTINUATION STUDY

BOARD OF REGENTS

The Hon. Julius A. Collier, Shakopee	-	-	-	-	-	-	-	1937
The Hon. O. J. Hagen, Moorhead	-	-	-	-	-	-	-	1937
The Hon. George W. Lawson, St. Paul	-	-	-	-	-	-	-	1939
The Hon. W. J. Mayo, Rochester	-	-	-	-	-	-	-	1941
The Hon. Frank W. Murphy, Wheaton	-	-	-	-	-	-	-	1939
The Hon. A. E. Olson, Duluth	-	-	-	-	-	-	-	1939
The Hon. A. J. Olson, Renville	-	-	-	-	-	-	-	1937
The Hon. Albert Pfaender, New Ulm	-	-	-	-	-	-	-	1941
The Hon. Ray Quinlivan, St. Cloud	-	-	-	-	-	-	-	1939
The Hon. R. R. Rand, Jr., Minneapolis	-	-	-	-	-	-	-	1937
The Hon. Fred B. Snyder, Minneapolis	-	-	-	-	-	-	-	1941
The Hon. John G. Williams, Duluth	-	-	-	-	-	-	-	1941

ADMINISTRATIVE OFFICERS

Lotus D. Coffman, Ph.D., LL.D., President
 Malcolm M. Willey, Ph.D., Assistant to the President and University Dean
 Rodney M. West, B.A., Registrar
 William T. Middlebrook, B.A., M.C.S., Comptroller
 Frank K. Walter, M.A., M.L.S., Librarian
 Ruth E. Boynton, M.S., M.D., Director of the Students' Health Service
 Malcolm S. MacLean, Ph.D., Director of the General College
 John T. Tate, Ph.D., Dean of the College of Science, Literature, and the Arts
 Samuel C. Lind, Ph.D., D.Sc., Dean of the Institute of Technology
 Ora M. Leland, B.S., C.E., Dean of Administration, Institute of Technology
 Walter C. Coffey, M.S., LL.D., Dean and Director of the Department of
 Agriculture
 Edward M. Freeman, Ph.D., Dean of the College of Agriculture, Forestry,
 and Home Economics
 Everett Fraser, B.A., LL.B., Dean of the Law School
 Harold S. Diehl, M.A., M.D., D.Sc., Dean of Medical Sciences
 William F. Lasby, D.D.S., F.A.C.D., Dean of the School of Dentistry
 Charles H. Rogers, Ph.C., D.Sc., Dean of the College of Pharmacy
 Melvin E. Haggerty, Ph.D., Dean of the College of Education
 Guy Stanton Ford, Ph.D., LL.D., Litt.D., Dean of the Graduate School
 Russell A. Stevenson, Ph.D., Dean of the School of Business Administration
 Richard R. Price, M.A., Ed.D., Director of University Extension
 Harold R. Benjamin, Ph.D., Director of Center for Continuation Study
 Anne D. Blitz, M.A., LL.D., Dean of Women
 Edward E. Nicholson, M.A., Dean of Student Affairs
 Ernest B. Pierce, B.A., Field Secretary of the University and Secretary of
 the General Alumni Association

UNIVERSITY CALENDAR

1937-38

Fall Quarter

1937			
September	13	Monday	Extension registration first semester begins
September	16	Thursday	Payment of fees closes, except for new students ¹
September	20	Monday	Entrance tests
September	20-21		Registration for Freshman Week for all new students entering the freshman class
September	20-24		Examinations for removal of conditions Physical examinations
September	20-25		Registration days ² for the Institute of Technology Payment of fees for new students closes ¹ at 4:30 p.m.
September	21-24		Registration period, ² College of Science, Literature, and the Arts
September	22-25		Freshman Week
September	23-24		Registration days ² for all colleges not included above except the Institute of Technology
September	27	Monday	Fall quarter classes begin 8:30 a.m. ³ First semester extension classes begin ⁴
October	2	Saturday	Last day for extension registration without penalty
October	14	Thursday	Senate meeting, 4:30 p.m.
November	11	Thursday	Armistice Day Convocation
November	13	Saturday	Dad's Day
November	20	Saturday	Homecoming Day
November	25	Thursday	Thanksgiving Day; a holiday
December	2	Thursday	State Day Convocation
December	13-18		Final examination period
December	16	Thursday	Commencement Convocation
December	18	Saturday	Senate meeting, 4:30 p.m. Fall quarter ends, 6:00 p.m.

Winter Quarter

December	23	Thursday	Payment of fees closes for all students in residence fall quarter ¹
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See footnotes on page 48.

1938			
January	3	Monday	Entrance tests
January	3-4		Registration ² and payment of fees ¹ for new students in all colleges except the Institute of Technology
			Registration and payment of fees close at 4:30 p.m. on January 4
January	4	Tuesday	Registration day ² for all students in the Institute of Technology. Registration closes at 3:00 p.m.
January	5	Wednesday	Winter quarter classes begin 8:30 a.m. ³
January	24	Monday	Extension registration second semester begins
February	5	Saturday	First semester extension classes close
February	7	Monday	Second semester extension classes begin ⁴
February	11	Friday	Last day for extension registration without penalty
February	12	Saturday	Lincoln's Birthday; a holiday (except for extension)
February	17	Thursday	Senate meeting, 4:30 p.m.
February	22	Tuesday	Washington's Birthday; a holiday (except for extension)
February	24	Thursday	Charter Day Convocation
March	14-19		Final examination period
March	17	Thursday	Commencement Convocation
			Payment of fees closes for all students ¹ in residence winter quarter
March	19	Saturday	Winter quarter ends, 6:00 p.m.

Spring Quarter

March	26	Saturday	Entrance tests
March	26-28		Registration ² and payment of fees ¹ for new students in all colleges except the Institute of Technology
			Registration and payment of fees closes at 4:30 p.m. on March 28
March	28	Monday	Registration day ² for all students in the Institute of Technology. Registration closes at 3:00 p.m.
March	29	Tuesday	Spring quarter classes begin, 8:30 a.m. ³
April	15	Friday	Good Friday; a holiday (except for extension)
May	7	Saturday	Mother's Day
May	12	Thursday	Cap and Gown Day Convocation
May	19	Thursday	Senate meeting, 4:30 p.m.
May	30	Monday	Memorial Day; a holiday

See footnotes on page 48.

June	3	Friday	Second semester extension classes close
June	3-4 & 6-10		Final examination period
June	11	Saturday	Spring quarter ends, 6:00 p.m.
June	12	Sunday	Baccalaureate service
June	13	Monday	Sixty-sixth annual commencement

Summer Quarter

June	13-14		Registration, first term
June	15	Wednesday	First term Summer Session classes begin 8:00 a.m.
July	4	Monday	Independence Day; a holiday
July	21	Thursday	Commencement Convocation
July	23	Saturday	First term closes Registration and payment of fees for second term close at 12 m.
July	25	Monday	Second term classes begin 8:00 a.m.
August	27	Saturday	Second term closes

UNIVERSITY FEES

The university year, extending from October to June, is divided into three terms called quarters. On the specified dates (see Calendar, pp. 46-48) prior to the opening of each quarter, the following fees are due from each student: (a) tuition, (b) incidental, and (c) such special fees and deposits as may be required.

Payment of fees cannot be deferred. Special attention is called to the paragraph on Late Fees (page 52) for further instruction on late registration and late payments of fees.

Checks and drafts received in payment of any fee whatsoever are accepted subject to final payment in cash or solvent credits; and all banks in the banking routine of collection of such items are accepted by the student as his own agents, and not those of the University, whether such items be sent directly or indirectly to the payer bank.

¹ New students must pay fees on dates announced for registration. Fees of graduate students are due one week after their registration is approved by the dean of the Graduate School.

² Registration subsequent to the date specified will necessitate the approval of the college concerned. See also late fees for late registration, page 52. No student will be allowed to register in the University after one week from the beginning of the quarter excepting in unusual cases wherein special circumstances shall justify the appropriate committee of the college concerned permitting registration at a later date.

³ First hour classes begin at 8:15 a.m. at University Farm.

⁴ This date does not refer to correspondence study courses, which may be started at any time during the year.

TUITION FEES

School or College	Quarter Fee		Credit Hour Fee*	
	Resi- dent	Non- resident	Resi- dent	Non- resident
General College	\$20.00	\$40.00	\$	\$
College of Science, Literature, and the Arts	20.00	40.00	\$1.75	\$3.50
Institute of Technology, including Engineering, Architecture, Chemistry, and Mines and Metallurgy	30.00	45.00	2.50	4.00
College of Agriculture, Forestry, and Home Economics	20.00	40.00	1.50	3.00
Law School	40.00	65.00	3.75	6.25
Medical School	75.00	125.00	†3.25	†5.75
School of Nursing (preliminary course)	25.00	40.00	†1.00	†1.75
Medical Technologists	30.00	45.00	†1.25	†2.00
School of Dentistry	60.00	80.00	†2.50	†3.50
Dental Hygienists	25.00	40.00	2.00	3.25
College of Pharmacy	35.00	50.00	†1.50	†2.25
College of Education	20.00	40.00	1.75	3.50
Graduate School	\$20.00	\$40.00	\$1.75	\$3.50
Clinical Medicine	75.00	125.00	†3.25	†5.75
School of Business Administration	30.00	45.00	2.75	4.25
Division of Library Instruction	40.00	50.00	3.00	3.50

* Students carrying less than the complete schedule of work pay fees on a credit hour basis.

† In these colleges the prorating is on the basis of clock hours.

‡ All fellows, scholars, assistants, instructors, and members of the teaching staff and scientific bureaus and experiment stations when regularly enrolled as students in the Graduate School shall not be required to pay tuition fees. This does not apply to commercial fellowships.

§ Part-time students shall be charged tuition prorated on the basis of full-time work, plus one third.

Special students in the General College shall be charged a quarter course fee, residents \$10, nonresidents \$15. Special students include those not regularly matriculated, those who have received a Bachelor's degree or its equivalent, and those registered for two courses or less in any quarter and not enrolled for other work in the University.

¶ Prorating in this college is on the basis of clock hours except for academic courses for which the fee is \$3 per credit hour for residents and \$4.50 per credit hour for nonresidents.

Nonresident fees.—"All students who are and for six months prior to the date of registration have been domiciled in Minnesota shall pay resident fees."

"The responsibility of registering under proper residence is placed upon the student and it is the duty of each student at registration, if there be any possible question of his right to residence fees, under the rules of the Board of Regents, to raise the question with the Registrar."

"The following interpretations of the rule are approved:

"1. The residence of all students under 21 years of age shall follow that of their parents or other legal guardian.

"2. The appointment of a resident of Minnesota as a legal guardian shall not entitle a student to the resident fee privilege until after the expiration of six months from the date of such appointment.

"3. A statement of intention to establish domicile in the state is not evidence of domicile.

"4. Residence in Minnesota primarily as a student is not evidence of domicile, irrespective of the length of such residence.

"5. Continued residence in Minnesota during vacation periods or occasional periods of interruption to the course of study is not prima facie evidence of domicile.

"6. A student enrolled for a full program or substantially a full program will be considered to be in Minnesota primarily for the purpose of attending the institution in which he is enrolled.

"7. Employment by the University as a fellow, scholar, assistant or in any position normally filled by students is not to be considered evidence of domicile.

"8. The act of voting or registration for voting in Minnesota is not conclusive proof of domicile."

Tuition fees for students of one college taking work in another.—Where a student of a given college or school elects courses in another, such courses being accepted by the college in which the student is registered as a part of its curriculum, the tuition shall be that of the college in which he is registered.¹

If, at any time, such student desires credit for this course towards the degree offered by the second college, he shall pay such additional tuition as is required by the second college, charged in accordance with the schedule indicated above.

This is not to be interpreted as applying to students in such combination courses as Arts and Medicine, Arts and Dentistry, Arts and Business, etc., provided such students pay regular quarter fees for the full period of residence in the higher fee college.

INCIDENTAL FEE

An incidental fee of \$6 a quarter is charged each student for which the student receives the privileges of the Minnesota Union or Shevlin Hall, the Health Service, the *Minnesota Daily* including the Official Daily Bulletin, the university post-office service, and the *University Address Book*. Students in the Institute of Technology pay \$6.40 per quarter and receive the *Minnesota Techno-Log* in addition to the foregoing.

All students who are registered for five credits or more in any quarter shall be required to pay the regular incidental fee; while students who are registered for less than five credits in any quarter shall not be charged any incidental fee, nor be permitted to pay this fee in order to obtain the privileges to which the payment of this fee entitles students.

¹ A student paying full fees in a given college, electing courses in a lower fee college, shall pay no additional fees for the work so elected, but if electing in a higher fee college, may have the option of paying the pro rata fees of both or the full-time fees of the first and pro rata fees of the second.

MATRICULATION DEPOSIT

At the student's first registration at the University a matriculation deposit, fifteen dollars (\$15) for men and five dollars (\$5) for women, is required to cover the following charges: locker rental, locker key deposit, case book deposit (Law School), laboratory breakages, drawing board rental (Architecture), military equipment deposit (men), library fines, or damage to university property.

The matriculation deposit required of students registered for less than five credits is five dollars (\$5), whereas the matriculation deposit of students registered in the Graduate School is three dollars (\$3).

The unused balance of the deposit fee will be returned *by mail* upon cancellation or automatically after the beginning of the first quarter the student fails to return. If, at any time, the charges against a student shall warrant a renewal of the deposit, an additional fee of five dollars (\$5) will be required.

Laboratory deposit.—A laboratory deposit of five dollars (\$5) is also required of students registered for courses in chemistry to cover the cost of materials. The unused balance will be credited to the student's matriculation deposit at the end of the course.

SPECIAL FEES

Examination of credentials fee (nonresidents applying for admission to Law, Medicine, Dentistry, Education (Senior College) and Business Administration) \$5.00

This fee is not refundable but may be applied toward tuition within one year of date of application.

Music fee (in addition to tuition for those electing music)

Lesson fees—

One individual lesson per week.....\$25.00 per quarter

Class lessons (two- or three-hour lesson)..... 15.00 per quarter

Practice fees 5.00 per quarter

Pianos and organs are available for practice purposes upon payment of practice fees charged by the Music Department.

Practice teaching fee\$1.00 per credit hour

Laboratory fees—for individual courses. The amounts are specified in the course announcements.

Gymnasium fee (required of all men taking exercise courses in Physical Education)\$1.00 per quarter

Gymnasium fee (required of all women taking exercise courses in Physical Education)\$1.75 per quarter

(Maximum charge for one quarter is \$3.50)

The following special items may be included:

Condition examination\$ 1.00

Special examination for removal of condition, at other than set time¹ 5.00

¹ Such an examination may be taken only upon approval of the appropriate committee.

Examination on subjects taken out of class ¹	\$ 5.00
(No fee for such examination on first entering the University, if taken within the first six weeks)	
Large diploma fee: any graduate may receive the large diploma on payment of the special fee of	5.00
Duplicate copy of record: one copy of record will be issued to each student free of charge. Each additional copy will be issued only on payment of	0.50
(Except during a registration period, when the fee is \$1.00)	
Transcript fee—Three transcripts of record will be sent without charge to other institutions for purposes of transfer, to certificating agencies, or to prospective employers. For additional transcripts, each	0.50
Graduation fee—Graduate School	10.00
Other schools and colleges	7.50

LATE FEES

Late registration.—The fee for the privilege of late registration, late change of registration, or late payment of fees shall be \$2 prior to the day classes begin, on and after which the fee increases at the rate of \$1 per day, provided no student shall pay more than \$10 in fees for late privileges in any given quarter.

Library fines.—All overnight books taken from the "Reserves" must be returned at 8:30 the following morning. If not returned at that hour a fine of twenty-five cents will be imposed, and an additional ten cents charged for every hour or fraction of an hour thereafter the book is retained.

Books issued during the day for reading room use must be returned within two hours. If not returned promptly a fine of twenty-five cents for the first hour and ten cents additional for every hour or fraction of an hour thereafter that the book is overdue, will be charged. The two-hour limit will not be enforced between 6:00 p.m. and 10:00 p.m.

REFUNDS

Tuition.—Students who cancel their registration before the close of any quarter are entitled to refunds of the tuition fee on the following basis:

After Quarter Opens	Percentage of Refund
No attendance	100
One day to one week	90
One week to two weeks	80
Two weeks to three weeks	70
Three weeks to four weeks	60
Four weeks to five weeks	50
Five weeks to six weeks	40

No student who has been in attendance more than one half of the quarter shall receive any refund of tuition.

¹ Such an examination may be taken only upon approval of the appropriate committee.

Locker rental.—Full rental fee for lockers may be refunded during the first two weeks of a quarter. After that time no reduction is made.

Incidental fee.—Students in any college of the University, with the exception of the Institute of Technology, who cancel their registration before the end of the quarter, are entitled to a refund of the incidental fee on the same basis as the refund for tuition, except that in no case will more than \$5 of the incidental fee be refunded. Students in the Institute of Technology will receive refunds of the incidental fee on the same basis, except that the extra forty cents of the incidental fee in this institute will be entirely refunded during the first two weeks of the quarter, and none of this extra forty cents will be refunded after the second week of the quarter.

LIST OF ACCREDITED PREPARATORY SCHOOLS

Graduates of the following Minnesota state high schools will be admitted to the University of Minnesota without conditions, provided their credentials satisfy the specific requirements of the college to which entrance is desired:

Ada	Bellingham	Canby	Deer Creek
Adams	Beltrami	Cannon Falls	Deer River
Adrian	Belview	Canton	Delano
Aitkin	Bemidji	Carlton	Delavan
Akeley	Benson	Cass Lake	Detroit Lakes
Alango	Bertha	Ceylon	Dilworth
Albany	Big Falls	Chaska	Dodge Center
Albert Lea	Big Fork	Chatfield	Dover
Alberta	Big Lake	Cherry	Duluth
Alborn	Bingham Lake	Chisago City	Central
Alden	Bird Island	Chisholm	Denfeld
Alexandria	Biwabik	Chokio	Morgan Park
Alvarado	Blackduck	Clara City	Eagle Bend
Amboy	Blooming Prairie	Clarissa	East Chain
Anmandale	Bloomington	Clarkfield	East Grand Forks
Anoka	Blue Earth	Clear Lake	Echo
Appleton	Borup	Clearbrook	Eden Prairie
Arco	Boyd	Cleveland	Eden Valley
Argyle	Braham	Climax	Edgerton
Arlington	Brainerd	Clinton	Elbow Lake
Ashby	Brandon	Cloquet	Elgin
Askov	Breckenridge	Clover Valley	Elk River
Atwater	Brewster	Cloverton	Elkton
Audubon	Bricelyn	Cokato	Ellendale
Aurora	Bronson	Coleraine	Elmore
Austin	Brookston	Columbia Heights	Ely
Backus	Brooten	Comfrey	Embarrass
Badger	Browerville	Comstock	Emmons
Bagley	Browns Valley	Cook	Erskine
Balaton	Brownton	Correll	Evansville
Barnesville	Bruno	Cotton	Eveleth
Barnum	Buffalo	Cottonwood	Excelsior
Barrett	Buffalo Lake	Cromwell	Eyota
Battle Lake	Buhl	Crookston	Fairfax
Baudette	Burtrum	Crosby-Ironton	Fairmont
Beardsley	Butterfield	Cyrus	Faribault
Beaver Creek	Byron	Danube	Farmington
Becker	Caledonia	Dassel	Felton
Belgrade	Cambridge	Dawson	Fergus Falls
Belle Plaine	Campbell	Deephaven	Fertile

Finlayson	Hewitt	Le Roy	Minneapolis—Cont.
Fisher	Hibbing	Le Sueur	Washburn
Floodwood	Hill City	Lester Prairie	West
Foley	Hills	Lewiston	Minneota
Forbes	Hinckley	Lindstrom-	Minnesota Lake
Forest Lake	Hitterdal	Center City	Montevideo
Fosston	Hoffman	Litchfield	Montgomery
Franklin	Holdingford	Little Falls	Monticello
Frazee	Holloway	Littlefork	Montrose
Freeborn	Hopkins	Long Prairie	Moorhead
Fulda	Houston	Luverne	High School
Garden City	Howard Lake	Lyle	Teachers' College
Gaylord	Humboldt	Lynd	High School
Gibbon	Huntley	Mabel	Moose Lake
Gilbert	Hutchinson	Madelia	Mora
Glencoe	Indus	Madison	Morgan
Glenwood	International Falls	Magnolia	Morris
Glyndon	Isle	Mahnomen	Morristown
Gonvick	Ivanhoe	Mahtomedi	Morton
Goodhue	Jackson	Mankato	Motley
Goodridge	Janesville	Mantorville	Mound
Good Thunder	Jasper	Maple Lake	Mountain Iron
Graceville	Jeffers	Mapleton	Mountain Lake
Granada	Jordan	Marietta	Murdock
Grand Marais	Karlstad	Marshall	Nashwauk
Grand Meadow	Kasota	Maynard	Nevis
Grand Rapids	Kasson	Mazeppa	New London
Granite Falls	Keewatin	McGrath	New Prague
Grasston	Kelliher	McGregor	New Richland
Greenbush	Kellogg	McIntosh	New Ulm
Grey Eagle	Kennedy	Meadowlands	New York Mills
Grove City	Kensington	Medford	Newfolden
Hackensack	Kenyon	Melrose	Nicollet
Hallock	Kerkhoven	Menagha	North Branch
Halstad	Kiester	Mentor	North St. Paul
Hancock	Kimball	Middle River	Northfield
Hanska	Lake Benton	Milaca	Northome
Harmony	Lake City	Milan	Norwood-Young
Hastings	Lake Crystal	Milroy	America
Hawley	Lake Park	Minneapolis	Odessa
Hayfield	Lake Wilson	Central	Ogilvie
Hector	Lakefield	Edison	Okabena
Henderson	Lakeville	John Marshall	Oklee
Hendricks	Lamberton	Miller	Olivia
Hendrum	Lancaster	Vocational	Onamia
Henning	Lanesboro	North	Ortonville
Herman	Laporte	Roosevelt	Osakis
Heron Lake	Le Center	South	Oslo

Osseo	Round Lake	Sleepy Eye	Wabasso
Owatonna	Royalton	South St. Paul	Waconia
Park Rapids	Rush City	Spring Grove	Wadena
Parkers Prairie	Rushford	Spring Valley	Wahkon
Paynesville	Russell	Springfield	Waldorf
Pelican Rapids	Ruthton	Staples	Walker
Pemberton	Sacred Heart	Starbuck	Walnut Grove
Pequot	St. Charles	Stephen	Wanamingo
Perham	St. Clair	Stewart	Warren
Peterson	St. Cloud	Stewartville	Warroad
Pillager	St. Francis	Stillwater	Waseca
Pine City	St. Hilaire	Storden	Watertown
Pine Island	St. James	Strandquist	Waterville
Pine River	St. Louis Park	Swanville	Waubun
Pipestone	St. Paul	Taylor's Falls	Wayzata
Plainview	Central	Thief River Falls	Welcome
Plummer	Harding	Thomson	Wells
Preston	Humboldt	Tintah	West Concord
Princeton	John A. Johnson	Toivola	Westbrook
Proctor	Mechanic Arts	Tower-Soudan	Wheaton
Randolph	Washington	Tracy	White Bear
Rapidan	St. Paul Park	Triumph	Williams
Raymond	St. Peter	Truman	Willmar
Red Lake Falls	Sanborn	Twin Valley	Willow River
Red Wing	Sandstone	Two Harbors	Windom
Redwood Falls	Sauk Center	Tyler	Winnebago
Remer	Sauk Rapids	Ulen	Winona
Renville	Sebeka	Underwood	Winthrop
Riverton	Shakopee	Upsala	Wolverton
Rochester	Sherburn	Verdi	Wood Lake
Rockford	Silver Lake	Verndale	Worthington
Rose Creek	Sioux Valley,	Villard	Wrenshall
Roseau	Lake Park, Ia.	Virginia	Wykoff
Rosemount	Slayton	Wabasha	Zumbrota

Graduates of the University High School and of the following private schools will be admitted to the freshman class under the regulations governing the admission of high school graduates. This list is corrected to February 1, 1937.

Austin
St. Augustin High School
Bird Island
St. Mary's High School
Collegeville
St. John's University, High
School Department

Crookston
Cathedral High School
Mount St. Benedict's Academy
St. Joseph's Academy
Duluth
Cathedral High School for Boys
Cathedral High School for Girls
Villa Sancta Scholastica

Faribault	Rochester
Bethlehem Academy	St. John's High School
St. Mary's Hall	Rollingstone
Shattuck Military Academy	Holy Trinity High School
Frontenac	St. Cloud
Villa Maria	Cathedral High School
Hutchinson	St. Joseph
Maplewood Academy	Convent of St. Benedict
Lake City	St. Paul
McCahill Institute	Academy of Concordia College
Little Falls	College of St. Catherine
St. Francis High School	(Derham Hall)
Mankato	Cretin High School
Bethany Lutheran College, High	Oak Hall
School Department	St. Joseph Academy
Good Counsel Academy	St. Paul Academy
Loyola High School	St. Thomas Military Academy
Minneapolis	Summit School
Academy of the Holy Angels	Visitation Convent
De La Salle High School	Sleepy Eye
Minnehaha Academy	St. Mary's High School
Northrop Collegiate School	Wabasha
St. Anthony High School	St. Felix High School
St. Margaret's Academy	Waseca
Morris	Sacred Heart High School
St. Mary's Academy	Winona
New Ulm	Cotter High School
Catholic High School	St. Thomas Cathedral High School
Owatonna	
Pillsbury Academy	

Graduates of Minnesota state high school departments which are on the recommended list of the State Department of Education are accepted on the same basis as the graduates of fully accredited preparatory schools.

LIST OF ACCREDITED COLLEGES

The following lists are correct as of February 1, 1937.

1. *Four-year colleges*

Augsburg College, ¹ Minneapolis	Gustavus Adolphus College, St. Peter
Carleton College, Northfield	Hamline University, St. Paul
College of St. Benedict, ¹ St. Joseph	Macalester College, St. Paul
College of St. Catherine, St. Paul	St. John's University, ¹ Collegeville
College of St. Scholastica, Duluth	St. Mary's College, ¹ Winona
College of Saint Teresa, Winona	St. Olaf College, Northfield
Concordia College, Moorhead	St. Thomas College, St. Paul

2. *Minnesota teachers colleges*

Bemidji State Teachers College	Moorhead State Teachers College
Duluth State Teachers College	St. Cloud State Teachers College
Mankato State Teachers College	Winona State Teachers College

3. *Junior colleges*

Bethel Institute, St. Paul	Itasca Junior College, Coleraine
Concordia College, St. Paul	Rochester Junior College
Duluth Junior College	St. Mary's Hall, Faribault (for one year's work)
Ely Junior College	Virginia Junior College
Eveleth Junior College	
Hibbing Junior College	

¹ Graduates of this institution may be admitted to the Graduate School under certain specified conditions.

REGULATIONS

GOVERNING GRANTING OF DEGREES

The Board of Regents will confer the degree appropriate to the course pursued under the following conditions :

1. *Curriculum requirements.*—Certification by the registrar of the completion of all requirements of the course of study as outlined in the college announcement, or its equivalent as determined by the faculty of the college offering the course.

2. *Recommendation of the faculty.*

3. *Residence requirement.*—The student must earn at least one year's credit in residence in this University. If the term of residence is only one year, that year must be the senior year ; and in any case he must spend two quarters of the senior year in residence. In addition, special residence requirements must be met in several of the schools and colleges. See individual announcements.

4. *Payment or satisfactory arrangement of all financial obligations due the University.*

5. *Attendance at commencement.*—A candidate for a degree is required to be present at the commencement exercises at which his degree is conferred provided that the candidate's work is completed at the end of a quarter when such exercises are held.

A student who fails to attend shall not receive his diploma until the expiration of one year, unless in the meantime he attends commencement exercises or unless he is excused from such attendance by the dean of the college, and the president of the University.

GOVERNING PUBLICITY MATERIAL

All signs, posters, announcements, and other publicity material must be confined to the bulletin boards and the other officially recognized university channels of publicity, and their display must be approved by Dean Nicholson, 213 Administration Building, University of Minnesota.

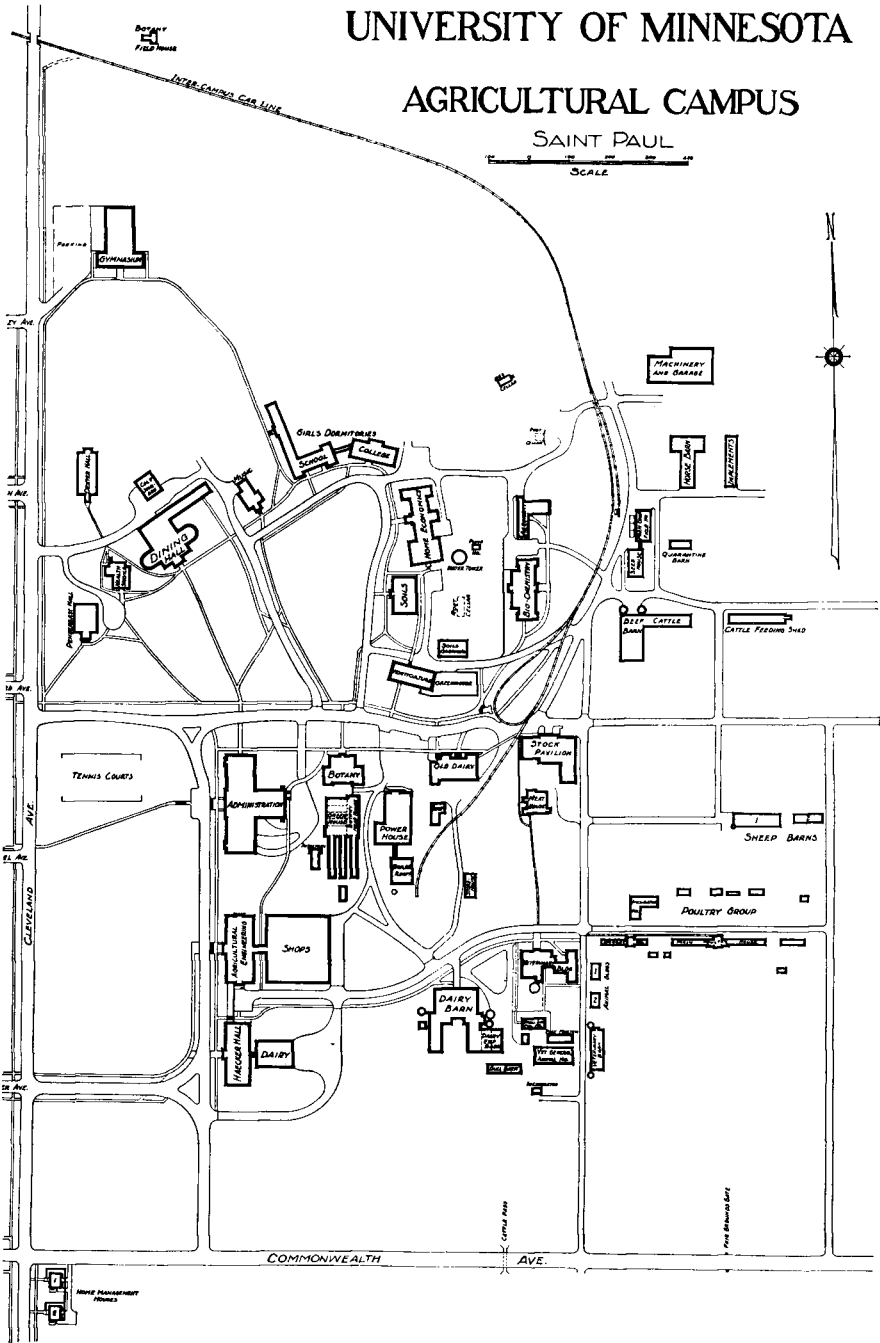
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UNIVERSITY OF MINNESOTA

AGRICULTURAL CAMPUS

SAINT PAUL



**Bulletin of
University of Minnesota**

Home Economics Courses

Summer Session

First Term

June 14 to July 24, 1937

and

Scandinavia Travel Tour

July 2 to August 23, 1937

VOL. XL

NO. 9

JANUARY 20 1937

Entered at the post office in Minneapolis as second-class matter, Minneapolis, Minn. Accepted for mailing at special rate of postage provided for in Section 1103, Act of October 3, 1917, authorized July 12, 1918.

HOME ECONOMICS

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MARION FISH, Ph.D., Instructor

VETTA GOLDSTEIN, Instructor

ANNA M. KROST, B.S., Instructor

LILLIAN PEEK, Instructor

GLADYS VAIL, M.S., Instructor

COURSES

The Home Economics Division offers courses during the first term only of the Summer Session of 1937. We are offering certain courses to meet the needs of persons who are beginning their training in home economics—other offerings for advanced undergraduates and graduate students. Classes are scheduled to permit of 6 to 8 quarter credit programs. This seems a particularly desirable time for undergraduates trained in home economics to consider further study along specialized lines as the opportunities are increasing steadily for people with successful experience and recent training. The offerings included here cover new approaches and new subject-matter fields with which every home economist should be familiar. High school teachers should bring their training up to date.

Recognizing the rich experience which directed and supervised travel can offer the home economist, a Scandinavia Travel Tour has been planned under excellent leadership. (Read the description which is found elsewhere in this bulletin.)

The tuition for a full program for the first term of the Summer Session is \$25 plus a deposit fee of \$2, or a total of \$27. When the student registers for 3 credits or less, the fee is \$15 plus a deposit of \$2, or a total of \$17. The regular fee is charged for auditing without credit.

Advisers on undergraduate programs and major advisers of the Graduate School will be present during registration days to give information on programs. Special attention is given to transfer students. Persons transferring from other institutions who are interested in securing either the baccalaureate or an advanced degree should transmit a record of all previous training so that it can be evaluated before the opening of the summer term. Inquiries concerning home economics training should be addressed to Miss Wylle B. McNeal, Chief of the Division of Home Economics, University of Minnesota, University Farm Campus, St. Paul, Minnesota. For information concerning other departments of the Summer Session address the Associate Director of the Summer Session, 235 Administration Building, University of Minnesota, Minneapolis, Minnesota.

HOME ECONOMICS

- 2su. Introduction to Textiles. A study of textile fibers and their properties as related to fabric properties; yarn and fabric structure and design; problems in the selection of textile materials for clothing and household furnishings. Laboratory work with representative fabrics. (3 cred.; all; no prereq.; MTWThF VI, VII and 2 hrs. ar.; 307HE.) Miss Phelps.
- 25su. Design Applied to Crafts. Principles of design and color harmony applied in various crafts. Articles are planned to relate to definite dress and home furnishing problems. (3 cred.; prereq. 22; MTWThF I, II and 2 hrs. ar.; 114HE.) Miss V. Goldstein.

GENERAL INFORMATION

Leadership.—The entire tour will be arranged and personally conducted by Miss Gudrun Carlson.

Price of tour.—\$675. Inclusive of ocean fare from and to New York in tourist class minimum rate. Rate for any other class will be supplied upon request. Land travel throughout the tour, second or third class depending upon local accommodations and distances. Exclusive of land travel to and from New York, passport fee, United States tax (\$5.00), tips on ocean liners, and purely personal expenses.

Passport.—Each individual must obtain and pay for her passport. There are no visas required in Scandinavian countries but one must be obtained for Finland, for which there is no charge.

Registration.—Registration for the trip must be accompanied by a deposit fee of \$50, made payable and addressed to Gudrun Carlson, Division of Home Economics, University Farm, St. Paul, Minnesota, who, except for the tuition fee to the University, assumes financial responsibility for the tour. Full payment for tour must be made a month in advance of sailing. If cancellation is made, any loss incurred thereby will be deducted from the amount paid in. To insure desirable accommodations on the boats and in hotels abroad early registration is urged.

Exchange.—Up to the time of full payment for tour the right is reserved to adjust price of tour in case of any marked fluctuation in exchange for the countries to be visited.

INQUIRIES AND CORRESPONDENCE

Complete itinerary and other detailed information will be supplied upon request. Address all inquiries and correspondence to Miss Gudrun Carlson, Division of Home Economics, University Farm, St. Paul, Minnesota.

- 30su. Introduction to Nutrition. A course designed for students wishing a brief comprehensive discussion of the application of the principles of nutrition to the selection of food. (2 cred.; no prereq.; MTWF III; 313HE.) Miss Biester.
- 99su. Scandinavia Travel Tour. Observations, discussions, readings, and written reports on phases of home life and other social institutions in the Scandinavian countries. (5 cred.; permission of the instructor and chief of division.) Miss Carlson.
- 102su. Advanced Textiles. An intensive study of textile materials with special reference to the following: nature of the raw materials; economic, chemical, and physical applications involved in their manufacture and use; methods and significance of physical testing. (2 cred.; jr., sr.; prereq. 50, Agr. Biochem. 4, Agr. Econ. 3 or parallel; MTWF III, IV; 307HE.) Miss Phelps.
- 120su. Art History and Appreciation. The historical development of painting, sculpture, architecture, decoration, furniture, and costumes, studied with special emphasis on design and influence upon modern styles. (3 cred.; Senior College and grad. only; MTWThF VII and 1 hr. ar.; 313HE.) Miss V. Goldstein.
- 137su. Consumer Problems. A study of the problems confronting the homemaker as a consumer of the things needed for the comfort and satisfaction of the family. Materials and methods of consumer education. (3 cred.; permission of instructor; MTWThF V and 1 hr. ar.; 203HE.) Miss Fish.
- 142su. Experimental Cookery. An intensive study of problems in foods and food preparation with individual laboratory problems. (3 cred.; jr., sr.; prereq. 40, Agr. Biochem. 4; MTWThF I, II and 2 hrs. ar.; 107HE.) Miss Vail.
- 170su. Nutrition of the Family. The fundamental principles of human nutrition as applied to the feeding of individuals and groups under conditions of health. (3 cred.; jr., sr.; prereq. 30 or 31, 40, Agr. Biochem. 4, physiol. 3 cred.; MTWThF VIII and 1 hr. ar.; 307HE.) Miss Biester.
- 180su. Home Planning and Furnishing. A study for the homemaker who aims at more intelligent planning and furnishing of the home. House plans and the selection and arrangement of equipment and furnishings from the point of view of beauty and good home management. (5 cred.; jr., sr.; prereq. 55 and 120 recommended; MTWF II, III, IV, Th II, III and 2 hrs. ar.; 112HE.) Miss H. Goldstein.

ningholm, schools, handicraft and art studios, restaurants, institutions, and points of historical interest. One day to be scheduled according to wishes of individual members of group.

- July 29 Abo and Helsingfors, Finland. Four to five days in cities and other places of special interest. Visits to University, Training School for Home Economics, museums, shops, and restaurants. One day to be scheduled according to wishes of individual members of group.
- Aug. 5 Via Stockholm en route to Malmö, Sweden, by motor, boat on Gotha canal, and train. Stops at Vadstena and other points of interest.
- Aug. 6 Malmö. Two days in city and environs. Visits to University and cathedral at Lund, home economics school at Maglö, and other points of interest.
- Aug. 8 Copenhagen, Denmark. Five days in city and environs. Visits to Kronborg Castle (Elsinore) and other places of historical interest, schools, institutions, studios, shops, and restaurants. One day to be scheduled according to wishes of individual members of group.
- Aug. 12 Båstad, Sweden. Visits to weaving studio of Miss Fjetterström, Abelin gardens and unique hotels.
- Aug. 14 Embark at Gothenburg—S. S. Drottningholm.
- Aug. 23 Arrive New York.

The leader of the tour will gladly advise any member of the group wishing to make a more extended stay in Europe.

- 184su. Home Management Problems. A consideration of the economic and social problems of the management of the home, including a study of foods management, clothing management, planning for housing, financial management, home and community relationships. (3 cred.; jr., sr., grad.; prereq. 41 or equiv., H.E.Ed. 90 or equiv.; MTWThF VI and 1 hr. ar.; 213HE.) Miss Studley.
- 185su. Family Relationships. A consideration of the factors that promote security, stability, and satisfaction in the immediate family group; and the responsibilities of the family in its relationship to community life. (2 cred.; jr., sr.; prereq. 86 or parallel, H.E.Ed. 90, or C.W. 40; MTF IV, Th III; 213HE.) Miss Studley.
- 186su. Problems in Income Management. An intensive study of problems relating to individual and family budgets. Readings, discussions, and field work. (3 cred.; prereq. 85 or parallel, 86, 170 or equiv., Agr. Econ. 126 or parallel; MTWF III and 2 hrs. ar.; 213HE.) Miss Fish.
- 209su. Seminar in Textiles and Clothing. Reviews and interpretations of the literature of this field, emphasizing recent advances and involving individual assignments and oral and written reports. Registration with permission of the instructor. (1 cred.; 2 hrs. ar.; 114HE.) Miss Phelps.
- 247su. Special Food Problems. Individual problems with special emphasis on the application of scientific techniques to the solving of food preparation problems. (3 cred.; prereq. 142, Agr. Biochem. 2; MTWThF VI, VII and 2 hrs. ar.; 107HE.) Miss Vail.
- 279su. Seminar in Nutrition. Reviews and interpretations of the literature of this field, emphasizing recent advances and involving individual assignments and oral and written reports. Permission of the instructor. (1 cred.; 2 hrs. ar.; 114HE.) Miss Biester.
- 295su. Home Economics Problems. Opportunity is offered for the investigation of selected problems in home economics in the field of home management. Independent study and written reports. Permission of instructor. (1 cred.; 2 hrs. ar.; 114HE.) Miss Studley.
- 299su. Home Economics Problems. A critical study of recent advances in the field of home economics, involving independent study, reading, and oral or written reports. Permission of instructor. (1 cred.; 2 hrs. ar.; 112HE.) Miss H. Goldstein.

advance of the tour with bibliography, directions for study and reports, and other material to be turned in to the Division of Home Economics at the end of the tour, and before final credit is granted. During the tour all details regarding such work will be under the supervision of the leader of the group.

ITINERARY

The itinerary is here described in summarized form only. The conductor of the tour reserves the right to make such changes as she deems advantageous to the group. No responsibility is assumed for delays, accidents, or changes in schedules beyond the control of the conductor.

- July 2 Embark at New York—S. S. Gripsholm.
- July 11 Arrive Gothenburg, Sweden. Two days in city and environs including trip to school at Nääs.
- July 13 To Oslo, Norway. Two days in city and environs. Visits to museums, institutions, shops, restaurants, and other places of interest.
- July 16 Four days' tour by train, motor, boat, and carriage to mountains and fjords, including Norway's largest fjord.
- July 20 Oslo. Day to be scheduled according to wishes of individual members of group.
- July 21 Värmland and Dalecarlia, Sweden. Two to three days visiting historical points, Zorn Museum, Säterglantan weaving school and handicraft shops.
- July 23 Uppsala, Sweden. Visits to University, Training School for Home Economics, cathedral, museums, and other points of interest.
- July 25 Stockholm. Four to five days in city and environs. Visits to folk museum at Skansen, theatrical museum at Drott-

HOME ECONOMICS EDUCATION

- 192su. Educational Measurement in Home Economics. Problems of measurement in home economics; home economics tests and scales; construction and evaluation of objective tests. (3 cred.; sr.; prereq. H.E. 91, 93, parallel; H.E.Ed. 92, 94; MWF VI, VII; 112HE.) Miss Clara Brown.
- 193su. Home Economics Curricula. The objectives of home economics in the junior and senior high schools; recent surveys and other investigations used in determining curricular content; home economics courses of study. (2 cred.; sr.; prereq. 94 or permission of instructor; MTThF II; 213HE.) Miss Clara Brown.
- 194asu. Adult Education Problems. Development of unit outlines in the various fields of home economics. Discussion of teaching methods. This course is planned for high school and extension teachers and supervisors of home economics classes. (3 cred.; prereq. H.E.Ed. 91 or equiv.; MTWThF V and 1 hr. ar.; 313HE.) Miss Krost.
- 194bsu. Adult Education Problems. Development of unit outlines, illustrative material, and bibliography for use in adult classes. This course is planned for teachers and supervisors of local leader groups or adult classes. (3 cred.; prereq. H.E.Ed. 91 or equiv.; MTWF III and 2 hrs. ar.; 203HE.) Miss Krost.
- 243su. Trends in Home Economics Education. The place of home economics in the educational program today and improvement of content and procedure in this field. (3 cred.; permission of instructor; MTWThF V and 1 hr. ar.; 213HE.) Miss Peek.
- 295su. Problems in Home Economics Education. Current problems in home economics education will be studied. Reading, written reports. (3 cred.; grad. only; MTWThF I and 1 hr. ar.; 213HE.) Miss Peek.

STUDY TOUR TO SCANDINAVIA AND FINLAND

Denmark, Norway, Sweden, and Finland, both individually and collectively, offer a rich field for travel and study. They possess unusual scenic beauty combined with a historical background of folklore, handicrafts, arts, industries, agriculture, education, social reform, and political freedom which will amply repay the visitor to these countries.

This tour is purposely planned to allow for personal contacts and observations not possible to the casual tourist. The leader has had not only an extensive background in home economics education but has resided several years in the Scandinavian countries as United States Trade Commissioner. She is thoroly familiar with the languages and customs of the countries to be visited. Every detail of the tour has been personally arranged by the leader of the group.

The tour is open to anyone interested in its itinerary and scope but will be of special interest to students or graduates of home economics or related fields. Members of the group not wishing credit will not pay a fee to the University nor fulfill study requirements.

CREDITS AND FEES

The Division of Home Economics of the University of Minnesota offers five undergraduate quarter credits in the Summer Session for the study tour. Those wishing credit must fulfill the requirements for admission to the University. The university fee is \$25 plus a deposit fee of \$2, or a total of \$27, to be paid in addition to the cost of the tour. Payment of fee must be made directly to the university registrar on or before May 20. Checks in payment of university fees must be for the exact amount and made payable to the University of Minnesota. Members of the group who register for credit will be supplied in

The Bulletin of the University of Minnesota

*Division of Library Instruction
Hospital Librarianship*

March 30 to June 12, 1937



Vol. XL

No. 11

February 6 1937

*Entered at the post office in Minneapolis as second-class matter
Minneapolis, Minnesota*

*Accepted for mailing at special rate of postage provided for in section 1103,
Act of October 3, 1917, authorized July 12, 1918*

OFFICERS OF ADMINISTRATION AND INSTRUCTION

Lotus D. Coffman, Ph.D., LL.D., President

Frank K. Walter, M.A., M.L.S., University Librarian, Director of the Division of Library Instruction, and Professor of Library Methods

Rodney M. West, B.A., Registrar

Perrie Jones, B.A., Librarian, St. Paul Public Library, and Instructor in Library Methods

Mildred L. Methven, B.A., B.L.S., Institution Librarian, Minnesota State Board of Control, and Instructor in charge of Hospital Library Practice

These officers will be assisted by visiting experts.

TRAINING FOR HOSPITAL LIBRARIANSHIP

The Division of Library Instruction of the University of Minnesota will offer a course in Hospital Librarianship in the spring quarter of 1936-37 (March 30 to June 12). It will be given with the active co-operation of the Minnesota State Board of Control, which has jurisdiction over all hospitals supported by the state. These include hospitals for all kinds of sick and underprivileged.

As far as a preliminary investigation indicates, no extended course of this kind has so far actually been given in any institution for the training of librarians. This first course will therefore be to a considerable degree experimental. Lectures, discussions, reports, and observation and practice in selected institutions are essential parts of the course. Miss Perrie Jones, librarian of the St. Paul Public Library and former institution librarian of the Minnesota State Board of Control, will be in general charge of the course, assisted by a large group of medical and library experts in the special fields treated.

CURRICULUM

- Lib.Meth. 76s. Library Service in Hospitals. Organization and technical methods suitable for hospital libraries. (3 cred.) Miss Jones and others.
- Lib.Meth. 77s. Book Selection for Hospital Patients. Criticism and discussion of reading suitable for varied types of patients, lectures, and assigned problems. (3 cred.) Miss Jones and others.
- Lib.Meth. 78s. Reading and the Mental Patient. Special problems of work with varied types of mental patients. (2 cred.) Miss Jones and others.
- Lib.Meth. 79s. Medical Reference. Reference books and technical methods for hospital staffs. (3 cred.) Mr. Walter and others.
- Lib.Meth. 80s. Hospital Library Practice. A six-weeks internship in an approved hospital. (4 cred.) Miss Methven.

ADMISSION

Candidates for admission to this special course must have completed satisfactorily (1) at least three years of approved college work and at least two quarters of work in an approved library school or an equivalent of approved experience in hospital library work, and (2) a course in Essentials of Medicine for Social Workers (136f) (6 credits), and an equivalent course in Abnormal Psychology (144f-145w) (6 credits), or equivalent courses or equivalent experience in medical or institution libraries. Students are advised to register only for the entire group of courses, and no candidates for credit will be excused from field observation and practice. Opportunity for individual study of problems of special interest will be given as far as practicable. All prospective students must submit their credentials to the registrar, University of Minnesota, Minneapolis, Minnesota, before admission to the course. It is expected that only those who are genuinely interested in hospital work and who have personal and educational qualifications for it will apply.

Credit toward the degree bachelor of science will be given properly qualified students. Those who are not candidates or eligible for the degree will be given a certificate for the satisfactory completion of the entire course, including the six weeks' internship. Students in this course will normally register in the College of Science, Literature, and the Arts and must comply with the regulations of that college.

FEEs

A fee of \$3 per credit hour is charged. Residents of Minnesota may elect the full 15 hours for \$40, nonresidents, \$45. An incidental fee of \$6 for the quarter gives the student the privileges of the University Health Service, the Minnesota Union, and certain other privileges. A matriculation deposit, men \$15, women \$5, is charged to cover locker rent, library fines, laboratory breakage, or damage to university property. The unused balance will be refunded by mail after the beginning of the first quarter the student is no longer in attendance. Room and board costs from \$80 upward for the quarter. Further information and assistance regarding rooms and board can be obtained from the director of housing, Shevlin Hall, University of Minnesota, Minneapolis, Minnesota. From \$40 to \$50 should be allowed for expenses attending the field practice and internship. Each prospective student should obtain the General Information Bulletin, which is obtainable on application from the registrar, for other information regarding fees, expense, and general university requirements. Specific information regarding the curriculum of the Hospital Library Course may be obtained from the director, Division of Library Instruction, University of Minnesota, Minneapolis, Minnesota.

REGISTRATION

Students should report for registration on Saturday morning, March 27 or on Monday, March 29. Registration and payment of fees must be completed by March 29 to avoid late fees. See General Information Bulletin.

BULLETIN OF
UNIVERSITY OF MINNESOTA

Graduate Courses

in

Economics
Business Administration
Agricultural Economics

SUMMER SESSION OF 1937

First Term: June 14 to July 24

Second Term: July 24 to August 28



Vol. XL No. 12 February 8 1937

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GRADUATE TEACHING FACULTY

RUSSELL A. STEVENSON, Ph.D., Dean, School of Business Administration
GEORGE FILIPETTI, Ph.D., Professor of Economics and Business Administration
FREDERIC B. GARVER, Ph.D., Professor of Economics
OSCAR B. JESNESS, Ph.D., Professor and Chief of the Division of Agricultural Economics
ARTHUR W. MARGET, Ph.D., Professor of Economics and Finance
BRUCE D. MUDGETT, Ph.D., Professor of Economics and Statistics
J. WARREN STEHMAN, Ph.D., Professor of Economics and Finance
ROLAND S. VAILE, M.A., Professor of Economics and Marketing
WARREN C. WAITE, Ph.D., Professor of Agricultural Economics
DALE YODER, Ph.D., Professor of Economics and Personnel Administration
ERNEST A. HEILMAN, Ph.D., Associate Professor of Accounting
EDWIN C. JOHNSON, Ph.D., Associate Professor of Agricultural Economics
JOHN J. REIGHARD, M.A., C.P.A., Associate Professor of Accounting
EMERSON P. SCHMIDT, Ph.D., Assistant Professor of Economics

GRADUATE WORK IN ECONOMICS

Special emphasis will be placed upon graduate work in the offerings of economics courses during the Summer Session of 1937. The program has been arranged so as to afford a wide selection of advanced courses under the major members of the regular staff. Graduate students, therefore, should find it possible to arrange satisfactory schedules of classes just as conveniently as during the regular academic year.

Special attention is called to the following timely courses: (1) Accounting in Governmental Controls of Business, (2) Recent Economic Legislation, (3) Economic Reform, and (4) Scientific Management. Professor Garver will offer his graduate Seminar in Economic Theory during the second term.

The following are brief descriptions of the various courses open to graduate students during the Summer Session of 1937:

Bus. Adm. 101-102 (Econ. 103-104). Advanced General Economics.

FIRST TERM.—An advanced course in economic theory. The value problem with special emphasis upon the conditions of equilibrium and the processes by which equilibrium is reached under competition, under monopoly, and under monopolistic competition. Recent developments in theory are particularly stressed.

First term - - - - MR. MUDGETT

SECOND TERM.—An advanced course in the theory of the distribution of the national income. It includes a review and critical analysis of the productivity theory of distribution, the time-preference and loan-fund theories of interest, the effects of trade unionism and governmental interference on wages, and the theory of business profits.

Second term - - - - MR. GARVER

Bus. Adm. 112. Business Statistics.

The analytical techniques in general use in the analysis of time series with the main purpose of studying cyclical influences in economic data. Emphasis is placed upon a knowledge of the techniques themselves, and upon a critical evaluation of them.

First term - - - - MR. MUDGETT

Bus.Adm.137. Accounting in Governmental Controls of Business

Development of the theory and practices underlying the Revenue Act of 1936, the registration of financial statements under the Securities Acts. Objectives of uniform classifications of accounts and the implications in accounting of fair trade practice legislation.

First term - - - - MR. REIGHARD

Bus.Adm.139. Advanced General Accounting.

The interpretation and analysis of financial statements. Study of the accounting and financial characteristics of industrials and public utilities; ratio analysis for investment and for credit purposes; financial standards and their use; statements of holding companies and the preparation of consolidated statements. Intensive analysis of the statements of one company with the preparation of a report on that company.

Second term - - - - MR. HEILMAN

Bus.Adm.142 (Econ. 141). Money and Banking (Advanced Course).

The measurement of the price level; types of price change; consequences of changes in the price level; the forces determining the value of money; the mechanism of price change; paper money and prices; international versus national monetary standards; the control of the price level; criteria for credit control; the long-term movements in the price level (gold and prices); proposals for monetary reform.

First term - - - - MR. MARGET

Bus.Adm.146. Investments.

A course in the development of investment programs of individuals and institutions. Consideration is given to the factors affecting the general investment market for both bonds and stocks. The various types of investments are studied and certain individual securities are analyzed.

Second term - - - - MR. STEHMAN

Econ.149. Business Cycles.

A critical examination of business cycle theory, with a discussion of proposed methods for eliminating or moderating industrial fluctuation. The wage system and industrial fluctuations; the influence of machine technique; crop fluctuations and business cycles; wars, tariffs, and other "irregular" factors and their relation to business cycles; progress and stability. The distribution of wealth and business cycles; the problem of "purchasing power"; programs of taxation and public works as proposed remedies. Private profit and "competition" in relation to business cycles; the effect of monopoly; possibilities under socialism.

First term - - - - MR. MARGET

Bus.Adm.155 (Econ. 160). Corporation Finance.

A study of corporation activities such as promotion, raising of fixed and current capital, uses of capital, combinations, failure and reorganization. Corporation policies are discussed from two viewpoints—their soundness from the standpoint of the corporation itself, and their effects upon security holders and the general public.

Second term - - - - MR. STEHMAN

Econ.161. Labor Problems and Trade Unionism.

A consideration of what are generally regarded as the more important and timely social problems of major significance to labor, including unemployment, low wages, long hours, old age dependency, child labor, immigrant and convict labor, and others, together with an analysis of the major types of labor organizations and the policies and practices of unions. Special emphasis is placed, throughout the discussion, upon the economic implications of these conditions and upon proposed reform measures related to them.

Second term - - - - MR. YODER

Bus.Adm.165 (Econ. 154). Economics of Public Utilities.

An economic and legal interpretation of public utilities. Major emphasis is placed on the problems of valuation, rate of return, service requirements, and the combination and holding company movement. Public ownership, the TVA, and the commission technique of regulation are analyzed.

First term - - - - MR. SCHMIDT

Bus.Adm.167. Personnel Administration.

An analysis of the major problems of personnel and industrial relations from the standpoint of general business management. Special attention is given to job analysis, the evaluation of sources of personnel, selective policies and devices, methods of remuneration including bonus systems and profit sharing, employment stabilization, employee rating systems, systematic transfer and promotion, and various service functions that may be performed by management.

Second term - - - - MR. YODER

Econ.169. Recent Economic Legislation.

A survey and critical examination of some of the more important economic legislation passed by Congress since 1933. Particular attention will be devoted to such measures as government borrowing, control of agricultural production, monetary legislation, and the control of corporate financing. The theory and practice of economic planning will also be discussed in connection with government regulation of railroads, agricultural production, regulation of competition, and monetary legislation.

Second term - - - - MR. GARVER

Econ.176. International Commercial Policies.

A study of the principle of comparative advantage with special reference to its bearing on international trade. Description and analysis of the tariff and other trade-directing or -restricting legislation both here and abroad; the effect of such legislation on the flow of trade, national income, and international peace.

First term - - - - MR. VAILE

Bus.Adm.184. Scientific Management.

The origin and development of the scientific movement. The place of the movement in industry, in the national economy, and in international affairs. A critical analysis of the movement under various conditions such as "rationalization" in Germany, the "planned society" of Russia, and the "New Deal" in America.

First term - - - - MR. FILIPETTI

Econ.185. Economics of Marketing.

Description of the essential institutions engaged in modern marketing; critical examination of recent legislation affecting marketing, such as chain store taxation, the Patman Act, and the California Fair Trade Law; consideration of selective problems in marketing, such as competitive advertising, consumer co-operation, installment selling, product differentiation, trade association activities, and the Federal Trade Commission.

First term - - - - MR. VAILE

Econ.187. Economic Reform.

Analysis of the defects of capitalism with reference to production and distribution. Diagnosis of numerous reform plans from the standpoint of economic theory. Discussion of the problems of monopoly, inequality of income, social security, revival of foreign trade, agricultural adjustment, technological unemployment, collective bargaining, industrial warfare, the TVA as a yardstick, and consumers' co-operation. Recent laws attempted to solve these problems will also be analyzed.

First term - - - - MR. SCHMIDT

Econ.203 or 205. Seminar in Economic Theory.

This seminar is limited to graduate students who have taken one course in economic theory beyond the principles of economics. The topic for study will be either (Econ.203) The Theory of Imperfect Competition or (Econ.205) The Theory of Interest, depending upon the needs of the students who may wish to register for the seminar.

Second term - - - - MR. GARVER

Econ.260. Research.

AGRICULTURAL ECONOMICS

The following courses for graduate students will be offered by the Division of Agricultural Economics at the University Farm:

Ag.Econ.170. Land Economics.

A course devoted to a consideration of land as a factor of production. Particular attention will be given to land valuation, tenure, utilization, and policies. (Given at University Farm.)

First term - - - - MR. JOHNSON

Ag.Econ.200. General Seminar in Agricultural Economics.

The students will be given an opportunity to work on special problems in agricultural economics of particular interest to them. (Given at University Farm.)

Second term - - - - MR. WAITE

Ag.Econ.206. Seminar in Agricultural Policy.

A study of economic problems of agriculture and policies adopted by governmental, agricultural and other agencies regarding them. Particular attention will be devoted to recent developments of public policy with respect to agriculture. (Given at University Farm.)

First term - - - - MR. JESNESS

See Summer Session Bulletin for details of registration, amount and payment of fees. A Summer Session Bulletin will be mailed upon request. Address: Registrar, University of Minnesota, Minneapolis, Minnesota.

For further information concerning courses and facilities for research work inquire

DEAN OF THE GRADUATE SCHOOL
University of Minnesota
Minneapolis, Minnesota

PROGRAM

Room 8, Horticulture Building, is where all lectures will be held, except the two otherwise designated.

9:30 Registration **Monday, March 1**

10:15 Identification of plants, A. H. LARSON

11:15 Control of gophers, moles, ants, and similar pests, H. L. PARTEN

1:30 Gas engines—laboratory (Room 216, Agricultural Engineering Bldg.),
J. B. TORRANCE

Tuesday, March 2

9:15 Nursery practice, L. E. LONGLEY

10:15 Physiological effects of sprays and insecticides, CARL J. EIDE

11:15 ~~Culture~~ ^{Cultivation} of annual and ~~perennial~~ ^{perennial} flowers, LOUIS SANDO

1:30 New diseases of metropolitan bent, A. R. GEMMEL

2:30 Soil conditions and plant growth, C. O. ROST

3:30 Factors affecting the occurrence of insect pests, A. A. GRANOVSKY

Wednesday, March 3

9:15 Plant structures and their functions, A. H. LARSON

10:15 Control of turf diseases, L. S. DICKINSON, Massachusetts State College, Amherst

11:15 Golf courses as wild life refuges, RALPH T. KING

1:30 Cost accounting for golf courses, HERB GRAFIS, Editor, *Golfdom*, Chicago, Ill.

2:30 The profession of greenkeeping, L. S. DICKINSON

3:30 Round table discussion

Thursday, March 4

9:15 Principles of plant genetics, W. M. MEYERS

10:15 Keep within the ranges of tolerance, L. S. DICKINSON

11:15 Nature of fungi, CARL J. EIDE

1:30 What does it cost to maintain a golf course? How to find out, F. E. KOLLER

2:30 Plant movements in growth, A. R. GEMMEL

3:30 Soil tests and their interpretation, C. O. ROST

Friday, March 5

9:15 Gas engines—laboratory (Room 216, Agricultural Engineering Bldg.),
J. B. TORRANCE

1:30 Study of evergreens, L. E. LONGLEY

3:30 Conference

SHORT COURSE FOR GREENKEEPERS

Department of Agriculture, University of Minnesota, will present a 5-day Short Course for Greenkeepers at University Farm on March 1, 2, 3, 4, and 5, 1937. The course is offered through cooperation of the Minnesota Greenkeepers Association and the Department of Agriculture of the University of Minnesota. This course has been organized to meet a request of the Minnesota Greenkeepers Association for basic instruction dealing with the problems of the golf course. Practical instruction dealing with golf courses, lawns, and other plantings will be considered.

Fees

Registration fee of \$3.00, payable when application is made, will be charged to help defray the expenses involved in giving the course. There will be no other fees.

Where to Register

Registration on Monday morning, March 1, registration will be made in Room 8, Horticulture Building, University Farm campus, or at the Registrar's Office, Administration Building. All members of the course are expected to be present and pre-arrangements to begin work not later than 10:00 a.m., March 1.

Special Instructions

Registration may be obtained at the Cafeteria on the University Farm campus. For additional information write to Prof. C. O. Johnson, Division of Soils, University Farm, St. Paul.

Bulletin of
University of Minnesota
Department of Agriculture

GREENKEEPERS Short Course



March 1-5, 1937
University Farm, St. Paul

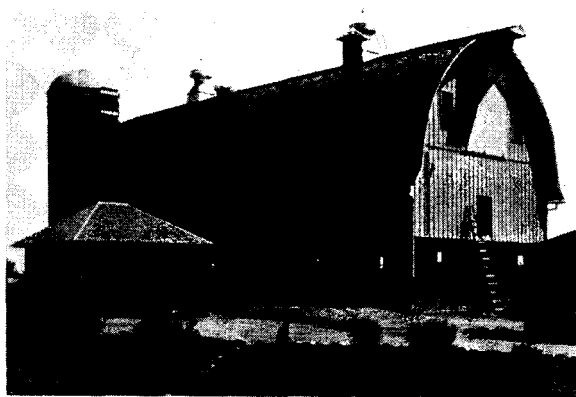
Vol. XL No. 13 February 10, 1937

Entered at the post office in Minneapolis as second-class matter, Minneapolis, Minn. Accepted for mailing at special rate of postage provided for in Section 1103, Act of October 3, 1917, authorized July 12, 1918

BULLETIN OF
UNIVERSITY OF MINNESOTA
DEPARTMENT OF AGRICULTURE

Farm Structures Conference

March 5, 1937



A Minnesota Barn

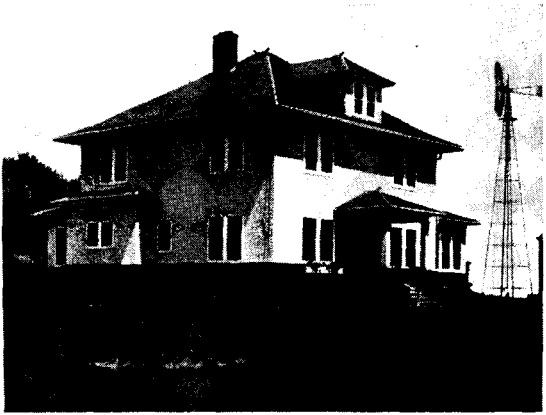
DIVISION OF AGRICULTURAL ENGINEERING
UNIVERSITY FARM, ST. PAUL

Vol. XL

No. 14

February 17 1937

Entered at the post office in Minneapolis as second-class matter. Accepted for mailing at special rate of postage provided for in Section 1103, Act of October 3, 1917. Authorized July 12, 1918.



A Minnesota Farmhouse

PURPOSES

THE construction of buildings is one of the best ways to relieve unemployment. It gives local labor an opportunity to take part in the return to prosperity. Every country builder and dealer is interested in having everyone employed so that improvements will be made to all homes.

The one-day conference, in addition to affording an opportunity to hear a splendid program on live subjects, makes it possible to see materials and methods which will be explained by specialists. There will also be a chance to secure information on topics on which it has been difficult to get reliable data. There will be exhibits of especial interest to those who are responsible for farm and village construction.

A visit to the Agricultural Engineering shops and laboratories and the cooperative tile testing laboratory will be well worthwhile. Each dealer should bring the local builders. By attending together and working together much more may be accomplished in the home community than can be done by each working alone.

Buildings are being built and should be carefully planned, properly constructed, and well painted.

Everyone interested is invited to these meetings.

PROGRAM



H. B. White, Chairman

Room 107, Agricultural Engineering Building



FORENOON

9:00 The importance of buildings in the farm business, F. W. PECK

The F.H.A. and the rural building program, F. C. SCHILPLIN

Improved building foundations, L. W. NEUBAUER, C. W. BLUE

10:30 Air conditioning, A. B. ALGREN

Bringing farm buildings up to date, WILLIAM BOSS

Noon Luncheon, Party Dining Room

AFTERNOON

1:15 The dealer's service in the farm building field, O. C. LANCE

The low cost of good construction, NEAL MACKENZIE

2:30 Round table discussions

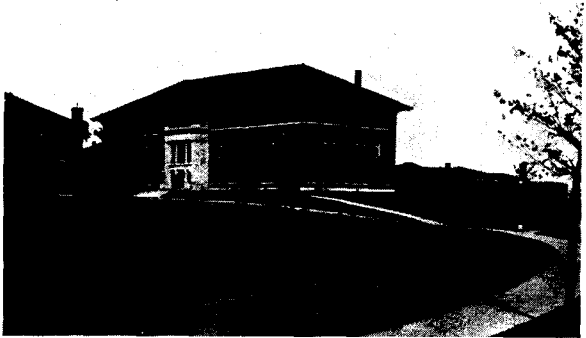
Masonry for silos, barns and other farm structures, D. G. MILLER, P. W. MANSON

Rural electrification, L. P. ZIMMERMAN, J. M. LARSON

General building problems—Plans, details, insulation, ventilation, hardware, equipment, millwork, plumbing, and painting, C. H. CHRISTOPHERSON, L. W. NEUBAUER, A. G. TYLER, H. B. WHITE

LOCATION

The Farm Structures Conference will be held in the Agricultural Engineering Building at University Farm, midway between St. Paul and Minneapolis. University Farm lies just west of the Minnesota State Fair grounds. To reach University Farm, take Como-Harriet or Como-Hopkins car from either city. Leave the car at Doswell or Carter avenue and walk north-east to the University Farm Campus, or, when coming from St. Paul, change at Eustis to the Inter-Campus car and for an additional fare come into the University Farm grounds; when coming from Minneapolis, change at 4th street and 15th avenue southeast to the Inter-Campus car. The Engineering Building is the middle one of the three facing west toward Cleveland avenue.



**Agricultural Engineering Building Where Farm Structures
Conferences Will Be Held**

Bulletin of the
University of Minnesota

Center for Continuation Study

Preliminary Announcement

of the

Water Works School

March 15, 16, 17, 1937



The Lounge, Center for Continuation Study

Vol. XL No. 15

February 20, 1937

Entered at the post office in Minneapolis as second-class matter, Minneapolis, Minnesota. Accepted for mailing at special rate of postage provided for in section 1103, Act of October 3, 1917, authorized July 12, 1918

Announcement

The Center for Continuation Study of the University of Minnesota in co-operation with the Minnesota Section of the American Water Works Association, the State Sanitary Conference, and the League of Minnesota Municipalities will offer a three-day Water Works School on March 15, 16, and 17, 1937. This school is the first of its kind to be conducted in the Center for Continuation Study. The new building of the Center makes it possible for the members of the group to live in their own residential college for the period of the school.

Because of its participation in the sponsorship of this school, the League of Minnesota Municipalities has officially designated it as an official League conference. The municipalities are thus authorized to pay expenses of men attending this school.

Program

Monday, March 15

- 8:00- 9:00 Registration
- 9:00-10:00 "Minimum Sanitary Standards for Water Supplies. Ground Waters—Untreated and Treated." O. E. BROWNELL, Sanitary Engineer, Division of Sanitation, Minnesota Department of Health
- 10:00-10:15 Intermission
- 10:15-11:15 Types of Pumps—Characteristics for Water Works Service. JOHN R. DUPRIEST, Head of the Department of Mechanical Engineering, University of Minnesota
- 11:15-11:30 Intermission
- 11:30-12:30 "Water Treatment—Purification, Softening, Taste and Odor, Iron and Manganese Control." FRANK RAAB, Chemist and Bacteriologist, Fridley Filtration Plant, Minneapolis
- 12:30 Luncheon. Center Dining Room
- 1:30 Inspection Trip—Meter Shop and Distribution Yards, Hamline Avenue and Carroll Street, St. Paul. GEORGE A. RODEN, Superintendent of Meter Division, Water Department, St. Paul

Tuesday, March 16

- 8:30- 9:30 "Minimum Sanitary Standards for Water Supplies. Surface Waters and Purification Plants." O. E. BROWNELL
- 9:30- 9:45 Intermission
- 9:45-10:45 "Operation and Maintenance of Pumps." JOHN R. DUPRIEST
- 10:45-11:00 Intermission
- 11:00-12:00 "Laboratory Control of Water Treatment." ROSS A. THUMA, Superintendent, Filtration Plant, Water Department, St. Paul
- 12:00 Luncheon
- 1:30- 2:30 "Meeting Emergencies." FRANK R. SHAW, District Engineer, Interstate Sanitary District No. 3, United States Public Health Service, Chicago, Illinois

2:30 "Cross Connections Due to Improper Plumbing." Illustrated by movies and slides. J. J. HANDY, Associate Sanitary Engineer, Division of Sanitation, Minnesota Department of Health. To be followed by a demonstration at the Experimental Engineering Building, University of Minnesota

Wednesday, March 17

8:30- 9:30 "Minimum Sanitary Standards for Water Supplies, Distribution Systems." O. E. BROWNELL

9:30- 9:45 Intermission

9:45-10:45 "Fire Protection Standards for Water Works." SANFORD HERBERG, Engineer, Fire Underwriters Inspection Bureau, Minneapolis

10:45-11:00 Intermission

11:00-12:00 "Rates and Financing." C. C. LUDWIG, Associate Professor of Political Science, University of Minnesota, and Executive Secretary of the League of Minnesota Municipalities

12:00 Luncheon—Round Table Discussion

1:30 Inspection Trip—Fridley Filtration Plant and Pumping Station, 45th Ave. N.E. and Marshall Street, Minneapolis. In charge of ARTHUR F. MELLEEN, Filtration Engineer, Water Works Department, Minneapolis

6:00 Dinner
Presentation of Certificates
Football Movies—PHIL BRAIN, Tennis Coach, University of Minnesota

Facilities of the Center

The new building of the Center contains dormitory facilities for seventy-eight persons, dining room, lounge, library, chapel, classrooms, seminar room, and offices. A connected garage is available for use of students of the Center.

The cost of room per person for institute members is given below:

	Room per Day	Room per Week
Double room, without bath	\$1.00	\$5.00
Single room, without bath	1.25	6.25
Double room, with bath	1.25	6.25
Large bay-window double room, with bath	1.50	7.50
Suite for four persons (two bedrooms, living room, and bath)	1.50	7.50
Suite for two persons (bedroom, living room, and bath)	1.75	8.75
Special suite for two persons (bedroom, living room, and bath)	2.00	10.00

Meals may be obtained at the following prices: breakfast, 35 cents; luncheon, 45 cents; and dinner, 65 cents.

Day parking in the garage may be obtained for 20 cents; twenty-four hour parking is 50 cents.

Registration and Tuition Fees

The tuition fee for the three-day course will be \$3. A registration fee of \$2 should be sent in with the application, making a total of \$5 for the course. Checks should be made payable to the University of Minnesota. Applications should be mailed in by March 10, if possible.

The student's registration fee of \$2 will be retained in the event of cancellation of the registration at any time. For cancellation of registration after the first day of the institute the refund will equal 10 per cent less than the actual time elapsed. No refund of tuition will be granted after the completion of half or more of the course.

Certificate

Upon satisfactory completion of the course, a certificate of attendance will be issued by the University of Minnesota upon the recommendation of the director of the Center.

Information

Address all applications or requests for information to the Director of the Center for Continuation Study, University of Minnesota, Minneapolis, Minnesota.

Joint Co-operating Committee

ARTHUR F. MELLEN, Filtration Engineer, Minneapolis Water Works, *Chairman*
FRANK RAAB, Chemist and Bacteriologist, Minneapolis Water Works, representing Minnesota Section, American Water Works Association

H. A. WHITTAKER, Director, Division of Sanitation, State Department of Health

DR. M. MCC. FISHER, Health Officer, Duluth, representing Minnesota Sanitary Conferences

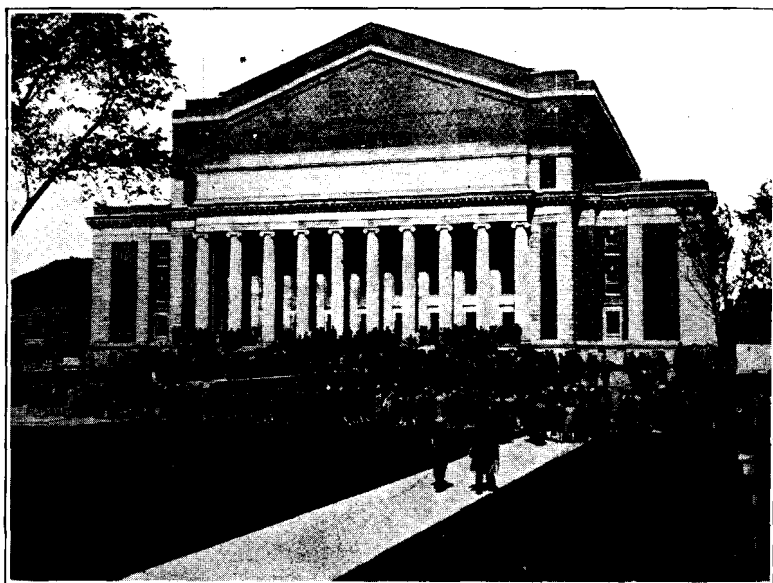
BEHERRELL HUNT, Water Superintendent, Bemidji

R. L. VAN NOCKER, City Manager, Albert Lea, representing League of Minnesota Municipalities

Bulletin
of the
University of Minnesota

Offerings
in the
Department of Speech
Summer Session 1937

First Term: June 14 to July 24
Second Term: July 24 to August 29



CONVOCATION

Vol. XL

No. 16

February 24 1937

Entered at the post office in Minneapolis as second-class matter, Minneapolis, Minnesota. Accepted for mailing at special rate of postage provided for in section 1103, Act of October 3, 1917, authorized July 12, 1918.

STAFF

ADMINISTRATION

LOTUS D. COFFMAN, Ph.D., LL.D., President
WILLIAM T. MIDDLEBROOK, M.C.S., Comptroller
JOHN T. TATE, Ph.D., Dean of the College of Science, Literature, and the Arts
THOMAS A. H. TEETER, B.S. (in C.E.), Associate Director of the Summer Session
EDWARD E. NICHOLSON, M.A., Dean of Student Affairs
ANNE D. BLITZ, M.A., LL.D., Dean of Women
FRANK K. WALTER, M.A., M.L.S., University Librarian
RODNEY M. WEST, B.A., Registrar

INSTRUCTORS

BRYNG BRYNGELSON, Ph.D., Acting Chairman and Assistant Professor
ALBERT LOVEJOY, M.A., Visiting Director (University Theatre)
JOSEPH SMITH, M.A., Visiting Professor
HOWARD GILKINSON, Ph.D., Assistant Professor
FRANKLIN KNOWER, Ph.D., Assistant Professor
GEORGE EGLAND, B.A., Instructor and Clinical Assistant
MELBA HURD, M.A., Instructor
DELISLE CRAWFORD, B.A., Technician
JOSEPH BATCHELLER, B.A., Assistant Technician

LIST OF EVENTS

June 23, 24, 25;
July 7, 8, 9, 14, 15, 16;
August 19, 20
June 23 University Theatre Productions
 Lecture, "High Comedy in America," by
 Professor Joseph Smith
June 24 Sound Movies of Speech, by Visual Edu-
 cation Department
July 13 Dramatic Recital, by Professor Joseph
 Smith
July 20 Speech Clinic Demonstration, by George
 Egland and Clinic Patients

INFORMATION

In addition to the courses listed in this bulletin many lectures of interest to students of speech will be found in *Leisure Hours*, the recreation program of the Summer Session.

For information regarding any departments of the Summer Session write the associate director of the Summer Session, 235 Administration Building, University of Minnesota, Minneapolis, Minnesota.

UNDERGRADUATE WORK IN SPEECH

Undergraduate work in speech at the University of Minnesota is based upon two fundamental presumptions: first, that skill in the use of speech either as a practical tool or an artistic accomplishment can be secured only on the basis of a comprehensive knowledge of the fundamental elements of the speech situation; and second, that skill in speech is the result of the co-ordination of highly complex systems of habits which can be developed by the individual only upon application of the normal laws of learning. The essential principles involved are those of the determination of a goal, motivation, and persistent application, to which should be added frequent objective self-evaluation and expert social analysis and criticism.

Students will find that in beginning courses an attempt is made to help them analyze their personal problems which interfere with effective social adjustment, to assist in the development of insight, and to facilitate the substitution of positive intellectual attitudes and habits of adaptation for general emotional and negative responses. Such elements of the speech situation as the personal attitudes of the speaker, the effective use of voice, action, and language as means of social stimulation, and the attainment of bodies of material which are analyzed, organized, and effectively presented, are studied for the purpose of determining what constitutes good speech and the attainment of skill in its use. Beginning courses also provide a foundation for the special work which is done in advanced fields of study in the department.

Advanced undergraduate courses are organized to provide a series of sequences where intensive work may be carried out in fields of speech which appeal to individual interests. An extensive knowledge of the types of technique which are employed in such uses of speech as those which occur in dramatic art, public speaking, and in the study of speech pathology is provided by these sequences. Moreover, advanced undergraduate work overlaps the field of graduate work in providing training in research in these various fields.

SPEECH TRAINING FOR ALL TEACHERS

All students preparing to teach any subject should have speech training. Teachers in charge of young children should have understanding of the emotional interactions between themselves and their pupils, which constitute the basic realities of the classroom. To have such insight a teacher must understand her own emotions and must be able to interpret the unconscious manifestations of the personalities of her pupils. A teacher who projects her own emotions into the classroom situation without consciously planned intention to produce a wholesome effect, inevitably causes in sensitive children tensions of fear and resentment, and defensive evasions. It is the purpose of the mental hygiene taught and practiced in our speech course to enable teachers to understand their own emotions and the emotions of their pupils. If, in addition to insight and understanding, a teacher has



VOICE RECORDING IN THE VISUAL EDUCATION SERVICE

speech skill, she will directly stimulate in her pupils responses of social co-operation. Unwholesome emotional tensions in a teacher are communicated by direct suggestion to everyone in her presence. The same is true of pedantic or slovenly habits of articulation, of harsh, shrill, or monotonous voices, and of all behavior which, because of either too great tension or too much relaxation, is lacking in controlled animation.

Many teachers in our schools have inadequate personalities, voices, and diction. It is important, in order to function effectively as a teacher of young children, that these irregularities in speech and personality be considered as a correction problem. The first course in speech correction is therefore recommended for all teachers.

More advanced specialized training in speech correction offers opportunities for teachers who wish to prepare themselves for this interesting work.

The White House Conference Survey reports that 10 per cent of the school population are in need of corrective speech aid. Approximately three million school children are suffering from personality disintegration because their social life inside and outside the classroom is handicapped by speech defects. Only a small number of these are now being cared for by teachers trained in this special field. It is

obvious that there is a great need for more and better trained clinicians who can serve the young children in the rehabilitation of their speech. Fears, inferiority complexes, and neurotic emotional adjustments could largely be eliminated in the young child provided the correction of his speech could be obtained in the early years of his school career.

In our own state there are still twenty-five school systems with a school population large enough to warrant the services of a full-time speech clinician. The school systems in which a speech supervisor is employed report cures in 50 per cent of the cases and partial rehabilitation in 85 per cent. The University Clinic cannot boast of such success. Here we are treating adult patients, whose nervous systems have become, through years of disintegration, fairly well set in certain pathological patterns of behavior. For example, an adult stutterer spends from two to four years in attaining adequate speech, while a young child's stutter can be corrected in about three to six months.



A MOMENT IN STUTTERING

The University of Minnesota Speech Clinic offers two splendid opportunities for clinical training. Clinical material of great variety is available in the Twin Cities and in the University of Minnesota Hospitals.

Students interested in a speech pathology major who desire to do clinical work in the public schools of the state should be well grounded in such sciences as anatomy, physiology, psychology, and speech. The teaching major is set up in the Department of Education as a five-year program. The fifth year can be devoted to graduate work toward a master of science degree.

PROBLEMS IN THE TEACHING OF SPEECH

Teachers of speech and supervisors of speech activities in public schools who register in the Department of Speech at the University of Minnesota during the Summer Session will find a great number of specific courses designed to give general consideration to their problems as teachers by providing a foundation and training in such work as interpretative reading, dramatic production, public speaking, the coaching of debate, and the correction of speech defects. Two additional courses dealing with their special problems not provided for in specific course content and training are taught in the College of Education by members of the staff of the Speech Department. One of these courses is devoted to intensive instruction and practice in the application of methods of treatment of various types of pathological speech disorders. The other course treats the more diversified problems of the teacher of general courses in speech and the teacher in charge of extra-curricular activities.

SPEECH CLINIC

The Speech Clinic renders service to three types of students. First, the student who speaks with a dialect or foreign accent; infantile and inarticulate pronunciation; cleft palate or congenitally short palate speech; stuttering, stammering, or broken rhythm; tongue-tied, lisping enunciation; other speech disturbances due to various anomalies of the vocal structures.

Second, the left-handed student who, due to faulty training, has not acquired an adequate legible script. Left-handed chairs are now provided in the classrooms. The clinic offers instruction in left-handed writing.

Third, students, who, because of some outstanding physical difference, such as short stature, red hair, receding chin, fatness, clubfeet, crossed eyes, or protruding teeth, may suffer from deep-seated feelings of insecurity due to their morbid attitudes toward these differences. The clinic offers a special type of training in objective mental hygiene for this type of student. After a few weeks of training these students are able to make satisfactory adjustments both in the classroom and in other social situations.

No matter what the disorder is, it is important that the handicapped students seek remedial help early in the college course. A re-

duced academic program can be arranged for those who desire clinical help in any of the above mentioned problems.

Stuttering is such a severe handicap to university life that we advise students so afflicted to spend a year or so in the clinic before attempting college work. It was with this thought in mind that an outpatient department was established four years ago. By means of this arrangement stutterers can get full-time treatment six hours each day, for eight weeks. This summer the outpatient department will be equipped to handle about sixteen stutterers. Applications for such services should be made early through the director's office.

Full-time outpatients pay \$65 for eight weeks' clinical training. This includes health service. Half-time outpatients are charged \$30. Students carrying eight hours of academic work toward a degree may receive twenty hours of clinical work a week at the cost of \$20.

Students carrying a three-fourths academic load may spend from six to eight hours a week in the clinic. A laboratory fee of \$3 is charged for this amount of work.

All students and outpatients should consult the director of the Speech Clinic, Room 411 Folwell Hall, concerning registration for clinical therapy.

ARGUMENTATION AND DEBATE

Courses in debating, as they are taught at the University of Minnesota, are designed to meet the needs of two types of student groups. The first group consists of individuals who are interested primarily in the development of personal skill in the preparation and delivery of argumentative speeches. The second group is made up of teachers



LEFT-HANDED WRITING

who are called upon to take charge of interscholastic or intercollegiate contest debating. Altho effective contest debating frequently demands an understanding of certain principles in addition to those applied in the individual argumentative speech, the similarities of procedure in these two speaking situations may be considered sufficient reason for bringing these two groups together in a single course.

In the attainment of skill in argumentative speaking, the student is expected to acquire an understanding of the psychological nature of the belief-attitude phenomenon, a general knowledge of contemporary affairs, and information as to sources and methods of gathering material. In addition, he is given practice and training in the analysis of propositions, the evaluation of evidence, the application of principles of sound reasoning, and various types of persuasion and strategy in argument. An understanding of personal problems of adjustment to an audience and the development of an effective technique in the presentation of oral argument are made focal points of course work.

For the teacher who is confronted with the task of coaching high school or college debaters, a study is made of the problems and principles peculiar to contest debating. Special attention will be paid to the topic chosen for debate in the State High School Forensic League for the coming year. This topic will be used extensively in illustrating the application of principles in lectures and projects.

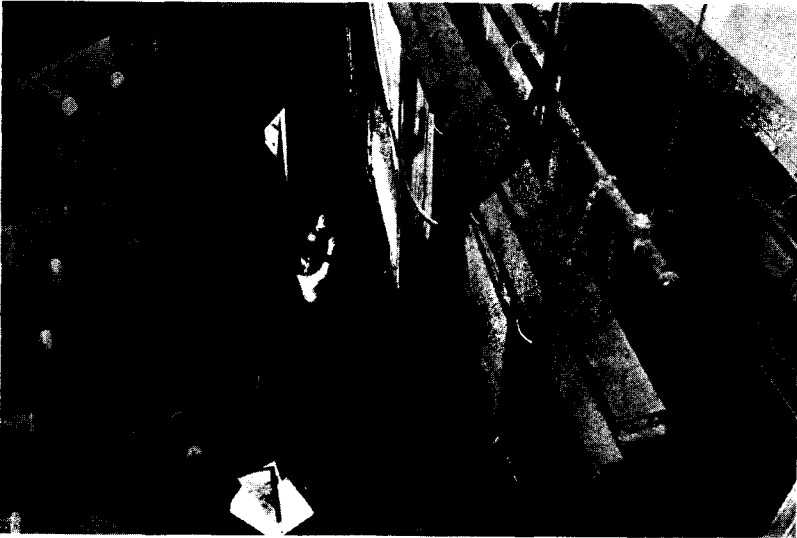
COURSES IN THE UNIVERSITY THEATRE

During the summer the University Theatre offers practical training in acting, stagecraft, and stage direction for teachers and others desiring to combine classroom and laboratory practice in the art of the theater, with actual participation in the various departments incidental to presentation of several public productions. The courses are planned to educate and train those called upon to direct and stage productions in schools and communities. Courses offered include History of the Theater, Acting, Stage Direction, Stagecraft, Advanced Technical Problems, and Make-up. All courses in the University Theatre lead to the B.A. and M.A. degrees.



MUSIC BUILDING

The courses and performances in the University Theatre workshop are conducted in a well-equipped theater plant which includes a studio theater (seating one hundred), technical workshop, costume and make-up rooms, rehearsal rooms, and a large theater seating six



VIEW OF STAGE FROM THE "FLYS" DURING BUILDING OF A PRODUCTION

hundred. Four plays will be presented for the general public. Each play will run for three or more performances. Students registered in theater courses will be eligible for participation in the public performances as actors and technicians.

The courses and productions will be conducted and directed by men with expert training and long experience in the professional and school theater and who combine a rich background of theater study and practice with ability to apply their skill to the practical problems of the school and community director and actor.

A detailed description of courses offered will be found on pages 11-12 of this bulletin.

The plays presented during the Summer Session will be selected from the following list:

- Androcles and the Lion*—George Bernard Shaw
- The Man of Destiny*—George Bernard Shaw
- The Adding Machine*—Elmer Rice
- Outward Bound*—Sutton Vane
- The Three Sisters*—Chekov
- Accent on Youth*—Samson Raphaelson
- Fly Away Home*—Dorothy Bennett and Irving White
- An American premiere of a new play

The theater rooms are open at all times to students, and here the students taking the courses carry out their assigned projects in costuming, construction, painting of sets, and placing of properties, lighting

the sets, and producing the Summer Session plays with all the organization and precision of professional production. The three plays of the first summer term, and the single production of the second summer term are open to the public, and season and single tickets are sold to the patrons of the theater in Minneapolis and St. Paul, who have come to recognize the value of their University Theatre in the art life of the community. The Minneapolis Institute of Arts, the libraries, and the Walker Art Galleries offer opportunities to the student interested in history and design, and the delightful summer evenings of Minnesota make the outdoor productions of the University Theatre events to be remembered by those who come to study in Minneapolis.



SCENE FROM "MONNA VANNA"

GRADUATE WORK IN SPEECH

Graduate work in speech has undergone a significant development in the universities of the United States during the last ten years. This activity has been the result of a growing realization by teachers of speech that there is a need for more scholarly study in the expansion of the discipline and that there are extensive opportunities for research which lie outside other fields of learning. Not only do teachers with the specialized training acquired in securing a Master's degree find themselves better prepared to deal with the complex problems of speech education, but the growing competition in the field is making it increasingly necessary for the teacher to secure a Master's degree to compete successfully in securing a position.

GENERAL REQUIREMENTS

A student desiring to become a candidate for the M.A. degree should first submit a transcript of his undergraduate work to the chairman of the department who will advise him as to whether he has had sufficient course work in speech to be admitted to full graduate standing. The minimum requirement is 18 credits distributed over the various fields of speech, such as: Fundamentals of Speech, Speech Correction, Phonetics, Argumentation and Debate, Interpretative Reading, and dra-

matic production. Any graduate without such rounded preparation will be required to take additional undergraduate courses to make up his deficiencies. Applicants whose scholastic standing as undergraduates may indicate a likelihood of their inability to maintain the necessary standard of scholarship at the graduate level, will be advised not to become candidates for the Master's degree.

NUMBER OF CREDITS AND OTHER REQUIREMENTS FOR THE MASTER'S DEGREE

Graduate students who have, as undergraduates, completed a major sequence in speech, may finish their requirements for the Master's degree in one year. An undergraduate major sequence in speech usually amounts to from 26 to 37 or more credits. Other graduates who are well grounded in fields related to speech, such as art and music, or physiology, psychology, and education, or physics, or history, economics, political science, and sociology, or logic and philosophy, or any combination of these, may be able to satisfy the course requirements for the Master's degree by earning 18 additional credits in graduate courses. In most cases, however, experience has shown that it is necessary for a candidate to earn from 26 to 36 credits in speech, and supporting subjects taken at the graduate level. From 2 to 6 credits may be earned in research projects. Each candidate is required to pass a comprehensive written examination before being admitted to the final oral examination. A satisfactory thesis is required of each candidate.

COURSES IN SPEECH

Speech Clinic. For students who have particular speech defects such as cleft palate, stuttering, lisping, dialect. See Mr. Bryngelson, Mr. Egland.

FIRST TERM

Undergraduate Courses

- 1su.‡ Fundamentals of Speech. Speech as social adaptation and control. Emotional problems. Technique of body and voice. Oral reading. Mr. Gilkinson.
 2su.‡ Fundamentals of Speech. Continuation of Course 1, above. Miss Hurd.
 55su. Argumentation and Debating. Analysis, evaluation of evidence, briefing, and strategy. The state high school subject, and coaching problems, will receive special consideration. Mr. Knower.
 61su. Speech Correction. Introduction to the correction of speech disorders. Speech defects as symptoms of maladjustments and organic malformations. Literature of subject. Mr. Bryngelson.
 67su. Phonetics. The study of English speech sounds, as they occur separately and in connected speech. Strong and weak forms, stress assimilation. Practice in ear training. Mr. Smith.
 71su.‡‡ Elements of Play Production. Make-up and acting. Reading of plays. Stage equipment, organization, and management. Participation in productions. Texts. Mr. Crawford.
 81su.‡ Interpretative Reading. Esthetic theory of literature and of oral reading. Practice in reading for interpretation and mastery of technique. Miss Hurd.

Undergraduate and Graduate Courses

- 91su.‡‡ Stagecraft. Designing, building, painting, and lighting scenery; elements of the physical theater; related problems of the director and actor. Mr. Batcheller.
 101su. Persuasion. Structure and oral style. Psychology of persuasion. Briefing. Critical study of models. Written speeches. Reports. Mr. Gilkinson.
 107su. Platform Reading. Selection and arrangement of material for program presentation. Student recitals. Designed for advanced students in interpretation. Mr. Smith.

‡ A fee of \$1 is charged for this course.

‡‡ A fee of \$3 is charged for this course.

- 111su.‡‡ Stage Direction. Practice and theory of stage direction; esthetics of the theater, analysis of the play, casting, rhythm, reading, organization for production. Mr. Lovejoy.
- 121su.‡ Advanced Speech Problems. Introduction to research; fields and methods of study; reports of research are reviewed; emphasis on psychology of speech; projects, reports. Mr. Kowner.
- 151su.* The Teaching of Speech. Orientation in problems of speech education. History, applications of psychology; objectives, programs, and methods; direction of extra-curricular activities; evaluation of texts. Mr. Kowner.
- 163su.‡ Speech Pathology. Physiological and psychological aspects of organic and functional speech problems. Theories of stuttering. Diagnoses and treatment. Clinical observation. Mr. Bryngelson.
- 164-165-166su.§ Clinical Methods and Practice in Speech Pathology. Mr. Bryngelson, Mr. Eglund.
- 171su. History of the Theater. A comprehensive course in the history of drama, acting, and stagecraft of all countries from the primitive dance drama to the modern stage production. Mr. Lovejoy, Mr. Crawford.
- 191su.‡ Technical Stage Problems. Advanced problems in design and construction; stage management. wiring, color effects, and lighting. Special problems assigned to individual students. Mr. Lovejoy, Mr. Crawford.

Graduate Courses

- 201su.¶ General Seminar. Staff.
- 207su. Seminar in Orators. A critical study of the great English and American orators. Mr. Smith, Mr. Gilkinson.
- 261su. Seminar in Speech Pathology. A study and critical analysis of current literature in the field of speech pathology. Specific cases for group study. Mr. Bryngelson.
- 291su. Research in Specific Problems. Open to graduate students. Mr. Bryngelson, Mr. Lovejoy, Mr. Smith, Mr. Gilkinson, Mr. Kowner.

SECOND TERM

Undergraduate Courses

- 1su.‡ Fundamentals of Speech. Same as first term. Mr. Kowner.
- 2su.‡ Fundamentals of Speech. Same as first term. Mr. Kowner.
- 3su.‡ Fundamentals of Speech. Third quarter of Speech 1-2-3. Mr. Kowner.
- 72su.‡‡ Elements of Dramatic Production. Continuation of 71su. Mr. Crawford.
- 92su.‡‡ Stagecraft. Continuation of 91su. Mr. Batcheller.

Undergraduate and Graduate Courses

- 122su.‡ Advanced Speech Problems. Continuation of 121su. Mr. Kowner.
- 291su. Research in Specific Problems. Mr. Kowner.

* Carries credit only in the College of Education.

‡ A fee of \$1 is charged for this course.

‡‡ A fee of \$3 is charged for this course.

§ Students should register for this course for eight weeks. They may take any two quarters. Listed in Education as Ed.C.I. 174, 175, 176.

¶ See Mr. Kowner.

The Bulletin *of the University of* **Minnesota**

The Summer Session *Announcement of Courses* **1937**

First Term June 14 to July 24
Second Term July 24 to August 28



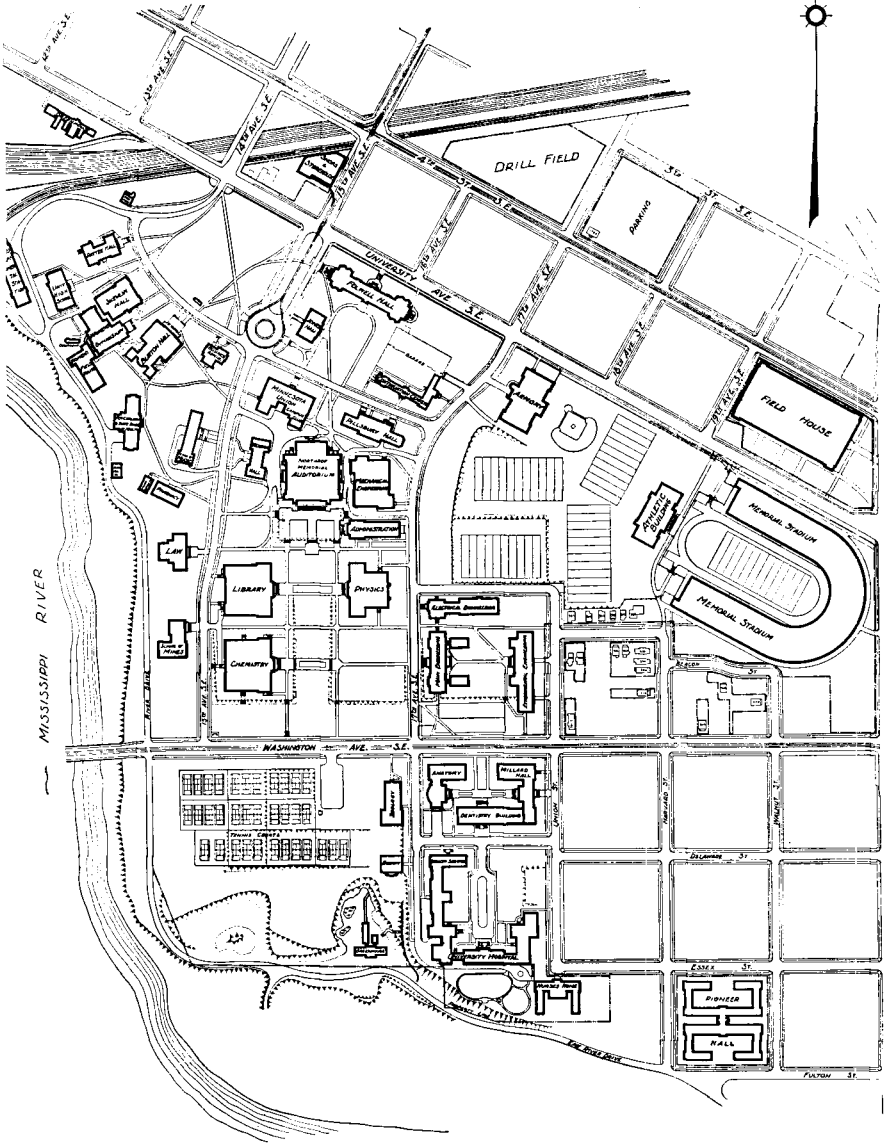
Vol. XL No. 17 February 27 1937

*Entered at the post office in Minneapolis as second-class matter
Minneapolis, Minnesota*

*Accepted for mailing at special rate of postage provided for in section 1103,
Act of October 3, 1917, authorized July 12, 1918*

UNIVERSITY OF MINNESOTA

MAIN CAMPUS

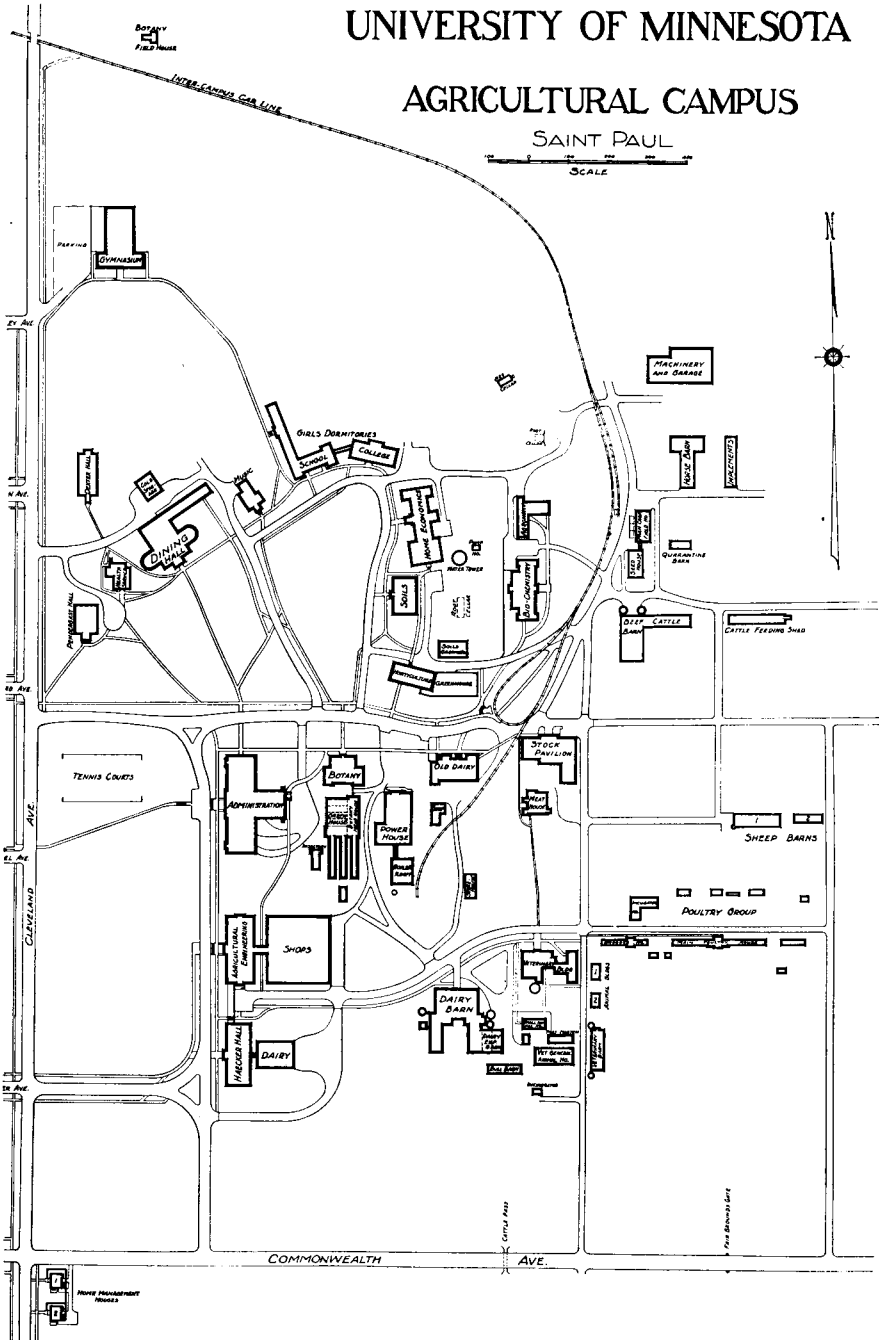


UNIVERSITY OF MINNESOTA

AGRICULTURAL CAMPUS

SAINT PAUL

SCALE



CALENDAR

SUMMER SESSION, 1937

June	14-15	Mon.-Tues.	Registration, first term
June	16	Wednesday	First term classes begin
July	5	Monday	Independence Day (Sunday, July 4), a holiday
July	22	Thursday	Commencement convocation
July	24	Saturday	First term closes
			Registration and payment of fees for second term close at 12 m.
July	26	Monday	Second term classes begin
August	28	Saturday	Second term closes

FOREWORD

The great central building that dominates the campus of the University of Minnesota is the Cyrus Northrop Memorial Auditorium. This building in more ways than one symbolizes the purposes of a state university. It is therefore eminently fitting that within the past year these words have been cut into the stone of the façade of this imposing structure:

The University of Minnesota

*Founded in the Faith that Men are Ennobled by Understanding
Dedicated to the Advancement of Learning and the Search for Truth
Devoted to the Instruction of Youth and the Welfare of the State*

In planning its Summer Session the University of Minnesota, through formal courses of instruction and in other ways, seeks to offer to the students who register the kind of educational privilege that will measure up to the lofty ideals embodied in those three compact lines of the inscription. With a faculty drawn from its own staff and supplemented by distinguished visiting professors, it presents to the students an opportunity to advance their education and to increase their understanding of the world in which they live.

A university faculty is sensitive to the changes that are taking place in science, in the arts and humanities, in political life, and in the world's social and economic organization. A faculty is likewise alert to changes that occur in the professions and the knowledge that underlies the practice of them. A summer session is a period in which men and women who are engaged in their own work for nine months of the year can renew their educational contacts and add to their own educational and professional background. In this respect, a summer session makes it possible to participate in adult education, in the best sense of that term. Likewise, for the ambitious student still in the University, it offers the chance to move more rapidly toward graduation.

The Summer Session of 1937, as described in detail in the pages that follow, demonstrates all of this. The offerings are rich and varied. From among many courses and subjects, attention may be directed to but a few: the study of personality and personality problems; the special work centering upon elementary school problems; the enlargement of the number of courses pertaining to current economic matters. A chemistry symposium to be held on the campus the week preceding the first term of the Summer Session, will attract many distinguished scholars. These are but a few features of a summer program that promises much.

L. D. COFFMAN, *President*

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ADMINISTRATION

Lotus D. Coffman, Ph.D., LL.D., President

William T. Middlebrook, M.C.S., Comptroller

Thomas A. H. Teeter, B.S. (in C.E.), Associate Director of the Summer
Session

Edward E. Nicholson, M.A., Dean of Student Affairs

Anne D. Blitz, M.A., LL.D., Dean of Women

Frank K. Walter, M.A., M.L.S., University Librarian

Rodney M. West, B.A., Registrar

Ralph A. Piper, M.A., Instructor, in charge of Physical Recreation

THE SUMMER SESSION

New courses have been prepared in the fields of agricultural education, art, art education, business administration, chemistry, child welfare, dramatics, elementary education, general education, geography, history, home economics, journalism, library education, mathematics, medicine, music, nursing, political science, physical education for men, physical education for women, psychology, rural sociology, sociology, speech, and in many special subdivisions of these subjects.

During the Summer Session, various departments will offer work of special value to teachers and supervisors interested in elementary education as well as to prospective teachers wishing to prepare for educational work with adults. Courses in the general principles of elementary education, parental education in child care and training, emergency nursery school and parent education, elementary education problems in home economics, public health problems, rural organization, and rural social work will be offered with particular reference to the needs of workers in elementary education programs. Many other courses, as, for example, those in world politics, American constitutional development, play production, stagecraft, physical education, and the direction of choruses, bands, and orchestras, will allow those interested in the teaching of adults to intensify and broaden their preparation for service in a most rapidly developing phase of American education.

Particular attention is called to the advantages of study in the second term when classes are smaller and more intimate, and the weather is usually decidedly cooler. Many departments have increased their offerings in the second term. The School of Business Administration, College of Education, Forestry and Biological Station at Itasca Park, Physics, Sociology, and Speech offer particularly good programs.

In the Summer Session the courses of the University of Minnesota are designed (1) for those graduate and undergraduate students, both in the arts and in the professional schools, who wish to reduce their period of residence at the University by accumulating credits during the summer; (2) for superintendents, principals, supervisors, teachers, and other students of professional interests who desire further training in their fields; (3) for persons who seek an opportunity to study for intellectual pleasure; (4) for graduates of accredited high schools who do not meet the special subject-matter requirements to enter some of the colleges and professional schools; (5) for high school graduates who wish to become acquainted with the methods of instruction and the policies and practices in collegiate work before registering in the regular session during the academic year. A full quarter's work is offered in the two terms, making possible a four-quarter year for students who desire it.

DURATION OF THE SESSION

The Summer Session consists of two terms. The first term, of six weeks, begins Monday, June 14, and closes Saturday, July 24. The second term, of five weeks, begins Saturday, July 24, and closes Saturday, August 28.

First term classes begin on Wednesday, June 16, second term classes, on Monday, July 26.

Students registering in the second term who are teachers and are obliged to return to their schools before the close of the term, may, with the consent of instructors, arrange to complete the work *in absentia*. The granting of such permission is not obligatory on any instructor, and students desiring this privilege should ascertain well in advance the courses in which the permission will be granted. They may then make a program accordingly.

The procedure is that of removing a grade of incomplete by examination. To avoid later misunderstanding, the student should secure the permission of the instructor at the beginning of the term, and then arrange with the registrar for the proper examination.

GENERAL INFORMATION

LOCATION

The Main campus of the University of Minnesota is located on the north bank of the Mississippi River in the city of Minneapolis. The university buildings, libraries, laboratories, observatory, and museums are at the service of the Summer Session students. In addition to the equipment of the University, there are a number of public and semi-public libraries available for the students' use in St. Paul and Minneapolis.

The courses in agriculture and home economics are given on the University Farm campus in the city of St. Paul, about one and a half miles from the Main campus in Minneapolis. The Farm campus offers all the advantages of the Main campus, for it is connected with the latter by an intercampus trolley line which gives free a regular, thirty-minute service. The Como-Harriet interurban line between the two cities is only a short distance from the college campus, so that the libraries, art galleries, lecture courses, and recreational facilities in both cities are accessible. The College of Agriculture has its own library, laboratories, museums, gymnasiums, tennis courts, and grounds for other sports.

INTERCAMPUS CAR

For students who are registered for class work on both the Minneapolis campus and the University Farm campus, free transportation on the intercampus car is provided. Tickets will be issued to students registered in the College of Agriculture, Forestry, and Home Economics at the branch office of the registrar at University Farm; to those registered in other colleges, at the Service Department, 13 Administration Building, Minneapolis campus.

Students who are registered for classes on the Minneapolis campus and who live in the College of Agriculture dormitories will also be given free transportation. Tickets will be issued by the Service Department.

GENERAL OFFICES

The office of the associate director of the Summer Session is in Room 235 on the second floor of the Administration Building on the Main campus. The offices of the registrar and cashier are on the first floor of the Adminis-

tration Building. For the convenience of students registering in agriculture and home economics, branch offices are established on the second floor of the Administration Building, University Farm. Details of procedures to be followed in registering will be given out at these places. The several schools and colleges function in the control of students during the summer just as during any other quarter of the year. Students in one college are free to elect courses in another college, however, on approval of the dean of the college in which the student is registered.

BUREAU OF RECOMMENDATIONS

The Bureau of Recommendations of the College of Education is operative during the Summer Session. Students who have done sufficient work at the University of Minnesota to secure academic standing here are eligible to the services of the bureau. The office is located at Room 208, Burton Hall.

UNIVERSITY LIBRARY

The University Library is open to all students of the Summer Session. It includes over 865,000 volumes and many periodicals and pamphlets on all subjects in the university curriculum.

The largest part of the library is housed in the Library Building on the Minneapolis campus. This is one of the largest and best university library buildings in the country. Its spacious reading rooms and a special floor with seminar library groups and discussion rooms for advanced students afford a greater seating capacity than any similar building yet erected. The library of the Department of Agriculture, with an excellent collection on agriculture and home economics, is located in the Administration Building at the University Farm. Branch libraries are maintained in a few of the schools and colleges, and there are smaller special collections conveniently grouped in the main library.

In addition to the University Library and its branches, the Minneapolis Public Library, the St. Paul Public Library, the Minnesota Historical Society, and the James Jerome Hill Memorial Library of St. Paul grant liberal privileges to Summer Session students.

The Library Handbook, copies of which may be had gratis upon application at the library, contains information regarding library hours, rules, and other matters essential to the profitable use of the library.

CORRESPONDENCE STUDY COURSES

The Correspondence Study Department of the General Extension Division affords an opportunity to students who come to the University only for the Summer Session to continue their studies during the remainder of the year, and thus accumulate additional credit toward their degrees as well as to secure the training which regular study gives. On the other hand, students who are now pursuing correspondence study courses have in the Summer Session a chance to complete some of their residence work at a time when many of them are free to do so. All those who are interested and who register for the Summer Session are urged to call at the office of

the General Extension Division to become acquainted with its work. Full information concerning correspondence study courses may be had at any time by addressing the Correspondence Study Department, General Extension Division, 402 Administration Building.

NATIONAL COLLOID SYMPOSIUM

A National Colloid Symposium will be held at the University of Minnesota on June 10, 11, and 12. Dr. Herbert Freundlich of the University College of London will be at the University of Minnesota during the Colloid Symposium and will continue as a lecturer in chemistry during the Summer Session.

SUMMER SCHOOL FOR ENGINEERS AND CUSTODIANS

From June 7 to June 12, 1937, the General Extension Division will conduct a short course for engineers and custodians of schools and other public buildings. This course will comprise an intensive practical training for ambitious men who have taken a serious interest in this vocation. Further information may be obtained by writing the General Extension Division, Department J, 402 Administration Building, University of Minnesota, Minneapolis.

PHYSICAL EDUCATION COACHING SCHOOL

From June 14 to June 19, 1937, the General Extension Division in co-operation with the Department of Physical Education will conduct a special coaching school for the training of coaches in the various departments of physical education. Further information may be obtained by writing the General Extension Division, Room 402, Administration Building, or the Department of Physical Education for Men, University of Minnesota, Minneapolis.

INSTITUTE OF CHILD WELFARE

The Institute of Child Welfare, an organization for the scientific study of children, for the training of workers in the field of child development, and for the dissemination of information through a program of parent education, is offering a full program including both graduate and undergraduate courses in the first term of the Summer Session and several courses in the second term.

During the first term a nursery school and kindergarten is operated by the institute. For information as to fees for the Nursery School and Kindergarten, and a description of the courses offered see the section on the Institute of Child Welfare, pages 104-105.

MINNESOTA UNION

The Minnesota Union is a men's clubhouse, furnishing social and recreational facilities and operating a soda fountain. There are also a ballroom, reception rooms, reading rooms, and lounging rooms. These rooms and their facilities are open to all men students.

The Minnesota Union cafeteria will be open during the Summer Session, for both men and women.

SHEVLIN HALL

Shevlin Hall affords to women students what the Minnesota Union affords to men. It contains rest and study rooms, rooms for social gatherings, the offices of the dean of women, and the Housing Bureau.

For women students on the University Farm campus similar facilities are available in the Home Economics Building.

UNIVERSITY POST OFFICE

The university post office, for distribution of mail addressed to the University, is located in the basement of the Administration Building on the Minneapolis campus. The University Farm post office is in the Administration Building on the Farm campus. At the time of registration each student is assigned a post-office box in which he will receive all mail, announcements, and university communications. The mail box should be visited at least once a day. When leaving at the close of a term, students should give the postmaster a forwarding address.

OFFICIAL DAILY BULLETIN

Throughout the year an official daily bulletin is issued. During the summer this is published as a separate sheet called the *Summer Session Reporter*. In addition to the announcements to students and faculty it contains other information, programs of the various recreational activities, and matter of general interest which would ordinarily be found only in a daily student newspaper. The bulletin is delivered to offices and laboratories, and to the post-office box of every student each morning on which it is published. *Each student is held responsible for a knowledge of such information appearing in the official notices as may affect him.*

STUDENTS' HEALTH SERVICE

The Students' Health Service conducts a dispensary during the Summer Session on the same basis as any other quarter of the year, the same staff of physicians, dentists, and nurses being on duty. This dispensary maintains exclusively for students, clinics in medicine, surgery, dermatology, ophthalmology, oto-laryngology, and dentistry. Hospitalization, whenever necessary for students, is provided in the "private patient" section of the University of Minnesota Hospitals. Home calls are not made during the Summer Session.

An unusual opportunity for a complete physical examination is offered by the Students' Health Service to those in attendance during the Summer Session. An annual physical examination is recognized as the only method of discovering chronic disease processes at a time when they are curable and the wisdom of procuring such annual examinations is being widely recognized by the public. The University has made an examination service available to students during the Summer Session and each year a large number of students has taken advantage of this opportunity. A charge of \$4 is made for this service.

For special drugs, X rays, dentistry, and hospital board, a charge on a strictly cost basis is made. This service is maintained by the University to

help each student to possess a healthy, active body, thereby contributing to his success while in college and in later life; and to reduce to a minimum that prodigious academic and economic loss due to indisposition and illness of students.

LIVING EXPENSES

The living expenses for students at the University are never very high, and this is true especially of the Summer Session. Good accommodations for room may be had from \$10 to \$15 per month. Meals can be secured for 75 cents per day and up. In addition to the cafeterias conducted on the campus by the University, several good restaurants are to be found in the immediate vicinity of the University. Further information concerning room and board may be obtained by addressing the director, Housing Bureau, Shevlin Hall. *It is generally more satisfactory to engage accommodations after arrival than to make reservations in advance, except in the case of reservations at Sanford Hall and Pioneer Hall.*

PIONEER HALL

The residence hall for men at the University of Minnesota was erected for the purpose of providing comfortable and attractive individual living quarters for men students. It is ideally located overlooking the Mississippi River on the East River Drive, one block east of the medical buildings. The building is quadrangular in form and is divided into sixteen houses, each house having a separate entrance. Approximately 32 students are accommodated in each house. Most of the rooms are arranged in three-room suites for two students—separate bedrooms and a common study. A few single and double rooms are provided for students who prefer this arrangement. Rooms are furnished with a combination wardrobe and dresser, bed, chair, study table, arm chair, rug, wastebasket, curtains, bed linen, and bed cover. Students are expected to furnish blankets, study lamps, towels, and other personal necessities.

The main dining hall will provide the residents of the houses three meals per day (cafeteria during the first term) if desired.

The rates for Pioneer Hall are for *room only* and are tabulated as follows:

	First Term 1937	Second Term 1937
Fourth floor rooms	\$15.00	\$12.50
Double rooms, per man	20.00	16.50
Single rooms	22.50	18.50
Three-room suites for two men, per man	25.00	21.00
Three-room bay window suites for two men, per man	27.50	23.00

(The rates for Pioneer Hall are for room only. Cafeteria meals—optional.)

Pioneer Hall will be open for room but not for board during the second term.

Students interested in residence in the hall should write to the director of Pioneer Hall, University of Minnesota, for a copy of the special bulletin and an application form. A \$2 deposit fee must accompany application. Assignments will be made in the order of application.

SANFORD HALL

Sanford Hall, a residence hall for women, is on the Minneapolis campus. It accommodates 225 students. The building has every modern convenience. All rooms have hot and cold water, and each double room has two closets.

The furniture consists of a cot, dresser, study table, easy chair, straight chair, and rug for each student. All bedding and the laundering of the same are furnished.

The rates during the Summer Session are *with* board in the first term and *without* board in the second term, and are as follows, payable at the time of registration :

	First Term (with board) 1937	Second Term (without board) 1937
Double rooms (4th floor), per student.....	\$43.00	
Single rooms (4th floor)	49.00	
Double rooms, per student.....	48.00	\$12.00
Single rooms (1st, 2nd, and 3rd floors).....	54.00	15.00

Reservations should be made as far in advance as possible. Applications, accompanied by a deposit of \$2, should be sent direct to Sanford Hall, University of Minnesota. No application will be recorded until a deposit fee of \$2 is received. This deposit will hold the room until the day after the opening of the Summer Session, and is refunded when the regular charge is paid.

DEPARTMENT OF AGRICULTURE DORMITORIES

Women taking regular work during the first term of the Summer Session, either on the Minneapolis or on the Farm campus, also high school students registered in the University Demonstration High School, may obtain rooms in the Department of Agriculture dormitories. There is convenient street car service to the Main campus. The dormitories contain a few single rooms; other rooms are intended to accommodate two persons. Necessary bedding and hand towels are furnished.

The rates during the summer are as follows: single rooms, \$2.50 per week; other rooms, \$2.25 per week per occupant.

Rooms will be assigned, during registration, in the Farm campus Administration Building. Payment for the first term of the Summer Session must be made to the cashier, University Farm, at the time of assignment. Dormitories will be open Saturday, June 12. They will not be available during the second term.

A cafeteria with reasonable charges is maintained on the Farm campus.

ADMISSION AND REGISTRATION

ADMISSION

The courses of the Summer Session are open to all qualified high school graduates. Persons of maturity whose preparation does not meet the entrance requirements, may be admitted as unclassified students on approval of the dean of the college or school concerned. Those who desire college credit for their work, and those who desire advanced standing for college work

done elsewhere, should submit their credentials, consisting of official transcripts of their high school, normal school, or college work.

Students should consult the statements in the respective college bulletins of the University of Minnesota for detailed information concerning admission to a given college. General information may be found in the General Information Bulletin. Any of these bulletins may be obtained by calling upon or writing to the registrar, University of Minnesota, Minneapolis.

For the convenience of students, certain information is given in this bulletin at the opening of the respective sections of descriptions of courses.

REGISTRATION

In order that the short terms may prove of maximum value, and that the work of the courses may not be interfered with by late entrants, students must complete their registration, including the payment of their fees, on the days set aside for registration, or pay a late registration fee.

The regular registration days are:

For the first term, Monday, June 14, 9 a.m. to 4 p.m., and
Tuesday, June 15, 9 a.m. to 4 p.m.

For the second term, Saturday, July 24, 9 a.m. to 12 m.

The late registration fees are as follows:

For the first term for those completing the registration on	
Wednesday, June 16	\$2.00
Thursday, June 17	3.00
Friday, June 18	4.00
Saturday, June 19	5.00

No registrations are allowed for the first term after Saturday, June 19, without the special permission of the dean of the school or college concerned, and the payment of the late registration fee of \$5.

For the second term, for those completing their registration on

Monday, July 26	\$2.00
Tuesday, July 27	3.00
Wednesday, July 28	4.00
Thursday, July 29	5.00

No registrations will be accepted later than Thursday, July 29, without the special approval of the dean of the school or college concerned, and the payment of the late registration fee of \$5.

No provision is made for allowing exemption from the late registration penalties to those who are unable to reach the University during the regular registration days.

The University of Minnesota reserves the right to cancel any and all courses in which the registration is insufficient to warrant continuation of the course.

Candidates for admission to all colleges except the College of Agriculture, Forestry, and Home Economics will register in the Armory. Candi-

dates for admission to the College of Agriculture, Forestry, and Home Economics will register at University Farm, 205 Administration Building.

Changes in Registration

After a student's registration has been accepted by the registrar any change must be made by petition approved by the Students' Work Committee or the dean of the college in which the student is registered. *Only in exceptional cases will any change be made after classes have begun.* Late changes of registration are subject to the same penalties as late registration.

FEES

The following fees are payable each term by each full-time student at the time of registration and must be paid before registration is complete:

Tuition fee (per term).....	\$21.80
Incidental fee‡ (per term).....	3.20
<hr/>	
Total fee (per term).....	\$25.00
Part time (4 credits or less) (per term).....	\$11.80
Incidental fee‡ (per term).....	3.20
<hr/>	
Total (per term).....	\$15.00
General deposit.....	\$2.00

Graduate students who have completed all their graduate work with the exception of their theses will be allowed to register in the Summer Session for *thesis work only* upon the payment of a flat fee of \$5.

In addition certain courses carry a fee as indicated in the description of those courses.

Charges for lockers, laboratory, breakage, library fines, etc., will be deducted from the \$2 deposit and the balance will be refunded by mail after the close of the term.

For fees for students desiring legal time credit in the Medical School, see page 66.

For fees for students registered for clinical courses in the School of Dentistry, see page 83.

For fees for students registered for music courses, see page 34.

For fees for students registered for nursing courses, see page 68.

Refund of Fees

Students cancelling during the first week of either term for unavoidable reasons will be granted a *four-fifths* refund. After 3:00 p.m. Tuesday, June 22, no refunds will be granted for the first term. After Saturday noon,

‡ An incidental fee of \$3.20 a term is charged each student for which the student receives the privileges of the Minnesota Union or Shevlin Hall, the Health Service, the *Summer Session Reporter* including the Official Daily Bulletin and the university post-office service.

July 31, no refunds will be granted for the second term. All refunds must be approved at window 23, registrar's office.

AUDITORS

Fees for auditors are the same as for students registered for credit. Permission to attend classes as auditors may be granted by the dean of the college or school with the consent of the department concerned. The form of registration as auditors shall be the same as of registration for credit, except that "auditor" shall be indicated on both registration sheet and class card. It is expected in general that auditors will be registered in at least one course for credit, but this regulation may be waived in exceptional cases.

CREDIT

Credit is administered on the following basis: One quarter credit requires in general not less than 10 lecture or recitation periods (2 per week for a summer term) requiring two hours of preparation each or not less than 20 periods of laboratory work requiring one-half hour of preparation each; or not less than 30 hours of laboratory work with no preparation. Courses carrying two or more units of credit require corresponding multiples of these amounts.

AMOUNT OF WORK

A maximum of 9 credits or two 5-credit courses is considered a full program for either term. Registration for a greater number requires special permission from the Students' Work Committee or the dean of the school or college in which the student is registered.

Examinations are held at the last scheduled class hour for each course.

GRADING SYSTEM

There are four passing grades, A, B, C, and D, representing varying degrees of achievement.

There are two grades indicating work of distinctly unsatisfactory quality. These grades are E (condition), which may be removed by examination or other means stipulated by the faculty of the college or school concerned, and F (failure), which may be converted into a higher grade only by a repetition of the work in the course or, in exceptional cases, by examination by permission of the faculty concerned.

The grade I (incomplete) indicates that a student, for reasons satisfactory to the instructor in charge, has been unable to complete the work of the course. This grade is given only when the work already done has been of acceptable quality. Any student receiving this grade will be given an opportunity to complete the said course within the first thirty days of his next quarter in residence, or in case of a student who is not in attendance during other quarters of the year, special arrangements may be made by the registrar if application is filed before the end of the summer term.

An opportunity to remove conditions received for a previous quarter will be given each term on the afternoon of the first Saturday after classes begin. A fee of \$1 is charged for the privilege of taking this examination at the scheduled time. A fee of \$5 is charged for each special examination.

DEGREES

Regular collegiate credit is given to qualified students for work in the Summer Session. For a detailed statement of the credit requirements for the various degrees, see the Bulletin of General Information for 1937-38, pages 30 to 36, and the bulletins of the various schools and colleges of the University for the same year.

Work completed in the Summer Session is considered as residence credit.

The Board of Regents will confer the degree appropriate to the course pursued under the following conditions:

1. *Curriculum requirements.*—Certification by the registrar of the completion of all requirements of the course of study as outlined in the college announcement, or its equivalent as determined by the faculty of the college offering the course.

2. *Recommendation of the faculty.*

3. *Residence requirement.*—Advanced standing will be allowed on certification from other recognized institutions and may be obtained also by examination held before a committee of the faculty appointed for that purpose provided that the following minimum requirement for residence at the University of Minnesota has been met.

The student must earn at least one year's credit in residence in this University. If the term of residence is only one year, that year must be the senior year; and in any case he must spend two quarters of the senior year in residence. In addition, special residence requirements must be met in several of the schools and colleges. See individual announcements.

4. *Attendance at commencement.*—All candidates for degrees are required to be present at commencement exercises provided that the candidate's work is completed at the end of a quarter when such exercises are held. Commencement exercises will be held Thursday, July 22, 1937.

A student who fails to attend shall not receive his diploma until the expiration of one year, unless in the meantime he attends commencement exercises or unless excused from such attendance by the dean of the college and the president of the University.

5. *Graduation fee.*—Graduate School, \$10; other schools and colleges, \$7.50.

INFORMATION

Correspondence with reference to the Summer Session and requests for circulars and additional information may be addressed to the associate director, Summer Session, or the registrar, University of Minnesota, Minneapolis, Minnesota.

RECREATION

Recreation is an essential part of any program of study, particularly during the summer months. The University of Minnesota makes a special effort to supply this need in a very complete manner. A recreational program is definitely planned so that all events are available with only nominal incidental expense.

The Twin Cities, Minneapolis and St. Paul, in themselves offer many attractions for the summer visitor. As centers of art, music, and education they are well known and their libraries, museums, and other institutions are easily accessible. As a center of outdoor life they are equally famous. There are several large lakes within their city limits, and the park systems contain numerous other small but attractive bodies of water. They are, too, the gateway to the countless resorts on the 10,000 lakes of Minnesota. Many students find it convenient and pleasant to spend week ends at some of these recreation centers.

Some of the forms of recreation provided are enumerated in the paragraphs below:

Informal social evenings.—Gatherings of a purely social nature are frequent. These afford opportunity for the development of acquaintanceships among students and faculty members, and the comfortable fraternizing that has come to be a recognized element in Summer Session life. A regular series of these events is definitely organized and directed, while many others result from student planning.

Certain recreational events are open only to regular members of the Summer Session. Summer Session students are admitted without charge upon presentation of the bursar's receipt for registration fees.

Excursions.—The many points of historical, industrial, educational, or purely recreational interest around the Twin Cities are made the objectives of definitely organized and personally conducted excursions. These excursions are arranged for the most advantageous hours, and it is a frequent event of a Saturday afternoon to see a party set out from the campus for a highly enjoyable tour. The cost is usually only the necessary street car or bus fare.

Physical activities.—Especial attention is given to the matter of physical recreation, entirely supplementary to the courses in physical education. The facilities and services offered are many and varied, and may be briefly summarized as follows: an eighteen-hole golf course; three gymnasiums including four swimming pools—the Athletic Building for men, the Women's Gymnasium, the Farm Gymnasium for students of agriculture and home economics; Northrop Field, for baseball, track, volleyball, diamond ball; thirty-five tennis courts open for daily use (these are regularly ruled and lined and provided with nets), instructors and attendants on duty at all times; tennis and golf tournaments; baseball teams in regular series of games; swimming at practically all hours of the day; prizes for winners in contests.

All of these facilities are available for both men and women and most of them with no extra charge except for towel service.

Tennis and golf tickets.—The use of the tennis courts is restricted to those holding tickets. Such tickets will be issued to regularly enrolled students of the Summer Session, upon payment of a fee of \$1 for each term and presentation of the bursar's receipt for fees. Golf tickets are issued in the same manner without charge, but a greens fee of 50 cents is charged for a single round, or ten rounds for \$4.50. Before 10:30 a.m., except Sunday,

and after 5:00 p.m. the charge will be 35 cents per round. Application should be made to the Athletic Department, Athletic Building.

SPECIAL FEATURES

Lectures and convocations.—Weekly convocations, addressed by speakers of prominence, are supplemented by a series of almost daily lectures. These are given by faculty members and by invited guests, and cover a large variety of subjects of literary, scientific, professional, historical, or popular interest.

Concerts and recitals.—Every week brings one or more occasions when students may gather in the concert hall of the Music Building or Northrop Memorial Auditorium and enjoy a musical program, or a lecture-recital on a musical or literary theme. These occasions are as much for the pure enjoyment of the moment as for the opportunity to enlarge one's acquaintance with masterpieces. They are free to students, and very popular.

Dramatics.—Performances of legitimate drama have become an outstanding feature of the Summer Session. The University Theatre, a university dramatic student organization, functions throughout the summer and demonstrates the success attainable with student actors. For these offerings the very best of stage equipment and facilities are provided.

SUMMER EMPLOYMENT

Students are advised not to engage in extra work during the summer; a full program of study during the warm weather should, with reasonable recreation, be a sufficiently heavy load. But for the benefit of those who feel compelled to aid themselves financially while in attendance, the service of the University Employment Bureau is always available. Many students are aided by this bureau which is on the basement floor of the Administration Building.

STATEMENT OF COURSES

The following pages contain announcements of the courses offered in the several colleges and schools of the University. Departmental statements also indicate certain requirements as to entrance and credits. For more detailed statements of these matters, reference should be made to the Bulletin of General Information and the regular annual bulletin of the college concerned.

The University of Minnesota reserves the right to cancel any and all courses in which the registration is insufficient to warrant continuation of such course or courses.

Following each course is a statement, in parentheses, of credits, classes of students eligible, prerequisites, days of the week, class hours, and location of the class. Thus (3 cred.; jr., sr., grad.; prereq. 12, 13; MTWThF II; 117F) means that the course carries three credits, is open to juniors, seniors, and graduate students, has for prerequisites Course 12 and 13, meets on Monday, Tuesday, Wednesday, Thursday, and Friday, at the second hour,

in Room 117, Folwell Hall. Abbreviations for class hours and buildings are interpreted by the following tables :

CLASS HOUR SCHEDULE

	Minneapolis Campus	University Farm
I Hour	8:00- 8:50	7:45- 8:35
II Hour	9:00- 9:50	8:45- 9:35
III Hour	10:00-10:50	9:45-10:35
IV Hour	11:00-11:50	10:45-11:35
V Hour	12:00-12:50	11:45-12:35
VI Hour	1:00- 1:50	1:00- 1:50
VII Hour	2:00- 2:50	2:00- 2:50
VIII Hour	3:00- 3:50	3:00- 3:50
IX Hour	4:00- 4:50	4:00- 4:50
X Hour	5:00- 5:50	5:00- 5:50

Convocation, IV hour, Thursday

(See *Official Daily Bulletin* for announcements)

KEY TO ABBREVIATIONS USED FOR BUILDINGS

Minneapolis Campus Buildings

A, Armory	FdH, Field House	O, Observatory
Adm, Administration Bldg	G, Greenhouse	P, Pillsbury Hall
Ath, Athletic Bldg	HS, Health Service	Ph, Physics Bldg
B, School of Business	IA, Institute of Anatomy	Phm, Pharmacy Bldg
Administration	J, Jones Hall	PiH, Pioneer Hall
Bo, Botany Bldg	L, Law Bldg	Psy, Psychology Bldg
Bu, Burton Hall	Lib, Library Bldg	Pt, Pattee Hall
C, Chemistry Bldg	M, Mines Bldg	S, Stadium
CCS, Center for Continuation	ME, Mechanical Engineer-	SaH, Sanford Hall
Study	ing Bldg	SBH, State Board of
CI, Cancer Institute	MeS, Medical Sciences Bldg	Health Bldg
CWI, Child Welfare Institute	MEEx, Mines Experiment	ShH, Shevlin Hall
E, Main Engineering Bldg	Station	TM, Todd Memorial Hospital
Ed, University High School	MGH, Minneapolis General	UD, University Dispensary
EE, Electrical Engineering	Hospital	UH, University of Minnesota
Bldg	MH, Millard Hall	Hospitals
EH, Eustis Hospital	MiU, Minnesota Union	WeH, Westbrook Hall
EMH, Elliot Memorial	Mu, Music Bldg	WGm, Women's Gymnasium
Hospital	NH, Nurses' Hall	Z, Zoology Bldg
Ex, Experimental Engineer-	NMA, Northrop Memorial	
ing Bldg	Auditorium	
F, Folwell Hall		

University Farm Buildings

Ad, Administration Bldg	HH, Haecker Hall	So, Soils Bldg
Ag, Agronomy Bldg	Hr, Horticulture	Ve, Veterinary
BCh, Biochemistry Bldg	OD, Old Dairy Hall	
En, Engineering Bldg	PP, Plant Pathology and	
HE, Home Economics Bldg	Botany	

REQUESTS FOR INFORMATION

Correspondence with reference to the Summer Session and requests for circulars and additional information may be addressed to the Associate Director of Summer Session, University of Minnesota, Minneapolis, Minnesota, or the Registrar, University of Minnesota, Minneapolis, Minnesota.

THE GRADUATE SCHOOL

The Graduate School gathers into a single organization and unites for the purpose of administration all the activities of the University in all its schools and colleges in so far as they relate to advanced instruction offered for the second or higher degrees, namely, master of arts, master of science, electrical engineer, mechanical engineer, civil engineer, chemical engineer, and doctor of philosophy. The privileges of this school are in general open to all who have received Bachelor's degrees from reputable colleges and universities, based on courses substantially equivalent to those at this University. *Students who do not hold a degree from the University of Minnesota must present a transcript of their undergraduate work.*

Work of graduate character done in the Summer Session of the University of Minnesota may be counted for residence credit for advanced degrees. The course work for the Master's degree may be completed in four separate six-week summer terms, or in three full Summer Sessions. Students must complete this work within six summers. In the first case, the candidate may (by special arrangement) be permitted to carry in *absentia* thesis work to complete the equivalent of three quarters. Students working for the Master's degree in summer terms or quarters must file the subjects of their theses before the completion of the first half of the required work. Theses of Summer Session students must be completed at least four weeks before the end of the term in which they take the degree.

The Master's degree may be earned by qualified students who complete a minimum of twenty-seven quarter credits, distributed between a major and minor field, and complete a thesis and pass the usual final examinations. This procedure, called Plan A, has been the only plan at the University of Minnesota until 1936.

An alternate road to the Master's degree, called Plan B, is now open. Under Plan B candidates for the Master's degree must complete, with an average of B, 45 quarter credits in graduate courses listed in the Graduate School Bulletin. At least 21, and not more than 27, credit hours should be in a single major field. At least 9 quarter credits must be in advanced courses, seminars, or independent work under faculty supervision and requiring the preparation of written reports representing the quality but not the range of the Master's thesis. Courses which offer an opportunity to meet this 9-hour requirement are marked in the Graduate School Bulletin with an asterisk (*).

The student's program shall have the approval of a major adviser or of a departmental committee acting for the major department and is subject to the review of the group committee. The intelligent planning of the student's program requires that he shall present to his adviser or the department committee a statement of all college work completed with credit.

For students electing Plan B, it is doubly important to file applications for admission and transcript in duplicate before the registration date. Otherwise delays and possible fines for late registration are almost unavoidable.

A full statement of the requirements for advanced degrees may be found in the bulletins of the Graduate School and Graduate Work in Medicine.

Students must register each summer in the Graduate School if they desire their work to be counted for an advanced degree.

COLLEGE OF SCIENCE, LITERATURE, AND THE ARTS

GENERAL INFORMATION

The administrative officers of this college and their offices follow:

John T. Tate, Dean of the College.....	219 Administration Bldg.
J. M. Thomas, Assistant Dean for the Senior College.....	219 Folwell Hall
W. H. Bussey, Assistant Dean for the Junior College.....	107 Folwell Hall
R. R. Shumway, Assistant Dean for Students' Work.....	219 Adm. Bldg.

For general information, for the requirements for admission as regular or as unclassified students, for general rules and regulations, and for the requirements for degrees in the different curricula offered by the college, students should consult one of the administrative officers or the complete Bulletin of the College of Science, Literature, and the Arts.

Courses announced in the bulletin as open to "juniors and seniors" or to "juniors, seniors, and graduates" are called "Senior and College Courses." They are open to sophomores under certain conditions. See the complete bulletin of the college, or consult one of the administrative officers.

Some of the numbers given in the statement of prerequisites for courses in this bulletin refer to courses listed in the bulletin of the college.

Some of the courses scheduled in this Summer Session Bulletin by the Schools of Business Administration and Medicine, the Institute of Technology, and the College of Agriculture, Forestry, and Home Economics, are open to students of the College of Science, Literature, and the Arts under the same conditions that prevail during the regular college year. For information, consult one of the administrative officers of this college.

ASTRONOMY

FIRST TERM

- 11su. Descriptive Astronomy. (5 cred.; all; no prereq.; MTWF III-IV and one evening a week for observation; 133Ph.) Mr. Luyten.
- 13su. Stellar and Practical Astronomy. Deals primarily with the observational aspect of astronomy, with the constellations and individual stars. Two lectures a week, and as much observing as weather permits. (3 cred.; all; no prereq.; WF 7:30 p.m. to 9:00 p.m., approximately the latter half of the time being supplanted by observation; 133Ph.) Mr. Luyten.
- 140su. Least Squares. (3 cred.; prereq. 51 or 11, and at least Math. 51; ar.) Mr. Luyten.

BOTANY

FIRST TERM

- 1su. General Botany. General survey lecture course on plant life. Fundamental facts of structure, growth, reproduction; relation of plants to each other and to their environment. (4 cred.; all; no prereq.; MTWF III, IV; 06Bo.) Mr. Huff.
- 2su.‡ Elementary General Morphology of Plants. A laboratory course in evolution and classification of plants. Study of habits, structure, and reproduction of selected types of algae, fungi, liverworts, mosses, ferns, and seed plants. A general survey of entire plant kingdom. (3 cred.; prereq. 1; MTWThF VI, VII; 1Bo.) Mr. Moore.
- 3su. Forest Botany. (1 cred.; students in agriculture and forestry; no prereq.; given at Itasca Park.) Mr. Rosendahl.
- 7su.‡ Taxonomy of Flowering Plants. A general study of the classification and relationships of flowering plants. (3 cred. [5 cred. with additional field work; ar.]; all; prereq. 1 or equiv.; MTWThF I, II; lect. 06Bo., lab. 4Bo.) Mr. Moore.
- 22su.‡ Elementary Plant Physiology. An elementary study of the fundamental processes occurring in plants. This entails a study of the rôle of essential elements, respiration, photosynthesis, enzymes, hormones, and other growth factors. (3 cred.; all; prereq. 1 and high school chem.; lect. I, II, MF, 4Bo; lab. I, II, TWThS, 104Bo.) Mr. Miller.
- 140su. General Plant Physiology. Advanced survey lecture course of the whole field of plant physiology. (3 cred.; jr., sr., grad.; prereq. 22 or equiv., elem. inorg. chem.; lect. MTWThFS III; 4Bo.) Mr. Miller.
- 225su. Research Problems in Plant Physiology. Advanced studies in respiration and photosynthesis and metabolism or spectroscopic identification and quantitative spectroscopic analyses of soils, pigments, vitamins, hormones, and sterols. (2-5 cred.; grad.; ar.; 104Bo.) Mr. Miller.

BIOMETRY

- 101su.‡ Biometric Principles. An introduction to statistical analysis with special emphasis on the basic principles of statistical reasoning as applied to the description of univariate distributions, normal correlation, goodness of fit, and simple tests of significance. Training in techniques of application with calculating machines given in the laboratory. (Lect. 3 cred.; lab. 2 cred.; jr., sr., grad.; lect. 5 hrs. ar., lab. 10 hrs. ar.; 202Bo.) Miss Gunstad.

SECOND TERM

COURSES TO BE GIVEN AT THE FORESTRY AND BIOLOGICAL STATION,
ITASCA PARK

- 8su. Elements of Field Taxonomy. (3 cred.; prereq. Bot. 1, or consent of instructor; WS.) Mr. Buell.
- 11su. Field Botany. (3 cred.; no prereq.; MTh.) Mr. Huff.
- 62su.‡ Bryophytes and Pteridophytes. (3 cred.; jr., sr.; prereq. Bot. 10 cred., or consent of instructor; TF.) Mr. Huff.

‡ A fee of \$1 is charged for this course. No fee is charged for Botany 101, lectures only, 3 credits.

- 115su. Advanced Taxonomy of Flowering Plants. (3 cred.; prereq. Bot. 10 cred. incl. Bot. 7; TF.) Mr. Buell.
- 131su. Field Ecology. (3 cred.; jr., sr., grad.; prereq. 10 cred. incl. 21; WS.) Mr. Daubenmire.
- 134su.‡ Research Methods in Ecology. (3 cred.; jr., sr., grad.; prereq. 18 cred. incl. 21; MTh.) Mr. Daubenmire.
- 221su. Research Problems in Ecology. (Cred. ar.; advanced students.) Mr. Daubenmire.

For detailed description of courses offered see Forestry and Biological Station.

CLASSICS

FIRST TERM

GREEK

- 44su.* Greek Literature and Life. Lectures, textbook work, illustrative and assigned readings; stereopticon views. Recommended to those interested in literature, language, or ancient history. (3 cred.; soph., jr., sr.; no prereq.; MTWThF III; 114F.) Mr. D'Arms.
- 45su.* Greek Mythology. Lectures, textbook work, and illustrative readings, supplemented by occasional stereopticon views. The origin and interpretation of the myth; its relation to literature, art, and religion. (3 cred.; soph., jr., sr.; no prereq.; MTWF IV and 1 hr. ar.; 114F.) Mr. D'Arms.

LATIN

- 73su. Advanced Grammar and Composition. Designed especially for teachers of Latin. (3 cred.; jr., sr.; prereq. four yrs. of high school Latin; MTWF IV and 1 hr. ar.; 110F.) Mr. Cram.
- 121su. Advanced Vergil. (3 cred.; jr., sr., grad.; prereq. any two courses between 50 and 100 or six years of Latin; MTWThF II; 110F.) Mr. Cram.
- 141su.† Problems in the Teaching of High School Latin. Readings in Caesar, Cicero, Vergil; discussion and reports concerning problems in methods, textbooks, illustrative material, bibliography. (3 cred.; jr., sr., grad.; prereq. any two courses between 50 and 100; MTWThF III; 110F.) Mr. Ogle.
- 201su. Graduate Seminar: Cicero. Problems connected with the political and literary career of Cicero. (3 cred.; grad.; ar.) Mr. Ogle.

ENGLISH

FIRST TERM

COURSES IN ENGLISH

- 1su. See under Courses in Composition.
- 3su. See under Courses in Composition.

* No knowledge of Greek is required for this course.

† Carries credit only in the College of Education.

‡ A fee of \$1 is charged for this course.

- 22su. Introduction to Literature. This course carries university credit for the second quarter of English 21-22-23. An intensive study of the leading writers of poetry and prose and of their historical background. Marlowe to Dryden. (5 cred.; all; prereq. Eng. A-B-C, or Comp. 4-5-6, or exemption from requirement; MTWThF II, MTWF IV and 1 hr. ar.; 301F.) Mr. Hessler.
- 32su. The English Novel. Development of the English novel. Principles and personalities in the evolution of the English novel. Written reports on selected novels. This course carries university credit for the second quarter of English 31-32. (3 cred.; all; prereq. Eng. A-B-C, or Comp. 4-5-6, or exemption from requirement; MTWThF IV; 205F.) Mr. Pattison.
- 55su. Shakespeare. The reading of *The Comedy of Errors*, *the Two Gentlemen of Verona*, *the Taming of the Shrew*, *the Merchant of Venice*, *Much Ado About Nothing*, *Twelfth Night*, with collateral reading. *Midsummer Night's Dream*, *the Tempest*, to be read independently. (3 cred.; jr., sr.; prereq.;* MTWThF III; 306F.) Mr. Dunn.
- 56su. Shakespeare. A continuation of 55su. The reading of *Richard II*, *Henry IV 1 and 2*, *Henry V*, *Richard III*, *Julius Caesar*, *Hamlet*, *Macbeth*, with collateral reading. (3 cred.; jr., sr.; prereq.;* MTWThF II; 306F.) Mr. Clark.
- 62su. Milton. (3 cred.; jr., sr.; prereq. 21-22 or 55-56; MTWF IV and 1 hr. ar.; 303F.) Mr. Dunn.
- 73su. American Literature. This course carries university credit for the first quarter of English 73-74. (3 cred.; jr., sr.; prereq.;* MTWThF II; 303F.) Mr. McDowell.
- 75su. Chaucer. Reading of tales from the Canterbury collection, with introduction dealing with the grammar and literary forms of fourteenth century English. (3 cred.; jr., sr.; prereq.;* MTWThF I; 306F.) Mr. Clark.
- 100su. Old English. Old English prose and poetry. The relation to modern English is particularly emphasized. (3 cred.; jr., sr., grad.; prereq. 6 cred. above 50; MTWThF III; 205F.) Miss Armstrong.
- 105su. Eighteenth-Century Poetry. From Pope to Burns, with special reference to the rise and growth of romanticism. This course carries university credit for the first quarter of English 105-106. (3 cred.; jr., sr., grad.; prereq. 6 cred. above 50; MTWThF II; 204F.) Mr. McKillop.
- 107su. Eighteenth-Century Prose. Special study of fiction and the essay. This course carries university credit for the first quarter of English 107-108. (3 cred.; jr., sr., grad.; prereq. 6 cred. above 50; MTWF IV and 1 hr. ar.; 204F.) Mr. McKillop.
- 110su. Romantic Poets. The romantic poets of the nineteenth century. This course carries university credit for the second quarter of English 109-110. (3 cred.; jr., sr., grad.; prereq. 6 cred. above 50; MTWF II and 1 hr. ar.; 311F.) Mr. Pattison.

* English A-B-C, or Composition 4-5-6 and 6 additional credits, or 10 credits in English 21-22-23.

- 133su. Ballads. A study of a large number of traditional ballads, English and foreign, and of ballad style and origins. (3 cred.; jr., sr., grad.; prereq. 6 cred. above 50; MTWThF I; 205F.) Miss Armstrong.
- 150su. Victorian Poetry. The poetry of the Victorian era, aside from Browning's and Tennyson's. The principal names are Matthew Arnold, the Rossettis, Fitzgerald, Morris, Swinburne, and Meredith. (3 cred.; jr., sr., grad.; prereq. 6 cred. above 50; MTWF IV and 1 hr. ar.; 305F.) Mr. Brown.
- 153su. Seventeenth-Century Lyrists. A study of the principal lyrists from 1603 to 1660. (3 cred.; jr., sr., grad.; prereq. 6 cred. above 50; MTWThF III; 204F.) Mr. Brown.
- 154su. American Novel. The history of the American novel from the beginning to the close of the nineteenth century. This course carries university credit for the first quarter of English 154-155. (3 cred.; jr., sr., grad.; prereq. 73-74; MTWThF I; 303F.) Mr. McDowell.

COURSES IN COMPOSITION

- Asu. Freshman English. The study of the fundamental principles of composition; training in the art of writing; an intensive study of selected classics of English literature. This course carries university credit for the first quarter of English A-B-C. (6 cred.; all; prereq. placement test; MTWThF I, II; 302F.) Mr. Haga.
- 1su. Freshman Literature. This course carries university credit for the work in literature (drama) of English A. (3 cred.; all; prereq. open to students who are eligible for Eng. A-B-C and those who have completed Comp. 4-5-6; MTWThF I; 302F.) Mr. Haga.
- 4su. Freshman Composition. Practical training in the art of writing; the principles of structure, and analysis of specimens of good prose. This course carries university credit for the first quarter of Comp. 4-5-6. (3 cred.; all; prereq. placement test; MTWThF II; 302F.) Mr. Haga.
- Csu. Freshman English. A continuation of Bsu. This course carries university credit for the third quarter of English A-B-C. (6 cred.; all; prereq. Eng. A-B; MTWThF III, MTWF IV and 1 hr. ar.; 302F.) Mr. Buckley.
- 3su. Freshman Literature. A continuation of English 1-2. This course carries university credit for the work in literature (types of poetry) of English C. (3 cred.; all; prereq. open to students who are eligible for Eng. A-B-C and those who have completed Comp. 4-5-6; MTWThF III; 302F.) Mr. Buckley.
- 6su. Freshman Composition. A continuation of 5su. This course carries university credit for the third quarter of Composition 4-5-6. (3 cred.; all; prereq. Comp. 4-5; MTWF IV and 1 hr. ar.; 302F.) Mr. Buckley.
- 28su. Advanced Writing. Informal writing, involving description and narration. Instruction largely in individual conference. (3 cred.; soph., jr., sr.; prereq. Eng. A-B-C or Comp. 4-5-6 or exemption from requirement; MTWThF I; 304F.) Mr. Briggs.
- 69su. Short-Story Writing. Plot construction and characterization. (3 cred.;

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jr., sr.; prereq. average of B in two qtrs. of 27-28, 29, 65; MTWThF III; 304F.) Mr. Briggs.

SECOND TERM

COURSES IN ENGLISH

- 33su. The Later English Novel. A study of the chief novelists of the last fifty years, including Hardy, Stevenson, Butler, Conrad, Galsworthy, Bennett. Lectures and class discussions. (3 cred.; all; prereq. Eng. A-B-C, or Comp. 4-5-6, or exemption from requirement; MTWThF I; 205F.) Mr. Mallam.
- 55su. Shakespeare. The reading of *The Comedy of Errors*, *The Two Gentlemen of Verona*, *The Taming of the Shrew*, *The Merchant of Venice*, *Much Ado about Nothing*, *Twelfth Night*, with collateral reading. *A Midsummer Night's Dream*, *The Tempest*, to be read independently. (3 cred.; jr., sr.; prereq.; MTWThF III; 205F.) Miss Christie.
- 74su. American Literature. This course carries university credit for the second quarter of English 73-74. (3 cred.; jr., sr.; prereq.* MTWThF I; 303F.) Mr. Nichols.
- 109su. Romantic Poets. The romantic poets of the nineteenth century. This course carries university credit for the first quarter of English 109-110. (3 cred.; jr., sr., grad.; prereq. 6 cred. above 50; MTWThF III; 303F.) Miss Jackson.
- 151su. Recent Poetry. Poetry in England and America since the death of Queen Victoria. The main tradition and tendencies now prevailing. (3 cred.; jr., sr., grad.; prereq. 6 cred. above 50; MTWF IV and 1 hr. ar.; 303F.) Miss Jackson.
- 156su. The American Drama to 1880. A survey of American drama in the eighteenth and nineteenth centuries. (3 cred.; jr., sr., grad.; prereq. 73-74 and 6 cred. above 50; MTWThF II; 303F.) Mr. Nichols.

COURSES IN COMPOSITION

- 5su. Freshman Composition. A continuation of Composition 4. This course carries university credit for the second quarter of Composition 4-5-6. (3 cred.; all; prereq. Comp. 4; MTWF IV and 1 hr. ar.; 302F.) Miss Christie.
- 27su. Advanced Writing. The writing of essays with emphasis on structure and organization. Instruction largely in individual conferences. (3 cred.; soph., jr., sr.; prereq. Eng. A-B-C or Comp. 4-5-6 or exemption from requirement; MTWThF II; 302F.) Mr. Mallam.

GEOGRAPHY

FIRST TERM

- 11su. Human Geography. A study of the factors of the physical environment and their effect on human activities. (5 cred.; 3rd qtr. fr.; soph., jr., sr.; no prereq.; MTWThF I-II; 103Bu.) Mr. Davis.

* English A-B-C, or Composition 4-5-6 and 6 additional credits, or 10 credits in English 21-22-23.

- 41su. Geography of Commercial Production. A study of the major commodities which enter into world trade and the geographic basis for their production. (5 cred.; soph., jr., sr.; no prereq.; Course 11 recommended; MTWF III-IV, Th III and 1 hr. ar.; 103Bu.) Mr. Bergsmark.

SECOND TERM

- 41su. Geography of Commercial Production. Same as first term. (MTWThF I-II; 103Bu.) Mr. Bergsmark.

GEOLOGY

FIRST TERM

- 1su. General Geology (Dynamic and Historical). A study of minerals, structures, and earth processes. Lectures supplemented by laboratory work and field excursions. (5 cred.; all; no prereq.; MTWThF I-II; 110P.) Mr. Stauffer.

GERMAN

FIRST TERM

- 1su. Beginning A. (5 cred.; all; no prereq.; MTWThF I-II; 209½F.) Mr. Burkhard.
- 2su. Beginning German. This course will be offered in the second term if enough students signify their intention of continuing German.
- 4su. Intermediate German. (5 cred.; all; prereq. 3 or three yrs. high school German; MTWThF I-II; 207F.) Mr. Lussky.
- 140su. Early High German Literature. (3 cred.; sr., grad.; prereq. 121 and 11 cred. above 60; MW III-IV; 207F.) Mr. Lussky.
- 156su. Contemporary Drama and Novelle. (Part I, Drama, a study of German drama since 1900.) Assigned readings and reports. (3 cred.; sr., grad.; prereq. 122 and 11 cred. above 60; T III-IV, F III-IV; 209½F.) Mr. Burkhard.

HISTORY

FIRST TERM

- 1su. Modern World. (5 cred.; all; no prereq.; MTWF III-IV, Th III, VII; 211Bu.) Miss Thompson.
- 7su. American History. Part I of general survey. (3 cred.; soph., jr., sr.; no prereq.; MTWThF II; 211Bu.) Mrs. Tyler.
- 9su. American History. Part III of general survey. (3 cred.; soph., jr., sr.; no prereq.; MTWThF I; 211Bu.) Mr. Shippee.
- 51su. Ancient European History: The Roman Empire. (3 cred.; jr., sr.; prereq. 10 cred. in soc. sci.; MTWThF III; 201F.) Mr. Jones.
- 53asu. Renaissance and Reformation—1300-1648. (3 cred.; jr., sr.; prereq. 10 cred. in soc. sci.; MTWThF II; 112Bu.) Mr. Krey.
- 59su. Europe in the Nineteenth Century: 1815 to 1848. (3 cred.; jr., sr.; prereq. 10 cred. in soc. sci.; MTWThF III; 211Bu.) Mr. Steefel.

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- 66su. Europe since 1914. The World War. (3 cred.; jr., sr.; prereq. 10 cred. in soc. sci.; MTWThF I; 111Bu.) Mr. Deutsch.
- 92asu. Minnesota and the Northwest. The more recent period. (3 cred.; jr., sr.; prereq. 10 cred. in soc. sci.; MTWThF I; 221Bu.) Mr. Blegen.
- 94asu. Survey of Latin American History. Part II of general survey. (3 cred.; jr., sr.; prereq. 10 cred. in soc. sci.; MTWF IV, Th VII; 112Bu.) Mr. Jones.
- 95su. American Diplomatic History. Part III of general survey. (3 cred.; jr., sr.; prereq. 10 cred. in soc. sci.; MTWThF III; 221Bu.) Mr. Shippee.
- 98su. American Political Parties. (3 cred.; jr., sr.; prereq. 10 cred. in soc. sci.; MTWThF II; 221Bu.) Mr. Stephenson.
- 157su. Readings in British Foreign Policy, 1871-1890. (3 cred.; sr. with permission of instructor, grad.; prereq. Senior College course in modern European history; MTh VII-VIII; 339Lib.) Mr. Steefel.
- 190su. Selected Readings in American History. Pre-Civil War political leaders. (3 cred.; sr. with permission of instructor, grad.; prereq. Senior College course in American history; TF VII-VIII; 221Bu.) Mr. Stephenson.
- 204su. Seminar in Medieval History. The Crusades. (3 cred.; grad.; prereq. Senior College course in medieval history; reading knowledge of French or German desirable; MTh VII-VIII; ar.) Mr. Krey.
- 210su. Seminar in American History. American diplomacy 1870-1890. (3 cred.; grad.; prereq. Senior College course in American history; MTh VII-VIII; 221Bu.) Mrs. Tyler.
- 223su. Seminar in European History. The Peace Conference, 1919. (3 cred.; grad.; prereq. Senior College course in modern European history, reading knowledge of French or German desirable; TF VII-VIII; 339Lib.) Mr. Deutsch.

SECOND TERM

- 2su. Modern World. Part II of general survey. (5 cred.; all; no prereq.; MTWThF I-II; 112Bu.) Mr. Jones.
- 8su. American History. Part II of general survey. (3 cred.; soph., jr., sr.; no prereq.; MTWThF III; 221Bu.) Mr. Green.
- 65su. Europe since 1871. First part of two-term course. (3 cred.; jr., sr.; prereq. 10 cred. in soc. sci.; MTWThF II; 111Bu.) Mr. Payne.
- 66su. Recent Europe. Europe since the Peace Conference. (3 cred.; jr., sr.; prereq. 10 cred. in soc. sci.; MTWThF III; 111Bu.) Mr. Deutsch.
- 158su. Readings in Modern European History. Europe after the Peace Conference. (3 cred.; sr. with permission of instructor, grad.; prereq. Senior College course in later European history; TF VII-VIII; 111Bu.) Mr. Deutsch.
- 172su. Selected Readings in English History. England in the later nineteenth century. (3 cred.; sr. with permission of instructor, grad.; prereq. Senior College course in later European or English history; MTh VII-VIII; 111Bu.) Mr. Payne.

- 191su. Selected Readings in American History. Background of the Civil War. (3 cred.; sr. with permission of instructor, grad.; prereq. Senior College course in American history; MTh VII-VIII; 221Bu.) Mr. Green.

HOW TO STUDY

FIRST TERM

- 1su. How To Study. Training in techniques of learning. Stress will be laid on recitation methods, efficient reading, note making, and budgeting time. Some time will be spent in discussing these problems as they occur at the precollege level. (2 cred.; all; no prereq.; MTWThF II; 104J.) Mr. Baker.

JOURNALISM

FIRST TERM

- 11su.‡ Newswriting and Editing. Lectures, practice, and conferences. Practical instruction in news gathering, journalistic writing, copy editing, headline writing, and make-up. For majors and nonmajors. (3 cred.; soph., jr., sr.; no prereq.; MTWF IV and 1 hr. ar.; 14P.) Mr. Barnhart.
- 69su.‡ Newspaper and Magazine Articles. Lectures and conferences. Practice in writing the various forms of the nonfiction article for periodicals, both general and specialized, and newspapers. (3 cred.; jr., sr.; prereq. 11, 15 or 41 or consent of instructor; MTWThF II; 10P.) Mr. Ford.
- 82su.‡ Supervision of School Publications. A practical consideration of problems facing supervisors of high school newspapers, magazines, and yearbooks. (3 cred.; jr., sr.; prereq. consent of instructor; MTWThF I; 14P.) Mr. Barnhart.
- 99su.‡ Readings in Journalism. (Cred. ar., not to exceed 3; jr., sr.; prereq. consent of department.) Mr. Barnhart, Mr. Nafziger, Mr. Ford.
- 113su.‡ The Press and Foreign Affairs. An appraisal of the relationship between international amity and the reporting and interpretation of world news by the American and foreign press. A study of the channels of international news communication and the great press associations. (3 cred.; jr., sr., grad.; no prereq.; MTWF IV and 1 hr. ar.; 10P.) Mr. Nafziger.
- 116su.‡ Representative American Newspapers, 1900-1936. Twentieth century tendencies and movements in American journalism considered in historical perspective and with special reference to leading metropolitan newspapers. Press developments will be considered against the background of the rising nationalism of the 90's, the growth of urban centers, and the rise of a business economy. (3 cred.; jr., sr., grad.; prereq. 9 hrs. of a social science or consent of instructor; not open to students who have received credit in Jour. 110; MTWThF III; 14P.) Mr. Ford.
- 133su.‡ Propaganda and Censorship in the Modern World. The propaganda activities of governments, economic groups, political parties, and others

‡ A fee of \$1 is charged for students registering for one or more of these courses.

seeking to control mass behavior by symbolic stimuli. Analysis of censorship controls. (3 cred.; jr., sr., grad.; no prereq.; MTWThF I; 10P.) Mr. Nafziger.

210su.‡ Research in Newspaper Problems. Individual research in either historical or contemporary phases of newspaper, periodical, or advertising fields. (2-3 cred.; seminar for graduate students; prereq. consent of the department; hrs. ar.; 10P.) Mr. Nafziger.

MATHEMATICS

FIRST TERM

- 1su. Higher Algebra. A collegiate treatment of the topics of elementary algebra for those who have had one year of elementary algebra. Open for credit to students who present less than one year of high school higher algebra for entrance. (5 cred.; all; prereq. 1 yr. of high school elementary algebra; MTWThF I-II, and two other periods, ar.; 105F.) Mr. Saunders.
- 6su. Trigonometry. A treatment of logarithms and plane trigonometry. Open for credit to students who present high school trigonometry for entrance. (5 cred.; all; prereq. 1 or high school higher algebra; MTWThF I-II; 104F.) Mr. Oberg.
- 7su. College Algebra. Selected topics in algebra commencing with quadratic equations and extending through the theory of equations and determinants, omitting logarithms. (5 cred.; all; prereq. 1 or high school higher algebra; MTWF III-IV and Th III-V; 105F.) Mr. Wegner.
- 20su. Mathematics of Investment. The principles and applications of the theory of interest, annuities, amortization, valuation of bonds, sinking funds, and depreciation. (5 cred.; all; prereq. 8, or 6 and 7; MTWF III-IV and Th III-V; 104F.) Miss Gibbens.
- 30su. Analytic Geometry. See Institute of Technology, page 49.
- 50su. Calculus I. Differential calculus. (5 cred.; jr., sr.; prereq. 30; MTWThF I-II; 102F.) Miss Carlson.
- 52su. Calculus III. Advanced topics in differential and integral calculus and a brief introduction to differential equations. (5 cred.; jr., sr.; prereq. 51; MTWThF I and five other periods ar.; 101F.) Mr. Hart, Mr. Oberg.
- 90su. Selected Topics in Senior College Mathematics. A course open to properly qualified sophomores, juniors, and seniors, who will be guided through conferences in the study of assigned topics. The content of the following courses will probably be offered: Theory of Equations; Solid Analytic Geometry; Synthetic Metric Geometry. (Cred. ar.;* jr., sr.; prereq. 30; ar.) Miss Carlson, Miss Gibbens, Mr. Wegner.
- 106su. Differential Equations. First course in differential equations with emphasis on their applications in physics and geometry. (3 cred.; jr., sr., grad.; prereq. 51; MTWThF III; 101F.) Mr. Hart.

* The number of credits is one or more according to the amount of work to be done.

‡ A fee of \$1 is charged students registering for one or more of these courses.

- 110su. Selected Topics in Advanced Mathematics. An intensive course open to juniors, seniors, and graduates who will be guided through conferences in the study of assigned topics. In particular, the content of advanced calculus will be available for properly prepared students. (Cred. ar.;* jr., sr., grad.; prereq. 51; ar.) Mr. Hart, Mr. Jackson.
- 115su. Differential Geometry. Introduction to the fundamental differential properties of curves and surfaces. (3 cred.; jr., sr., grad.; prereq. 51; MTWF IV and Th V; 101F.)
- 139su. Limits and Series. The analytical theory of limits with applications to infinite series. (3 cred.; jr., sr., grad.; prereq. 51; MTWThF II; 101F.) Mr. Jackson.

SECOND TERM

- 6su. Trigonometry. A treatment of logarithms and plane trigonometry. (5 cred.; all; prereq. 1 or high school higher algebra; MTWF III-IV, Th III-V; 105F.) Mr. Wegner.

MUSIC

FIRST TERM

The courses below, for which no special fee is indicated, may be taken by Summer Session students on payment of the regular Summer Session fee. Students who pay as much as \$25 per term for special music fees may enroll for other courses in any department of the Summer Session for an additional fee of \$14 per term, making a total of \$39 for general and special fees. All students who register for either the general courses or the special courses must pay the \$2 deposit.

- 1su. Ear Training. (2 cred.; no prereq.; MTWTh II; 103Mu.) Miss Kendall.
- 4su. Harmony. (3 cred.; no prereq.; MTWF IV 1 hr. and quiz sec. ar.; 103Mu.) Mr. Scott.
- 7su. Counterpoint. (2 cred.; MTWF IV; 3Mu.) Mr. Ferguson.
- 11su. Piano. Two lessons a week. Fee \$25. (2 cred.; ar.; Mu.) Mr. Lindsay, Miss Kendall.
- 12su. Voice. Two lessons a week. Fee \$25. (2 cred.; ar.; Mu.) Mr. Killeen, Mrs. Snyder.
- 13su. Violin. Two lessons a week. Fee \$25. (2 cred.; ar.; Mu.) Mr. Peterson, Mr. Scheurer.
- 27su. Organ. Two lessons a week. Fee \$25. (2 cred.; ar.; Mu.)
- 35su. Introduction to Music. Analytical and historical discussion of the elements, principles of structure, and various forms of music, designed to give a general survey of music literature and the foundations of an appreciative attitude. (2 cred.; no prereq.; MTWThF III; 103Mu.) Mr. Ferguson.

* The number of credits is one or more according to the amount of work to be done.

- 40su. Orchestra. (1 cred.; no prereq.; M IX-X; MuAud.) Mr. Pepinsky.
 43su. Chorus. (1 cred.; no prereq.; TTh VIII; MuAud.) Mr. Killeen.
 59su. Technique of Voice. (2 cred.; no prereq.; MTWTh VII; 104Mu.)
 Mr. Killeen.
 70su. Normal Piano. Will include lectures on: mechanism of the pianoforte;
 principles of piano technic; principles of interpretation, pedaling; teach-
 ing of ear training, rhythm, interpretation, and technic in the first three
 grades; class teaching and its problems and opportunities; music for
 the preschool-age child; rhythmic and interpretive enactment, repertoire.
 (2 cred.; prereq. two yrs. of piano; MTWThF I; 103Mu.) Miss
 Kendall.
 93su. Music for Two Pianos. Compositions originally written for two
 pianos. Class limited to 12 members. (2 cred.; advanced students only;
 MTWTh VII; 104Mu.) Mr. Scott.

PHILOSOPHY

FIRST TERM

- 1su. Problems of Philosophy. (3 cred.; soph., jr., sr.; no prereq.; MTWThF
 I; 322F.) Mr. Everett.
 2su. Logic. (3 cred.; soph., jr., sr.; no prereq.; MTWThF III; 322F.)
 Mr. Castell.
 3su. Ethics. (3 cred.; soph., jr., sr.; no prereq.; MTWF IV and 1 hr. ar.;
 322F.) Mr. Castell.
 115su. Contemporary Philosophy. A survey of present-day dualisms, ideal-
 isms, realisms, naturalisms, positivisms, with special emphasis upon
 Bergson, Dewey, Santayana, Whitehead, and Alexander. (3 cred.; jr.,
 sr., grad.; prereq. 8 cred.; MTWThF II; 322F.) Mr. Everett.

PHYSICS

FIRST TERM

- 3su. Elements of Mechanics. A quantitative study of the general principles
 underlying Newtonian mechanics. First part of general course, 3, 13, 23,
 33, 43. Course 4 should be taken in conjunction with this course. (3
 cred.; all; prereq. Math. 4 or 6; lect. MTWThF II, M IV or ar.,
 quiz M IX or ar.; 133Ph.) Mr. Erikson.
 4su.‡ Elements of Mechanics Laboratory. The laboratory part supplement-
 ing Course 3. (1 cred.; all; prereq. 3 or reg. in 3; TTh VI-VII;
 153Ph.) Mr. Erikson and assistant.
 43su. Electricity. A quantitative study of the general principles governing
 electrical phenomena. Course 44 should be taken in conjunction with
 this course. (3 cred.; all; prereq. 3; lect. MTWThF I, T III or ar.,
 quiz Th IX or ar.; 166Ph.) Mr. Buchta.
 44su.‡ Electricity Laboratory. The laboratory part supplementing Course 43.
 (1 cred.; all; prereq. 4, 43 or reg. in 43, MW VI-VII; 231Ph.) Mr.
 Buchta and assistant.

‡ A fee of \$2 is charged for this course.

- 112su.‡ Modern Experimental Physics. A study of problems in modern physics by experimental means. (3 cred.; jr., sr., grad.; prereq. 12 cred. in phys.; MWF VI-IX or ar.) Mr. Erikson.
- 114su. Elementary Physical Investigation. The experimental or theoretical study of physical phenomena, the nature or laws of which are not as yet fully understood. (3 cred.; jr., sr., grad.; prereq. 144, Math. 51; ar.) Mr. Erikson, Mr. Buchta.
- 119su. History of Physics. Part 2. A survey of the outstanding developments and discoveries in physics from the fourteenth century to the present time. (3 cred.; jr., sr., grad.; prereq. a general course in phys.; MTWThF III or ar.; 145Ph.) Mr. Erikson.
- 127su. Thermodynamics. Theory and applications to problems in physics. (3 cred.; jr., sr., grad.; prereq. 12 cred. in phys.; Math. 51; MTWThF II; 145Ph.) Mr. Buchta.
- 145su. Nuclear Physics. Discussion of recent results in the field of nuclear physics, including artificial radioactivity and study of experimental technique. (3 cred.; jr., sr., grad.; prereq. 12 cred. in phys., Math. 51; MTWThF VI; 145Ph.) Mr. Buchta.
- 216su. Thesis. No credit. Mr. Erikson, Mr. Buchta.

SECOND TERM

- 23su. Heat. A quantitative study of the general principles governing heat phenomena. Course 24 should be taken in conjunction with this course. (3 cred.; all; prereq. 3; lect. MTWThF I, T IV or ar., quiz T IX or ar.; 133Ph.) Mr. Miller.
- 24su.‡ Heat Laboratory. The laboratory part supplementing Course 23. (1 cred.; all; prereq. 4, 23 or reg. in 23; MW VI-VII; 244Ph.) Mr. Miller and assistant.
- 29su. Introduction to Meteorology. A presentation of the fundamental physical principles underlying meteorological phenomena, accompanied by instrumental observation and weather map study. (3 cred.; all; prereq. high school physics or equiv.; MTWThF III, quiz W IX or ar.; 133Ph.) Mr. Miller.
- 33su. Optics. A quantitative study of the general principles governing optical phenomena. Course 34 should be taken in conjunction with this course. (3 cred.; all; prereq. 3; lect. MTWThF II, M IV or ar., quiz M IX or ar.; 166Ph.) Mr. Valasek.
- 34su.‡ Optics Laboratory. The laboratory part supplementing Course 33. (1 cred.; all; prereq. 4, 33 or reg. in 33; TTh VI-VII; 352Ph.) Mr. Valasek and assistant.
- 116su. Elementary Physical Investigation. The experimental or theoretical study of physical phenomena, the nature or laws of which are not as yet fully understood. (3 cred.; jr., sr., grad.; prereq. 144, Math. 51; ar.) Mr. Miller, Mr. Valasek.
- 124su.‡ Pyrometry. A theoretical and experimental study of different principles involved in temperature measurement, covering standardization and

‡ A fee of \$2 is charged for this course.

- calibration with some practical considerations. (3 cred.; jr., sr., grad.; prereq. 12 cred. in phys.; MWF VI-IX; 244Ph.) Mr. Miller.
- 126su.‡ Advanced Heat. A more advanced theoretical and experimental study of heat phenomena. (3 cred.; jr., sr., grad.; prereq., 12 cred. in phys.; ar.) Mr. Miller.
- 137su. Electrical and Optical Properties of Crystals. Electrical theory of crystal lattices. Dielectric constants. Piezoelectric effect. Conduction of electricity through crystals. Photoelectric effect in crystals. Double refraction, optical activity, and absorption. (3 cred.; jr., sr., grad.; prereq. 12 cred. in phys., Math. 51; MTWThF VI or ar.; 145Ph.) Mr. Valasek.
- 152su. X Rays. A study of the nature and production of X rays. (2 cred.; jr., sr., grad.; prereq., 12 cred. in phys.; MTWThF I; 145Ph.) Mr. Valasek.
- 218su. Thesis. (No cred.) Mr. Miller, Mr. Valasek.

POLITICAL SCIENCE

FIRST TERM

- 1-2-3su. American Government and Politics, Part I. A survey of the American political system, national, state, and local, with some consideration of the problems of government in the modern industrial age. (Part I, first term, covers general structure and organization; citizenship and personal rights, parties and elections, and legislative organization and procedure. Part II, second term, covers administration, judicial organization and procedure, finances, and service functions. The two parts together make a complete course, but in the Summer Session either part may be taken for credit without the other.) (4 cred.; all; no prereq.; TWThF I-II; 211Bu.) Mr. Christensen.
- 25su. World Politics. An introduction to the field of contemporary international relations and the policies of the great powers today; nationalism; imperialism; internationalism. (3 cred.; soph., jr., sr.; no prereq.; MTWThF III; 112Bu.) Mr. Sibley.
- 71su. Recent Social Legislation. Governmental activity in the field of social security, safety and health, labor legislation, and social welfare; constitutional and administrative problems; the pressure politics of social legislation; recent trends. (2 cred.; soph., jr., sr.; prereq. 9 cred., or consent of instructor; MTWF IV; 211Bu.) Mr. Christensen.
- 120su. Municipal Functions. Description and analysis of major local services; police, fire, public works, utilities, parks and playgrounds, planning and zoning, welfare and relief, etc.; increase and decrease of functions; relations to state services. (2 cred.; jr., sr., grad.; prereq. 9 cred., or consent of instructor; TWThF I; 314Lib.) Mr. Ludwig.
- 121su. Municipal Administration. Forms of administrative organization; personnel problems; procedures; records and accounts; finance. (2 cred.; jr., sr., grad.; prereq. 9 cred., or consent of instructor; TWThF II; 314Lib.) Mr. Ludwig.

‡ A fee of \$2 is charged for this course.

- 131su. Public Administration I: National and State Structure and Functions. (2 cred.; jr., sr., grad.; prereq. 9 cred.; TWThF III; 112Bu.) Mr. Short.
- 144su. American Political Parties. The policies, composition, organization, activities, and functions of the political parties of today; suffrage, elections, and related subjects; evaluation of the political party as a force in American government. (3 cred.; jr., sr., grad.; prereq. 9 cred., or consent of instructor; MTWThF I; 209Bu.) Mr. Starr.
- 148su. European Dictatorships. Description and evaluation of contemporary absolute governments, especially in Soviet Russia, Italy, and Germany; organization and policies of dominant parties. (3 cred.; jr., sr., grad.; prereq. 9 cred., or consent of instructor; MTWThF III; 209Bu.) Mr. Starr.
- 154su. Chinese Government and Politics. Constitutional and political development in China; government, political parties, and problems. (2 cred.; jr., sr., grad.; prereq. 9 cred., or consent of instructor; TWThF II; 209Bu.) Mr. Quigley.
- 184su. International Organization. The structure of the older international community and of the League of Nations; procedure in the formation of international policy; international legislation and administration, the settlement of international disputes; sanctions. (2 cred.; jr., sr., grad.; prereq. 9 cred., or consent of instructor; MTWF IV; 209Bu.) Mr. Quigley.
- 261asu. Seminar in American Government, Politics, and Administration. (2 cred.; grad., and sr. with consent of instructor; ar. First meeting 12:00 noon first day of classes; 209Bu.) Mr. Short.
- 261fsu. Seminar in International Law, Organization, and Relations. (2 cred.; grad., and sr. with consent of instructor; ar. First meeting 12:00 noon first day of classes; 211Bu.) Mr. Quigley.

SECOND TERM

- 1-2-3su. American Government and Politics, Part II. See description under first term. (4 cred.; all; prereq. Part I, or consent of instructor; TWThF I-II; 211Bu.) Mr. Kirkpatrick.
- 15su. Elements of Political Science. An introductory study of the nature of the state, sovereignty and liberty, constitutions, the forms of government, and the functions of the state. (3 cred.; soph., jr., sr.; prereq. one or more qtrs. of 1-2-3, or equiv., or 10 cred. in soc. sci.; MTWF IV and 1 hr. ar.; 209Bu.) Mr. McLaughlin.
- 73su. Government and Business. A survey of the century-old trend toward more governmental regulation of business with special reference to modern problems arising from the relationships of government with the economic order. (2 cred.; soph., jr., sr.; prereq. 9 cred., or consent of instructor; MTWF IV; 211Bu.) Mr. Kirkpatrick.
- 87su. International Law, Part II: War and Neutrality. Justiciable and non-justiciable disputes; methods of settlement. War as a legal institution; rules governing hostilities. Neutrality: development, legal principles.

- Current problems of American neutrality. (3 cred.; jr., sr.; prereq. 9 cred., or consent of instructor. In the Summer Session Part II may be taken independently, Part I dealing with the law of peace, is not prereq.; MTWThF II; 209Bu.) Mr. McLaughlin.
- 103su. Constitutional Law. Freedom of speech, the rights of property, liberty, and contract; searches and seizures. Cases and lectures. (2 cred.; jr., sr., grad.; prereq. 9 cred., or consent of instructor; TWThF I; 209Bu.) Mr. Field.
- 135su. Government in Minnesota. A study of the executive, legislative, and judicial branches of the government of Minnesota. Special attention will be paid to problems of finance and the new services of government, state and local. (2 cred.; jr., sr., grad.; prereq. 9 cred., or consent of instructor; TWThF III; 209Bu.) Mr. Field.
- 261asu. Seminar in American Government, Politics, and Administration. (2 cred.; grad., and sr. with consent of instructor; ar. First meeting 12:00 noon first day of classes; 209Bu.) Mr. Field.

PSYCHOLOGY

FIRST TERM

For course in How To Study see page 32 of this bulletin.

- 1su,2su. General Psychology. An introductory survey of psychology; its material, fundamental laws, applications, and relations to other sciences. (6 cred.; soph., jr., sr.; no prereq.; MTWThF III, MTWF IV, Th V; 211Psy.) Mr. Carlson.
- 3su. Psychology Applied to Daily Life. The applications of psychology to selected problems in medicine, law, education, sociology, and daily life. (3 cred.; soph., jr., sr.; prereq. general psychology; MTWThF III; 109Psy.) Mr. Baker.
- 7su.‡ Introduction to Laboratory Psychology. Simple experiments providing illustrative material and training in the methods of laboratory psychology. (4 cred.; soph., jr., sr.; prereq. general psychology; MTWThF VI, VII, VIII; 211Psy.) Mr. Stromberg.
- 106su. Aptitudes and Aptitude Testing. Nature of educational and occupational aptitudes; ways of ascertaining them; selection, administration, and interpretation of tests; their rôle in counseling and in employment practice. (3 cred.; jr., sr., grad.; prereq. general psychology; MTWThF II; 115Psy.) Mr. Bingham.
- 107su. Psychology of Personality. Lectures and conferences on the appraisal and measurement of personal traits. The course is designed to dissolve the halo of mystery shrouding the concept of personality, to the end that teachers and employers may better understand themselves as well as those they influence, and may modify their practices in the interest of personal integration, effective co-operation, and mental health. (3 cred.; jr., sr., grad.; prereq. general psychology; MTWF IV, Th V; 115Psy.) Mr. Bingham.

‡ A fee of \$2 is charged for this course.

- 111su. *Frontiers of Psychology*. A consideration of the phenomena of spiritualism, mediumship, telepathy, clairvoyance, hypnotism, etc., from the scientific point of view. A critical evaluation of the available evidence will be made in the light of the laws of science and nature. Lecture and assigned readings. (3 cred.; jr., sr., grad.; prereq. general psychology; MTWThF I; 115Psy.) Mr. Heron.
- 113su.* *Abnormal Psychology*. A survey of various forms of abnormal behavior with special reference to their bearing on the problems of normal behavior. (3 cred.; jr., sr., grad.; prereq. general psychology; MTWThF III; 115Psy.) Mr. Heron.

SECOND TERM

- 1su,2su. *General Psychology*. See 1su,2su, first term. (6 cred.; soph., jr., sr.; no prereq.; MTWThF III, MTWF IV, Th V; 115Psy.) Mr. Tinker.
- 1su. *General Psychology*. First half of 1su,2su. (3 cred.; soph., jr., sr.; no prereq.; MTWThF I; 115Psy.) Mr. Skinner.
- 116su. *The Psychology of Literature*. Fundamental processes involved in the creation and enjoyment of literary works. Descriptive and emotive uses of language. Psychological bases of style; nature and function of metaphor; techniques of humor; etc. Unconscious language processes and their use in the production of literary effects. Modern trends in the use of literary materials and devices. For those interested either in the creation or appreciation of literature. (3 cred.; jr., sr., grad.; prereq. general psychology and consent of instructor; MTWThF III; 109Psy.) Mr. Skinner.

ROMANCE LANGUAGES

FIRST TERM

COURSES IN FRENCH

- 1su. *Beginning French*. Regular beginning course with special attention to the needs of those who desire a reading knowledge of French. (4 cred.; all; no prereq.; TWThF I-II; 201F.) Mr. Brackney.
- 50su. *French Pronunciation*. Practical exercises and individual oral training. (2 cred.; jr., sr.; prereq. 3-4 or equiv.; TWThF III; 202F.) Mr. Minault.
- 63su. *Advanced French Composition*. (2 cred.; jr., sr.; prereq. 20 or 53, 54-55 or equiv.; TWThF I; 202F.) Mr. Minault.
- 116su. *French Literature: 17th Century*. Equivalent to 116w (see page 83 of the Combined Class Schedule) with less extensive reading. (2 cred.; jr., sr., grad.; prereq. 70-71-72 or 73-74 or equiv.; MTWF IV; 203F.) Mr. Searles.
- 119su. *French Literature: 18th Century*. Voltaire. Equivalent to 119w (see page 83 of the Combined Class Schedule) with less extensive reading. (2 cred.; jr., sr., grad.; prereq. 70-71-72 or 73-74 or equiv.; TWThF III; 203F.) Mr. Searles.

* Does not count as equivalent of 6 credit course with same title in major sequence.

- 132su. Baudelaire, Verlaine, and the Symbolists. Equivalent to 132s (see page 83 of the Combined Class Schedule) with less extensive reading. (2 cred.; jr., sr., grad.; prereq. 70-71-72 or 73-74 or equiv.; TWThF II; 203F.) Mr. LeCompte.
- 171su. History of French Language. (2 cred.; jr., sr., grad.; prereq. one year of Latin; TWThF I; 203F.) Mr. LeCompte.
- 259su. Research in French. Direction of theses. (Cred. ar.; grad.; hrs. ar.) Mr. LeCompte, Mr. Searles.

SECOND TERM

COURSES IN FRENCH

- 1su. Beginning French. Regular beginning course with special attention to the needs of those who desire a reading knowledge of French. (4 cred.; all; no prereq.; TWThF I-II; 202F.) Mr. Clepton.
- 128su. Diderot and the Encyclopedic Movement in the 18th Century. (2 cred.; jr., sr., grad.; prereq. 70-71-72 or 73-74 or permission of instructor; TWThF III; 203F.) Mr. Clepton.

SOCIOLOGY

FIRST TERM

- 1su. Introduction to Sociology. An objective analysis of culture with special attention to social change. Survey of culture patterns, cultural processes, and social interaction. (3 cred.; 3rd qtr. fr., soph., jr., sr.; no prereq.; Sec. 1, MTWThF I, 109J, Mr. Althaus; Sec. 2, MTWThF III, 109J, Mr. Althaus; Sec. 3, MTWF IV and 1 hr. ar., 109J, Mr. Monachesi.)
- 6su. Social Interaction. The basis and forms of social interaction and social relationships, with detailed attention to patterns of contemporary society. (3 cred.; soph., jr., sr.; prereq. 1; MTWThF II; 109J.) Mr. Schneider.
- 14su. Rural Sociology. A study of rural and urban relationships. The position of an agricultural class in an industrial society. (3 cred.; soph., jr., sr.; prereq. 1; MTWThF III; 104J.) Mr. Murchie.
- 49su. Social Pathology. A survey course of contemporary social problems with especial emphasis on the conditions and processes in personal demoralization and social disorganization. The scientific approach to the study of poverty, unemployment, physical diseases and defectiveness, mental deficiency, insanity, vagrancy, suicide, etc. (3 cred.; 3rd qtr. soph., jr., sr.; prereq. 10 cred. in soc. or Soc. 1 and 10 cred. in soc. sci. or psy.; MTWThF I; 104J.) Mr. Schmid.
- 104su. Principles of Sociology. An introductory course for graduate students. (3 cred.; grad.* no prereq.; MTWThF III; 2J.) Mr. Monachesi.
- 109su.† The Field of Social Work. An introductory course for graduate students. (3 cred.; grad.* prereq. 104, which may be taken simultaneously; MTWThF II; 114F.) Mrs. Doyle.

* Primarily for graduate students, but mature students who are not graduates may be admitted with the consent of the adviser in social work.

† This course is for mature students who have not had Courses 49 and 90.

- 114su. Rural Social Institutions. Study of the problems of organization of selected rural institutions, especially religious, educational, civic, and recreational. (3 cred.; jr., sr., grad.; prereq. same as for 101; MTWThF II; 2J.) Mr. Murchie.
- 129su. Principles of Social Case Work. A study of the purposes, problems, and processes of generic social case work, including a study of the relationships between the individual and the social worker and community as contributory to the treatment of the problems presented. (3 cred.; grad.;* prereq. 109, which may be taken simultaneously; MTWThF I; 2J.) Mrs. Fenlason.
- 153‡-154‡-155‡su. Field Training in Case Work. (2 to 5 cred. per qtr. to be determined by the adviser in social work; grad.)* prereq. 129, which may be taken simultaneously; ar.) Mrs. Fenlason, Miss Brocker, Miss Lowry.
- 165su. Psychiatric Problems in Social Case Work. Deals with the psychiatric aspects of social case work. Normal and abnormal procedure discussed. Through presentation of case studies, the mechanism responsible for abnormal behavior will be presented. Particular emphasis placed on the study of the neurotic and the socially maladjusted individual. (3 cred.; prereq. 129, 153, and Psy. 144-145 or Prev. Med. 61, which may be taken simultaneously; MW V, VI and 1 hr. ar.; 104J.) Dr. Lippman.
- 200su. General Seminar. (Ar.) Staff.
- 221‡-222‡-223‡su. Graduate Field Training. (4 cred.; ar.) Mrs. Fenlason.

SECOND TERM

- 1su. Introduction to Sociology. An objective analysis of culture with special attention to social change. Survey of culture patterns, cultural processes, and social interaction. (3 cred.; 3rd qtr. fr., soph., jr., sr.; no prereq.; Sec. 1, MTWThF I, 109J, Mr. Quackenbush; Sec. 2, MTWF IV and 1 hr. ar., 109J, Mr. Sewell.)
- 6su. Social Interaction. The basis and forms of social interaction and social relationships, with detailed attention to patterns of contemporary society. (3 cred.; soph., jr., sr.; prereq. 1; MTWThF II; 2J.) Mr. Quackenbush.
- 14su. Rural Sociology. A study of rural and urban relationships. The position of an agricultural class in an industrial society. (3 cred.; soph., jr., sr.; prereq. 1; MTWThF III; 104J.) Mr. Sewell.
- 53su. Elements of Criminology. The causes and treatment of crime from the point of view of processes of social interaction. (3 cred.; jr., sr.; prereq. same as for 49; MTWThF II; 109J.) Mr. Vold.
- 101su. Social Organization. The organization and structure of social groups; the basic social processes of integration and disintegration of social institutions. (3 cred.; jr., sr., grad.; prereq. 4 courses in soc. or Soc. 1 and

* Primarily for graduate students, but mature students who are not graduates may be admitted with the consent of the adviser in social work.

‡ Field work is expected to run through the two terms in continuation courses. Continuation courses may be carried singly only by permission of supervisor of field work. A fee of \$3.50 is charged for each course.

- 15 cred. in soc. sci., ed., phil., or psy.; MTWThF III; 109J.) Mr. Chapin.
- 103su. Sociology of Conflict. Types of social conflict and their rôle in social life. (3 cred.; jr., sr., grad.; prereq. 4 courses in soc. or Soc. 1 and 15 cred. in soc. sci., ed., phil., or psy.; MTWF IV and 1 hr. ar.; 2J.) Mr. Vold.
- 131su. Rural Social Work. Primarily a course on community relationships with respect to social work in small communities. (3 cred.; grad.* prereq. 129, 153, or equivalent; MTWThF II; 104J.) Miss Vaile.
- 138su. Case Work with Children. Case work principles and methods as applied to work for or with children. (3 cred.; grad.* prereq. 129, 153; MTWThF I; 104J.) Miss Castendyck.
- 152su. Public Welfare Administration. Principles and scope of public welfare administration; special problems of state and county administration of public welfare activities. (5 cred.; grad.* prereq. 109 or equiv.; MTWF IV and 1 hr. ar., MWF V; 104J.) Miss Vaile.
- 153‡-154‡-155‡su. Field Training in Case Work. (2-5 cred. per qtr. to be determined by adviser in social work; grad.* prereq. 129, which may be taken simultaneously; ar.) Miss Vaile, Miss Brocker, Miss Lowry.
- 200su. General Seminar. (Ar.) Staff.
- 221‡-222‡-223‡su. Graduate Field Training. (4 cred.; ar.) Miss Vaile.

SPEECH

FIRST TERM

- Speech Clinic.‡‡ For students who have particular speech defects such as cleft palate, stuttering, lisping, dialect. (Ar.; 411F.) Mr. Bryngelson, Mr. Eglund.
- 1su.‡‡‡ Fundamentals of Speech. Speech as social adaptation and control. Emotional problems. Technique of body and voice. Oral reading. (3 cred.; soph., jr., sr.; prereq. Eng. A-B-C or Comp. 4-5-6 or exemption; MTWThF I, 301F, Mr. Gilkinson; MTWThF VI, 308F, Mr. Gilkinson.)
- 2su.‡‡‡ Fundamentals of Speech. Continuation of Course 1, above. (MTWThF III, 308F.) Miss Hurd.
- 21su. Radio Speech, Survey, and Appreciation. An introductory course covering those phases of radio which are of special interest to the educator: a survey of available educational programs, radio speech and microphone technique, writing for radio, and types of radio programs. Trips to the leading studios in the city will be included, and exceptional work may be presented from the university station. (No cred.; prereq. consent of instructor; MTWThF VII; 308F.) Mr. Ziebarth.

* Primarily for graduate students, but mature students who are not graduates may be admitted with the consent of the adviser in social work.

‡ Field work is expected to run through the two terms in continuation courses. Continuation courses may be carried singly only by permission of supervisor of field work. A fee of \$3.50 is charged for each course.

‡‡ The clinic will accept a limited number of nonstudent patients on the payment of a fee of \$65 for a term of eight weeks. Information in Room 411, Folwell Hall.

‡‡‡ A fee of \$1 is charged for this course.

- 55su. Argumentation and Debating. Analysis, evaluation of evidence, briefing, and strategy. The state high school subject, and coaching problems, will receive special consideration. (3 cred.; jr., sr.; prereq. 1-2-3 or 5-6; MTWThF I; 308F.) Mr. Knower.
- 61su. Speech Correction. Introduction to the correction of speech disorders. Speech defects as symptoms of maladjustments and organic malformations. Literature of subject. (3 cred.; jr., sr.; prereq. 1-2-3 or 5-6; MTWThF II; 212F.) Mr. Bryngelson.
- 67su.†† Phonetics. The study of English speech sounds, as they occur separately and in connected speech. Strong and weak forms, stress, assimilation. Practice in ear training. (3 cred.; jr., sr.; prereq. 1-2-3 or 5-6; MTWThF VI; 306F.) Mr. Smith.
- 71su.††† Elements of Play Production. Make-up and acting. Reading of plays. Stage equipment, organization, and management. Participation in productions. Texts. (3 cred.; prereq. 1-2-3 or 5-6; MTWThF I; 19Mu.) Mr. Crawford.
- 81su.†† Interpretative Reading. Esthetic theory of literature and of oral reading. Practice in reading for interpretation and mastery of technique. (3 cred.; jr., sr.; prereq. 1-2-3 or 5-6; MTWThF II; 308F.) Miss Hurd.
- 91su.††† Stagecraft. Designing, building, painting, and lighting scenery; elements of the physical theater; related problems of the director and actor. (3 cred.; jr., sr.; prereq. 1-2-3 or 5-6 and 81-82-83, Eng. 55-56; MTWThF VII; 19Mu.) Mr. Batcheller.
- 101su. Persuasion. Structure and oral style. Psychology of persuasion. Briefing. Critical study of models. Written speeches. Reports. (3 cred.; jr., sr., grad.; prereq. 1-2-3 or 5-6, and Psy. 1-2; MTWThF III; 311F.) Mr. Gilkinson.
- 107su. Platform Reading. Selection and arrangement of material for program presentation. Student recitals. Designed for advanced students in interpretation. (3 cred.; sr., grad.; prereq. 1-2-3 or 5-6, and 81-82-83; MTWThF IV and 1 hr. ar.; 308F.) Mr. Smith.
- 111su.††† Stage Direction. Practice and theory of stage direction; esthetics of the theater, analysis of the play, casting, rhythm, reading, organization for production. (3 cred.; sr., grad.; prereq. Eng. 55-56, Speech 81-82-83, 71 or 77; MTWThF III; 19Mu.) Mr. Lovejoy.
- 121su.†† Advanced Speech Problems. Introduction to research; fields and methods of study; reports of research are reviewed; emphasis on psychology of speech; projects, reports. (3 cred.; jr., sr., grad.; prereq. 1-2-3 or 5-6 and Psy. 1-2; MTWThF II; 409F.) Mr. Knower.
- 151su.* The Teaching of Speech. Orientation in problems of speech education. History, applications of psychology; objectives, programs, and methods; direction of extra-curricular activities; evaluation of texts. (3 cred.; jr., sr., grad.; prereq. 1-2-3 or 5-6 or equiv., or permission of instructor; MTWThF III; 301F.) Mr. Knower.

* Carries credit only in the College of Education.

†† A fee of \$1 is charged for this course.

††† A fee of \$3 is charged for this course.

COLLEGE OF SCIENCE, LITERATURE, AND THE ARTS 45

- 163su.‡‡ Speech Pathology. Physiological and psychological aspects of organic and functional speech problems. Theories of stuttering. Diagnoses and treatment. Clinical observation. (3 cred.; jr., sr., grad.; prereq. 1-2-3 or 5-6 and 61, 67; MTWF IV and 1 hr. ar.; 406F.) Mr. Bryngelson.
- 164-165-166su.† Clinical Methods and Practice in Speech Pathology. (6 cred.; sr., grad.; prereq. 1-2-3, 61, 67, 162, Ed.Psy. 140-142; consult instructor; MWF III; 406F.) Mr. Bryngelson, Mr. Egland.
- 171su. History of the Theater. A comprehensive course in the history of drama, acting, and stagecraft of all countries from the primitive dance drama to the modern stage production. (3 cred.; sr., grad.; prereq. 1-2-3 or 5-6, 71-72-73; MTWF IV and 1 hr. ar.; 19Mu.) Mr. Lovejoy, Mr. Crawford.
- 191su.‡‡ Technical Stage Problems. Advanced problems in design and construction; stage management, wiring, color effects, and lighting. Special problems assigned to individual students. (3 cred.; jr., sr., grad.; prereq. 91-92-93; MTWF IV and 1 hr. ar.; 19Mu.) Mr. Lovejoy, Mr. Crawford.
- 201su.§ General Seminar. (1 cred.; 2 hrs. ar.) Staff.
- 207su. Seminar in Orators. A critical study of the great English and American orators. (2 cred.; prereq. 1-2-3 or 5-6, 101-102, Psy. 1-2, 140, 10 cred. in soc. sci.; ar.) Mr. Smith, Mr. Gilkinson.
- 261su. Seminar in Speech Pathology. A study and critical analysis of current literature in the field of speech pathology. Specific cases for group study. (2 cred.; prereq. 1-2-3 or 5-6, 61, 67, 121-122, 162-163; ar.) Mr. Bryngelson.
- 291-292su. Research in Thesis. (2 cred.; grad.; ar.) Mr. Bryngelson, Mr. Smith, Mr. Gilkinson, Mr. Knower, Mr. Lovejoy.

SECOND TERM

- 1su.‡‡ Fundamentals of Speech. Same as first term. (MTWThF I; 301F.) Mr. Knower.
- 2su.‡‡ Fundamentals of Speech. Same as first term. (MTWThF III; 301F.) Mr. Knower.
- 3su.‡‡ Fundamentals of Speech. Third quarter of Speech 1-2-3. (MTWThF II; 301F.) Mr. Knower.
- 72su.‡‡‡ Elements of Play Production. Continuation of 71su. (MTWThF II; 19Mu.) Mr. Crawford.
- 92su.‡‡‡ Stagecraft. Continuation of 91su. (MTWThF III; 19Mu.) Mr. Batcheller.
- 122su.‡‡ Advanced Speech Problems. Continuation of 121su. (MTWF IV and 1 hr ar.; 409F.) Mr. Knower.

† Students should register for this course for eight weeks. They may take any two quarters. (Listed in Education as Ed.C.I. 174, 175, 176.)

‡‡ A fee of \$1 is charged for this course.

‡‡‡ A fee of \$3 is charged for this course.

§ See Mr. Knower.

ZOOLOGY

(Credit is given for acceptable work done at any accredited marine or fresh-water biological station.)

FIRST TERM

- 1su.*‡ General Zoology. Structure, physiology, embryology, classification, and evolution of animals. (5 cred.; all; no prereq.; lect. MTWF I, Th I, II, lab. MTWF II, III, IV; 211Z, 101Z.) Mr. Oliver.
- 21su. Histology. A brief course on the structure of the cell, tissues, and organs. (3 cred.; soph., jr., sr.; prereq. 1-2-3 or equiv.; lect. MTThF VI, lab. MF VII, VIII, IX; 211Z, 201Z.) Mr. Ringoen.
- 83su. Introduction to Genetics and Eugenics. Facts and theories of heredity and application to man. (3 cred.; jr., sr.; prereq. 1-2-3 or equiv.; MWF III, IV; 211Z.) Mr. Oliver.
- 181su. Embryology. A survey of the principles of animal development dealing with fundamental invertebrate and vertebrate types. (3 cred.; jr., sr., grad.; prereq. 15 cred. including 21 or equiv.; lect. W VI, MWF VII, lab. TTh VII, VIII, IX; 211Z, 201Z.) Mr. Ringoen.
- 197su. Problems. Advanced work in some special line. (3 cred. or more.; jr., sr., grad.; prereq. 1-2-3 and special requirements; ar.) Mr. Ringoen, Mr. Oliver.

SECOND TERM

- 2su.*‡ General Zoology. Continuation of 1su. (5 cred.; all; prereq. 1su or equiv.; lect. MTWF I, Th I, II, lab. MTWF II, III, IV; 211Z, 101Z.) Mr. Wodsedalek.
- 198su. Problems. Advanced work in some special line. (3 or more cred.; jr., sr., grad.; prereq. 1-2-3 and special requirements; ar.) Mr. Wodsedalek.

COURSES TO BE GIVEN AT THE FORESTRY AND BIOLOGICAL STATION,
ITASCA PARK

- 53su. Faunistic Zoology. (3 cred.; prereq. Zool. 1-2-3, or equiv.; WS.) Mr. Eddy.
- 107su. Protozoology. (3 cred.; prereq. Zool. 15 cred.; TF.) Mr. Turner.
- 116su. Limnology. (3 cred.; prereq. Zool. 15 cred.; MTh.) Mr. Eddy.
- 144su. Parasitology. (3 cred.; prereq. Zool. 15 cred.; WS.) Mr. Turner.
- 198su. Problems in Parasitology, Limnology, and Protozoology. (Cred. ar.; adv. students.) Mr. Riley, Mr. Eddy, Mr. Turner.

For detailed description of courses offered see Forestry and Biological Station.

* The entire course in elementary zoology includes both 1su and 2su. No credit is given for 1su until the satisfactory completion of 2su.

‡ A fee of \$1.50 is charged for this course.

INSTITUTE OF TECHNOLOGY

COLLEGE OF ENGINEERING AND ARCHITECTURE*

ARCHITECTURE AND FINE ARTS

FIRST TERM

- 21,22,23su. Freehand Drawing. (Page 69.) (2 cred. each; no prereq.; MTWF I-III or ar.; 417E.) Mr. Burton.
- 24,25,26su. Freehand Drawing. (Page 70.) (2 cred. each; prereq. 23 or evidence of intermediate ability; MTWTh I-III or ar.; 417E.) Mr. Burton.
- 27,28,29su. Freehand Drawing. (Page 70.) (2 cred. each; prereq. 26 or evidence of advanced ability; MTWTh I-III or ar.; 417E.) Mr. Burton.
- 31,32,33su.† Architectural Design, Grade I. (Page 68.) (3 cred. each; no prereq.; MTWTh VI-VIII or ar.; 317E.) Mr. Cerny, Mr. Heath.
- 34,35,36su.† Architectural Design, Grade II. (Page 68.) (4 cred. each; prereq. 23, 33, 62; MTWTh VI-VIII or ar.; 317E.) Mr. Cerny, Mr. Heath.
- 71su. Painting. (Page 70.) (3 or 6 cred.; prereq. evidence of elementary ability; MTWF VI-VIII or ar.; 417E.) Mr. Burton.
- 72su. Sculpture. Modeling in clay. (Page 70.) (3 or 6 cred.; prereq. evidence of elementary ability; MTWF I-III or ar.; 405E.) Mr. Burton.
- 96su. Stage Design. (Page 70.) (2 cred.; no prereq.; MTWF I-III; 405E.) Mr. Burton.
- 97su. Advanced Stage Design. (Page 70.) (2 cred.; prereq. 96; MTWF I-III; 402E.) Mr. Burton.
- 121,122,123su.‡ Advanced Art. (Page 70.) (2 cred. each; prereq. 29; MTWF I-III; 417E.) Mr. Burton.
- 221su.‡ Life Drawing and Figure Composition. (Page 70.) (2 cred.; prereq. completion of undergraduate freehand drawing; ar.) Mr. Burton.

CIVIL ENGINEERING

FIRST TERM

- 17su.† Surveying. (Page 84.) Open to students other than civil engineers. (3 cred.; prereq. trigonometry; hrs. ar.; 217E.) Mr. Boon.
- 31,32,33su.† Stresses and Structural Design. (Page 85.) (2, 3, and 4 cred., respectively; prereq. M.&M. 26, 141, and 128 and Draw. 23, respectively; hrs. ar.; 225E.) Mr. Wise.

* Page numbers in course descriptions refer to the Bulletin of the Institute of Technology for 1936-37, where further information may be found.

† These courses may be given if a sufficient number of students apply for them before June 15, 1937.

‡ A fee of \$1.50 is charged for this course.

- 134§,131§-132su.† Statically Indeterminate Structures, Bridge Analysis, and Bridge Design. (Page 86.) (3 cred. for 134, 2 cred. each for 131 and 132; sr. civil engr. and aero. engr.; ar.; 225E.) Mr. Wise.
- 137su.† Structural Laboratory. (Page 86.) (2 cred.; prereq. 134 [or accompanied by 134], 141; hrs. ar.; Ex.) Mr. Hughes.
- 141su.† Reinforced Concrete. (Page 86.) (3 cred.; prereq. M.&M. 128; hrs. ar.; 225E.) Mr. Wise, Mr. Hughes.
- 142su.† Reinforced Concrete Design. (Page 86.) (3 cred.; prereq. 141; hrs. ar.; 225E.) Mr. Wise, Mr. Hughes.

DRAWING AND DESCRIPTIVE GEOMETRY

FIRST TERM

- 1,2su. Engineering Drawing. (Page 88.) (3 cred. each; prereq. solid geometry; 18 hrs. ar.; 201E.) Mr. Schuck.
- 3su. Descriptive Geometry. (Page 88.) (3 cred.; prereq. 2, M.&M. 11; lect. MTWThF I, 205E; lab. 12 hrs. ar., 201E.) Mr. Schuck.
- 4,5,6su. Engineering Drawing and Descriptive Geometry. (Page 89.) (2 cred. each; chem. and chem. engr.; prereq. solid geometry; 12 hrs. ar.; 201E.) Mr. Schuck.
- 7,8su. Engineering Drawing and Descriptive Geometry. (Page 89.) (3 cred. each; chem. and chem. engr.; prereq. solid geometry; 18 hrs. ar.; 201E.) Mr. Schuck.
- 10su. Solid Geometry. (Page 89.) (4 cred.; prereq. plane geometry; MTWThF I, plus 3 hrs. ar.; 203E.) Mr. Potter.
- 11,12,13su. Engineering Drawing (Mines). (Page 89.) (2 cred. each; prereq. solid geometry; 12 hrs. ar.; 101E.) Mr. Potter.
- 14su. Descriptive Geometry (Mines). (Page 89.) (3 cred.; prereq. 13; 18 hrs. ar.; 201E.) Mr. Schuck.
- 15su. Drafting (Mines). (Page 89.) (2 cred.; prereq. 14; 12 hrs. ar.; 101E.) Mr. Potter.
- 21,22,23su. Drafting (C.E.). (Page 89.) (2 cred. each; prereq. 3; 12 hrs. ar.; 101E.) Mr. Potter.
- 26su. Drafting (E.E.). (Page 89.) (2 cred.; prereq. 3; 12 hrs. ar.; 101E.) Mr. Potter.
- 28,29su. Drafting (Aero.E.). (Pages 89-90.) (2 cred. each; prereq. 3; 12 hrs. ar.; 101E.) Mr. Potter.
- 34su. Lettering. (Page 90.) (1 cred.; prereq. 1; 6 hrs. ar.; ar.) Mr. Potter, Mr. Schuck.

SECOND TERM

- 1,2su. Engineering Drawing. (Page 88.) (3 cred. each; prereq. solid geometry; 18 hrs. ar.; 101E.) Mr. Quaid.
- 3su. Descriptive Geometry. (Page 88.) (3 cred.; prereq. 2, M.&M. 11; 18 hrs. ar.; 201E.) Mr. Levens.

† These courses may be given if a sufficient number of students apply for them before June 15, 1937.

§ C.E. 134 is accepted as a substitute for Aero.E. 115f.

- 4,5,6su. Engineering Drawing and Descriptive Geometry. (Page 89.) (2 cred. each; chem. and chem. engr.; prereq. solid geometry; 12 hrs. ar.; 101E.) Mr. Quaid.
- 7,8su. Engineering Drawing and Descriptive Geometry. (Page 89.) (3 cred. each; chem. and chem. engr.; prereq. solid geometry; 18 hrs. ar.; 101E.) Mr. Quaid.
- 10su. Solid Geometry. (Page 89.) (4 cred.; prereq. plane geometry; MTWThF I, plus 3 hrs. ar.; 203E.) Mr. Quaid.
- 11,12,13su. Engineering Drawing (Mines). (Page 89.) (2 cred. each; prereq. solid geometry; 12 hrs. ar.; 101E.) Mr. Quaid.
- 14su. Descriptive Geometry (Mines). (Page 89.) (3 cred.; prereq. 13; 18 hrs. ar.; 201E.) Mr. Levens.
- 15su. Drafting (Mines). (Page 89.) (2 cred.; prereq. 14; 12 hrs. ar.; 201E.) Mr. Levens.
- 21,22,23su. Drafting (C.E.). (Page 89.) (2 cred. each; prereq. 3; 12 hrs. ar.; 201E.) Mr. Levens.
- 26su. Drafting (E.E.). (Page 89.) (2 cred.; prereq. 3; 12 hrs. ar.; 201E.) Mr. Levens.
- 28,29su. Drafting (Aero.E.). (Pages 89-90.) (2 cred. each; prereq. 3; 12 hrs. ar.; 201E.) Mr. Levens.
- 34su. Lettering. (Page 90.) (1 cred.; prereq. 1; 6 hrs. ar.; ar.) Mr. Levens, Mr. Quaid.

MATHEMATICS AND MECHANICS

FIRST TERM

- 9su. Higher Algebra. (Page 104.) (5 cred.; no prereq.; MTWThF II-III and 2 hrs. ar.; 104E.) Mr. Loye.
- 11su. College Algebra. (See Math. 7, page 33 of this bulletin.)
- 12su. Trigonometry. (Page 104.) (5 cred.; prereq. 11; MTWF III-IV, Th I, III, and 2 hrs. ar.; 215E.) Mr. Henry.
- 13su. Analytical Geometry. (Page 105.) (5 cred.; prereq. 11 and 12; MTWF III-IV, Th I, III, and 2 hrs. ar.; 106E.) Mr. Swanson.
- 24su. Differential Calculus. (See Math. 50, page 33 of this bulletin.)
- 25su. Integral Calculus. (Page 105.) (5 cred.; prereq. 24; MTWF III-IV, Th I, III, and 2 hrs. ar.; 205E.) Mr. Pooie.
- 26su. Technical Mechanics: Statics. (Page 106.) (5 cred.; prereq. 25; MTWF III-IV, Th I, III, and 2 hrs. ar.; 205E.) Mr. Scherberg.

SECOND TERM

- 9su. Higher Algebra. (Page 104.) (5 cred.; no prereq.; MTWThF II-III, and 2 hrs. ar.; 203E.) Mr. Peebles.
- 13su. Analytical Geometry. (Page 105.) (5 cred.; prereq. 11 and 12; MTWF III-IV, and 4 hrs. ar.; 106E.) Mr. Peterson.
- 26su. Technical Mechanics: Statics. (Page 106.) (5 cred.; prereq. 25; MTWF III-IV, and 4 hrs. ar.; 205E.) Mr. Shawhan.

MECHANICAL ENGINEERING*

FIRST TERM

WOODWORKING COURSES

- 11su.‡ Pattern Practice. (Page 109.) (2 cred.; no prereq.; MT I-IX, WF I-IV, Th I-II, or ar.; ME.) Mr. Richards.
- 14su.‡ Pattern Practice. (Page 110.) (2 cred.; prereq. Chem. 5, Dr. 2; MT I-IX, WF I-IV, Th I-II, or ar.; ME.) Mr. Richards.
- 18su.‡ General Woodworking. (Page 111.) (3 cred.; no prereq.; hrs. ar.; ME.) Mr. Richards.

Special Courses for Teachers

- 1su.‡ Machine Woodworking. (Page 108.) (2 to 4 cred.; no prereq.; MT I-IX, WF I-IV, Th I-II, or ar.; ME.) Mr. Richards.
- 4su.‡ Wood Turning. (Page 109.) (2 to 4 cred.; no prereq.; MT I-IX, WF I-IV, Th I-II, or ar.; ME.) Mr. Richards.
- 5,6su.‡ Woodworking and Wood Finishing. (Page 109.) (2 cred. each; no prereq.; MT I-IX, WF I-IV, Th I-II, or ar.; ME.) Mr. Richards.
- 10su.‡ Furniture Making. (Page 109.) (2 to 4 cred.; no prereq.; MT I-IX, WF I-IV, Th I-II, or ar.; ME.) Mr. Richards.

FORGING, HEAT TREATING, AND WELDING

- 13su.‡ Forge Practice. (Page 110.) (2 cred.; no prereq.; hrs. ar.; ME.) Mr. Hughes.
- 16su.‡ Forging, Heat Treating, and Welding. (Page 110.) (2 cred.; prereq. Chem. 5, Dr. 2; hrs. ar.; ME.) Mr. Hughes.

MACHINE SHOP WORK

- 17su.‡ Machine Shop Practice. (Page 110.) (2 cred.; chem., chem. engr., and prebus.; no prereq.; hrs. ar.; ME.) Mr. Cowie.
- 19su.‡ Machine Shop Practice. (Page 111.) (2 cred.; prereq. 16; hrs. ar.; ME.) Mr. Cowie.
- 71su.‡ Machine Shop Practice. (Page 111.) (3 cred.; prereq. 14, 15, 16; hrs. ar.; ME.) Mr. Cowie.
- 72su.‡ Advanced Machine Shop Practice. (Page 111.) (3 cred.; prereq. 71; hrs. ar.; ME.) Mr. Cowie.

Special Courses for Teachers

- 2su.‡ Bench Work. (Page 108.) (2 cred.; no prereq.; hrs. ar.; ME.) Mr. Cowie.
- 3su.‡ Elementary Machine Shop Practice. (Page 108.) (2 to 4 cred.; no prereq.; hrs. ar.; ME.) Mr. Cowie.
- 7su.‡ Advanced Machine Shop. (Page 109.) (2 to 4 cred.; hrs. ar.; ME.) Mr. Cowie.

* The shops are open at the hours stated. The student will arrange his program with the instructor.

‡ A fee of \$1.50 per credit is charged for this course.

- 9su.‡ General Metal Work. (Page 109.) (2 to 4 cred.; no prereq.; hrs. ar.; ME.) Mr. Cowie, Mr. Hughes.
- 9asu.‡ Welding Principles and Practice. Special course in theory and practice of welding. Includes gas welding, direct current, alternating current, and spot welding. Projects in iron, steel, brass, aluminum, etc. (2 to 4 cred.; no prereq.; hrs. ar.; ME.) Mr. Hughes.
- 9bsu.‡ Art Metal Work. Elementary projects in wrought iron, copper, brass, and pewter. Hot and cold forming and hammering. (2 to 4 cred.; no prereq.; hrs. ar.; ME.) Mr. Hughes.
- 9csu.‡ Art Metal Work. Continuation of Course 9b. Including work in drawing and upsetting to produce bowls, cups, and other articles with medium deep contours. (2 to 4 cred.; prereq. 9a; hrs. ar.; ME.) Mr. Hughes.
- 9dsu.‡ Art Metal Work. Continuation of Course 9c. Advanced projects involving deep drawing, embossing, enameling, soldering, and brazing of assembled projects. (2 to 4 cred.; prereq. 9c; hrs. ar.; ME.) Mr. Hughes.

‡ A fee of \$1.50 per credit is charged for this course.

INSTITUTE OF TECHNOLOGY

SCHOOL OF CHEMISTRY*

INORGANIC CHEMISTRY

FIRST TERM

- 1su.‡ General Inorganic Chemistry (Non-metals). (Page 73.) (4 cred.; no prereq.; lect. MTWThF II, W VI, 325C; lab. MTThF VI-VII, 290C.) Mr. Barber.
- 4su.‡ General Inorganic Chemistry (Non-metals). (Page 73.) (4 cred.; prereq. high school chemistry; lect. MTWThF II, W VI, 325C; lab. MTThF VI-VII, 290C.) Mr. Barber.
- 6su.‡ General Inorganic Chemistry (Non-metals). (Page 73.) (5 cred.; no prereq.; lect. MTWThF II, W VI, 325C; lab. MTThF VI-VII, TTh VIII, W VII-VIII, 290C.) Mr. Barber.
- 9su.‡ General Inorganic Chemistry (Non-metals). (Page 73.) (5 cred.; prereq. high school chemistry; lect. MTWThF II, W VI, 325C; lab. MTThF VI-VII, W VII-VIII, TTh VIII, 290C.) Mr. Barber.
- 11su.‡ Qualitative Chemical Analysis. (Page 74.) (4 cred.; prereq. 3 or 5; lect. MTWThF II, W VI, 225C; lab. MTThF VI-VII, 290C.) Mr. Heisig.
- 12su.‡ Qualitative Chemical Analysis. (Page 74.) (5 cred.; prereq. 7 or 10; lect. MTWThF II, W VI, 225C; lab. MTThF VI-VII, W VII-VIII, TTh VIII, 290C.) Mr. Heisig.
- 14su.‡ General Inorganic Chemistry (Non-metals). (Page 74.) (5 cred.; no prereq.; lect. MTWThF II, W VI, 325C; lab. MTThF VI-VII, W VII-VIII, TTh VIII, 290C.) Mr. Barber.
- 106su. Theories of Inorganic Chemistry. Theory of valency, electron conception and octet theory, geometrical aspects, co-ordination theory and modern theory of chemical combination. (3 cred.; prereq. physical chemistry or permission of instructor.) Mr. Glockler.
- 109su. Synthetic Inorganic Chemistry. (Page 75.) (3 to 5 cred.; prereq. 13 or permission of instructor; lect. and lab. hrs. ar.) Mr. Heisig.
- 115su.‡ Commercial Products and Their Analysis. (Page 75.) (5 cred.; prereq. Anal. Chem. 1 and 2; lect. and lab. hrs. ar.) Mr. Barber.
- 301su. Research in Inorganic Chemistry. (Page 75.) (Cred. and hrs. ar.) Mr. Glockler, Mr. Heisig.

SECOND TERM

- 2su.‡ General Inorganic Chemistry. (Page 73.) (4 cred.; prereq. 1; lect. MTWThF II, W VI, 225C; lab. MTThF VI-VII, 290C.) Mr. Maynard.
- 5su.‡ General Inorganic Chemistry. (Page 73.) (4 cred.; prereq. 4; lect. MTWThF II, W VI, 225C; lab. MTThF VI-VII, 290C.) Mr. Maynard.
- 7su.‡ General Inorganic Chemistry. (Page 73.) (5 cred.; prereq. 6; lect. MTWThF II, W VI, 225C; lab. MTThF VI-VII, W VII-VIII, TTh VIII, 290C.) Mr. Maynard.

* Page numbers in course descriptions refer to the Bulletin of the Institute of Technology for 1936-37, where further information may be found.

‡ A fee of \$2 is charged for this course.

- 10su.‡ General Inorganic Chemistry. (Page 73.) (5 cred.; prereq. 9; lect. MTWThF II, W VI, 225C; lab. MTThF VI-VII, W VII-VIII, TTh VIII, 290C.) Mr. Maynard.
- 15su.‡ General Inorganic Chemistry. (Page 74.) (5 cred.; prereq. 14; lect. MTWThF II, W VI, 225C; lab. MTThF VI-VII, W VII-VIII, TTh VIII, 290C.) Mr. Maynard.

ANALYTICAL CHEMISTRY

FIRST TERM

- 1su.‡ Quantitative Analysis (Gravimetric). (Page 75.) (5 cred.; prereq. qual. anal.; lect. or rec. TTh V-VI, 315C; lab. MWF V-VIII, TTh VII-VIII, 310C.) Mr. Geiger.
- 7su.‡ Quantitative Analysis. (Page 75.) (4 cred.; prereq. qual. anal.; lect. or rec. WF V-VI, 315C.; lab. MTTh V-VIII, WF VII-VIII, 310C.) Mr. Geiger.
- 96su. Senior Thesis. (Page 76.) (5 cred.; hrs. ar.) Mr. Geiger.
- 123-124su.‡ Advanced Analytical Chemistry. (Page 76.) (3 cred. each; prereq. grav. and vol. anal.; lect. or rec. hrs. ar.) Mr. Geiger.
- 203su. Selected Topics in Analytical Chemistry. (Page 77.) (Cred. and hrs. ar.) Mr. Geiger.
- 301su. Research in Quantitative Analysis. (Page 77.) (Cred. and hrs. ar.) Mr. Geiger.

ORGANIC CHEMISTRY

FIRST TERM

- 1su.‡ Elementary Organic Chemistry. (Page 77.) (4 cred.; prereq. 11 or 12; lect. MTWThF I, 325C; rec. TTh II, 215C; lab. MWF II-IV, 390C; lab. conference TTh III, ar. C.) Mr. Lauer.
- 139su. Advanced Organic Chemistry Laboratory Work. (Page 78.) (2 or 3 cred.; prereq. 153.) Mr. Lauer.
- 301su. Research in Organic Chemistry. (Page 78.) (Cred. and hrs. ar.) Mr. Lauer.

SECOND TERM

- 2su.‡ Elementary Organic Chemistry. (Page 77.) (4 cred.; prereq. Org. Chem. 1; lect. MTWThF I, 325C; rec. TTh II, 215C; lab. MWF II-IV, lab. conference TTh III, ar. C.) Mr. Thompson.
- 139su. Advanced Organic Chemistry Laboratory Work. (Page 78.) (2 or 3 cred.; prereq. 153.) Mr. Thompson.
- 301su. Research in Organic Chemistry. (Page 78.) (Cred. ar.; prereq. 110; hrs. ar.) Mr. Thompson.

PHYSICAL CHEMISTRY

FIRST TERM

- 110su. Survey of Physical Chemistry. (Page 79.) (3 cred.; prereq. one yr. inorg. chem. and qual. anal., one yr. quant. anal., one yr. phys. and plane anal. geom.; MTWThF I, 1 hr. ar.; 115C.) Mr. Livingston.

‡ A fee of \$2 is charged for this course.

- 116su. The Modern Concept of the Molecule. Modern theory of the atom and the molecule on the principles of wave mechanics with an introduction based on Bohr theory. (3 cred.; prereq. Phys. Chem. 103 and calculus or permission of instructor.) Mr. Glockler.
- 128su. Principles of Colloid Chemistry. (Page 79.) (3 cred.; prereq. phys. chem. or permission of instructor.) Mr. Freundlich.
- 221su. Colloid Seminar. (Page 79.) (1 cred.) Mr. Freundlich.
- 301su. Research in Physical Chemistry. (Page 80.) (Cred. and hrs. ar.) Mr. Freundlich, Mr. Glockler, Mr. Livingston.

CHEMICAL ENGINEERING

FIRST TERM

- 151su.## Chemical Manufacture (Inorganic). (Page 82.) (3 cred.; sr., grad.; prereq. 101; MTWThF I-IX, S I-IV; 90C.) Mr. Ruth.
- 152su.## Chemical Manufacture (Organic). (Page 82.) (3 cred.; sr., grad.; prereq. 101; MTWThF I-IX, S I-IV; 90C.) Mr. Montonna.
- 301su.### Research in Chemical Engineering. (Page 83.) (Cred. and hrs. ar.) Mr. Montonna, Mr. Ruth.

SECOND TERM

- 151su.## Chemical Manufacture (Inorganic). (Page 82.) (3 cred.; sr., grad.; prereq. 101; MTWThF I-IX, S I-IV; 90C.) Mr. Montillon.
- 152su.## Chemical Manufacture (Organic). (Page 82.) (3 cred.; sr., grad.; prereq. 101; MTWThF I-IX, S I-IV; 90C.) Mr. Mann.
- 301su.### Research in Chemical Engineering. (Page 83.) (Cred. and hrs. ar.) Mr. Mann, Mr. Montillon.

A fee of \$3 per term is charged for this course.

A fee of \$5 per term is charged for this course.

COLLEGE OF AGRICULTURE, FORESTRY, AND HOME ECONOMICS

GENERAL INFORMATION

Through the Summer Session the field plats, orchards, livestock, libraries, laboratories, museums, shops, machinery, classrooms, instruction, and other facilities used by students during the regular college year are made available to those who attend during the summer months.

The work offered in agriculture and home economics seeks to meet the needs of graduates of arts colleges and normal schools, teachers of secondary schools, principals of schools (especially of consolidated schools), superintendents of schools, and others who desire courses in agriculture or home economics, and who wish to obtain therefor college credit, as well as to meet the needs of students seeking to complete the undergraduate college work.

GRADUATE STUDY

Opportunity is offered in several divisions for graduate study either for the first six-week term of the Summer Session or for the entire session of eleven weeks. In some divisions both courses and thesis work may be carried for the entire session. In a number of other divisions thesis work only may be pursued through the Summer Session. Students intending to register for any phase of graduate work and who expect to obtain credit in the Graduate School should make arrangements through the proper committees and with the dean of the Graduate School. Information concerning graduate work during the summer, in any division, may be obtained from the head of the division. Thesis and problem work is correlated in most divisions with the work in the Experiment Station and the facilities offered during the summer are in most divisions especially attractive on account of the field work possible only at that time. See also opportunities for summer study in the Forestry and Biological Station.

ADMISSION

The undergraduate courses of the Summer Session are open to all mature men and women who are considered qualified to pursue the chosen work to advantage, but college credit will be given only when college entrance requirements have been fulfilled.

For details of admission requirements, see the Bulletin of General Information.

AGRICULTURAL BIOCHEMISTRY

FIRST TERM

- 4su. Introduction to Organic and Biochemistry. (Page 47.*) (5 cred.; soph., jr., sr.; prereq. 1 yr. chem.; MTWThF I, II; 113BCh.) Mr. Rogers.
111su. Biochemistry. (Page 23.†) (3 cred.; jr., sr., grad.; prereq. zool. or bot., and 9 cred. in org. chem.; lect. MWF I, II; 113BCh.) Mr. Sandstrom.

* Page numbers in course descriptions refer to the College of Agriculture, Forestry, and Home Economics Bulletin, where further information may be found.

† Page numbers in course descriptions refer to the Graduate School Bulletin, where further information may be found.

- 113su. Biochemical Laboratory Methods. (Page 23.†) (2 cred.; jr., sr., grad.; prereq. quant. anal., parallel 111; lect. MWF III, IV, lab. TTh I and 1 hr. ar.; 202BCh.) Mr. Sandstrom and assistant.
- 203asu. Research Problems. (Page 24.†) (1½ or 2½ cred.; grad.; prereq. permission of instructor; ar.) Mr. Gortner, Mr. Palmer, Miss Kennedy, Mr. Sandstrom.

SECOND TERM

- 112su. Biochemistry. (Page 23.†) A continuation of Course 111su. (3 cred.; jr., sr., grad.; prereq. 111; lect. MWF I, II; 113BCh.) Mr. Sandstrom.
- 114su. Biochemical Laboratory Methods. (Page 23.†) A continuation of Course 113su. (2 cred.; jr., sr., grad.; prereq. 113; lect. MWF III, IV, lab. TTh I and 1 hr. ar.; 202BCh.) Mr. Sandstrom and assistant.
- 203bsu. Research Problems. (Page 24.†) Second part of Course 203asu. (1½ or 2½ cred.; grad.; prereq. 203a; ar.) Mr. Gortner, Mr. Palmer, Miss Kennedy, Mr. Sandstrom.

AGRICULTURAL ECONOMICS

FIRST TERM

- 170su. Land Economics. (Page 50.*) (3 cred.; jr., sr., grad.; prereq. 111; ar.; 312HH.) Mr. Johnson.
- 206su. Seminar in Agricultural Policy. (Page 64.†) (3 cred.; grad.; ar.; 312HH.) Mr. Jesnes.

SECOND TERM

- 200su. General Seminar in Agricultural Economics. (Page 64.†) (3 cred.; grad.; ar.; 312HH.) Mr. Waite.

AGRICULTURAL EDUCATION

For list of courses in Agricultural Education, see courses listed elsewhere in this bulletin under the College of Education.

AGRICULTURAL ENGINEERING

FIRST TERM

- 6su. Special Problems in Woodworking. Lectures, demonstrations, and shop practice in tool sharpening, saw filing, painting and wood finishing, glazing, machine operations, and special shop problems of industrial arts teachers. (2 cred.; no prereq.; TWThF VIII-IX; 48En.) Mr. Christopherson.
- 13su. Gas Engines. Theory, operation, adjustments, and repair of gasoline engines. Lecture and laboratory practice. (2 cred.; no prereq.; TWThF VII, VIII; 216En.) Mr. Torrance.
- 40su. Mechanical Training. Instruction and laboratory practice in the mechanical trades, including belts, pulleys and lacings, cement work (in-

* Page numbers in course descriptions refer to the College of Agriculture, Forestry, and Home Economics Bulletin, where further information may be found.

† Page numbers in course descriptions refer to the Graduate School Bulletin, where further information may be found.

- cluding construction of lily pools, seats, bird baths, and flagstone walks), leather sewing and riveting, electric wiring, rope splicing, knots and hitches. (2 cred.; no prereq.; TWThF VII-VIII; 106En.) Mr. Dent.
- 41su. Metal Work. A course in metal work, including soldering and sheet metal work, hammered pewter and copper work, cold metal work (including lamps, flower brackets, etc.), pipe fitting and valves, forge work (including tempering and heat treatment), babbiting and bearings, oxy-acetylene welding, brazing and cutting, electric arc welding. (2 cred.; no prereq.; TWThF VII-VIII; 106En.) Mr. Dent.

AGRONOMY AND PLANT GENETICS

FIRST AND SECOND TERMS

AGRONOMY

- 201su. Research in Farm Crops. (Page 27.†) (3 to 9 cred.; grad.; ar.) Mr. Army, Mr. Wilson.

PLANT GENETICS

- 241su. Research in Plant Genetics. (Page 27.†) (Grad.; ar.) Mr. Hayes, Mr. Immer.
- 244su. Laboratory Methods in Plant Breeding. (Page 28.†) (3 cred.; grad.; ar.) Mr. Myers.

DAIRY HUSBANDRY

FIRST TERM

- 208su. Research in Dairy Husbandry. (Page 59.†) (Prereq. preliminary graduate work.) Mr. Fitch, Mr. Petersen, Mr. Gullickson.
- 209su. Research in Dairy Manufacturing. (Page 59.†) (Prereq. preliminary graduate work.) Mr. Combs, Mr. Coulter.
- 215su. Research in Dairy Bacteriology. (Page 59.†) (Prereq. preliminary graduate work.) Mr. Macy.

SECOND TERM

- 210su. Research in Dairy Husbandry. (Page 59.†) (Prereq. preliminary graduate work.) Mr. Fitch, Mr. Petersen, Mr. Gullickson.
- 211su. Research in Dairy Manufacturing. (Page 59.†) (Prereq. preliminary graduate work.) Mr. Combs, Mr. Coulter.
- 216su. Research in Dairy Bacteriology. (Page 59.†) (Prereq. preliminary graduate work.) Mr. Macy.

ENTOMOLOGY AND ECONOMIC ZOOLOGY

FIRST TERM

- 13su. Field Zoology. Offered at Itasca Park. (Page 63.*) (1 cred.; fr.; no prereq.) Mr. Mickel, Mr. Hodson.

* Page numbers in course descriptions refer to the College of Agriculture, Forestry, and Home Economics Bulletin, where further information may be found.

† Page numbers in course descriptions refer to the Graduate School Bulletin, where further information may be found.

FIRST AND SECOND TERMS

- 197su. Introduction to Research. Preparation for investigational work in lines of entomology. Advanced laboratory, field, and library work; training in the preparation of bibliographies and manuscripts; special problems. (2½ or more cred.; jr., sr., grad.; prereq. 9 hrs. ent., and other prescribed work; ar.; Ad.) Mr. Riley, Mr. Ruggles, Mr. Tanquary, Mr. Granovsky, Mr. Mickel, Mr. Shepard, Mr. Hodson, Mr. King.
- 204su. Research in Entomology. Ample opportunity for research work in various phases of entomology will be afforded properly qualified students. This work will be individual and it is advised that students planning to undertake special problems correspond with the division relative to methods of collection and preparation of material. (3 or more cred.; grad.; ar.) Mr. Riley, Mr. Ruggles, Mr. Tanquary, Mr. Granovsky, Mr. Mickel, Mr. Shepard.

SECOND TERM

COURSES TO BE GIVEN AT THE FORESTRY AND BIOLOGICAL STATION,
ITASCA PARK

- 52su. Field Entomology. (3 cred.; jr., sr.; prereq. Zool. 1-2-3, or equiv.; TF.) Mr. Granovsky.
- 69su. Principles of Wild Life Conservation. (3 cred.; prereq. Zool. 1-2-3, or equiv.; WS.) Mr. King.
- 166su. Methods in Field Zoology. (3 cred.; prereq. Ent. 66, 67, and 68; TF.) Mr. King.
- 197su. Special Problems in Entomology. (Cred. ar.; adv. students.) (Mr. Granovsky.)

For detailed description of courses offered see Forestry and Biological Station.

FORESTRY

FIRST TERM

(Offered at Itasca Park. Open only to students who have completed at least one year of forestry in the University or one year in a junior college or other college. The schedule is so arranged as to occupy the students' full time for five and one-half days per week. All field or laboratory work. Registration is limited to a maximum of 120.)

- 2su. Field Dendrology. (Page 65.*) (1 cred.; no prereq.) Mr. Rosendahl.
- 5su. Field Silviculture. (Page 65.*) (2 cred.; no prereq.) Mr. Cheyney.
- 6su. Field Mensuration. (Page 65.*) (1 cred.; no prereq.) Mr. Brown.
- 9su. Camp Management. (Page 66.*) (1 cred.; no prereq.) Mr. Brown.
- Bot. 3su. Forest Botany. (See under College of Science, Literature, and the Arts, Botany.)
- Ent. 13su. Field Zoology. (See under Entomology and Economic Zoology.)

* Page numbers in course descriptions refer to the College of Agriculture, Forestry, and Home Economics Bulletin, where further information may be found.

SECOND TERM

COURSE TO BE GIVEN AT THE FORESTRY AND BIOLOGICAL STATION,
ITASCA PARK

11su. Field Dendrology. (3 cred.; prereq. Bot. 10 cred., or consent of instructor; TF.) Mr. Buell.

For detailed description of courses offered see Forestry and Biological Station.

HOME ECONOMICS

FIRST TERM

UNDERGRADUATE COURSES

- 2su. Introduction to Textiles. (Page 69.*) (3 cred.; all; no prereq.; MTWThF VI, VII and 2 hrs. ar.; 307HE.) Miss Phelps.
- 25su. Design Applied to Crafts. (Page 70.*) (3 cred.; prereq. 22; MTWThF I, II and 2 hrs. ar.; 114HE.) Miss V. Goldstein.
- 30su. Introduction to Nutrition. (Page 70.*) (2 cred.; no prereq.; MTWF III; 313HE.) Miss Biester.
- 99su. Scandinavia Travel Tour. Observations, discussions, readings, and written reports on phases of home life and other social institutions in the Scandinavian countries. (5 cred.; prereq. permission of the instructor and chief of division.) Miss Carlson.

GRADUATE COURSES

- 102su. Advanced Textiles. (Page 73.*) (2 cred.; jr., sr.; prereq. 50, Agr. Biochem. 4, Agr. Econ. 3 or parallel; MTWF III, IV; 307HE.) Miss Phelps.
- 120su. Art History and Appreciation. (Page 73.*) (3 cred.; Sen. Col. and grad. only; MTWThF VII and 1 hr. ar.; 313HE.) Miss V. Goldstein.
- 137su. Consumer Problems. A study of the problems confronting the homemaker as a consumer of the things needed for the comfort and satisfaction of the family. Materials and methods of consumer education. (3 cred.; prereq. permission of instructor; MTWThF V and 1 hr. ar.; 203HE.) Miss Fish.
- 142su. Experimental Cookery. (Page 73.*) (3 cred.; jr., sr.; prereq. 40, Agr. Biochem. 4; MTWThF I, II and 2 hrs. ar.; 107HE.) Miss Vail.
- 170su. Nutrition of the Family. (Page 73.*) (3 cred.; jr., sr.; prereq. 30 or 31, 40, Agr. Biochem. 4, physiol. 3 cred.; MTWThF VIII and 1 hr. ar.; 307HE.) Miss Biester.
- 180su. Home Planning and Furnishing. (Page 74.*) (5 cred.; jr., sr.; prereq. 55 and 120 recommended; MTWF II, III, IV, Th, II, III and 2 hrs. ar.; 112HE.) Miss H. Goldstein.

* Page numbers in course descriptions refer to the College of Agriculture, Forestry, and Home Economics Bulletin, where further information may be found.

- 184su. Home Management Problems. A consideration of the economic and social problems of the management of the home, including a study of foods management, clothing management, planning for housing, financial management, home and community relationships. (3 cred.; jr., sr., grad.; prereq. 41 or equiv., H.E.Ed. 90 or equiv.; MTWThF VI and 1 hr. ar.; 213HE.) Miss Studley.
- 185su. Family Relationships. (Page 74.*) (2 cred.; jr., sr.; prereq. 86 or parallel, H.E.Ed. 90, or C.W. 40; MTF IV, Th III; 213HE.) Miss Studley.
- 186su. Problems in Income Management. (Page 74.*) (3 cred.; prereq. 85 or parallel, 86, 170 or equiv., Agr. Econ. 126 or parallel; MTWF III and 2 hrs. ar.; 213HE.) Miss Fish.
- 209su. Seminar in Textiles and Clothing. (Page 106.†) (1 cred.; prereq. registration with permission of instructor; 2 hrs. ar.; 114HE.) Miss Phelps.
- 247su. Special Food Problems. (Page 106.†) (3 cred.; prereq. 142, Agr. Biochem. 2; MTWThF VI, VII and 2 hrs. ar.; 107HE.) Miss Vail.
- 279su. Seminar in Nutrition. (Page 106.†) (1 cred.; prereq. permission of instructor; 2 hrs. ar.; 114HE.) Miss Biester.
- 295su. Home Economics Problems. (Page 106.†) (1 cred.; prereq. permission of instructor; 2 hrs. ar.; 114HE.) Miss Studley.
- 299su. Home Economics Problems. (Page 106.†) (1 cred.; prereq. permission of instructor; 2 hrs. ar.; 112HE.) Miss H. Goldstein.

HOME ECONOMICS EDUCATION

For list of courses in Home Economics Education, see courses listed under College of Education, page 91.

HORTICULTURE

FIRST AND SECOND TERMS

- 190-191-192su. Special Problems. (Page 78.*) (2 to 4 cred.; jr., sr., grad.; ar.; Hr.) Mr. Alderman, Mr. Brierley, Mr. Krantz, Mr. Currence, Mr. Wilcox, Mr. Angelo, Mr. Hutchins.

Theses. Arrangements may be made for graduate students to work on their theses problems throughout the term.

PLANT PATHOLOGY AND BOTANY

FIRST AND SECOND TERMS

- 50su. Field Mycology. (3 cred.; prereq. one yr. of bot. or equiv. or consent of instructor; MTh.) Mr. C. Christensen.

For detailed description of courses offered see Forestry and Biological Station.

* Page numbers in course descriptions refer to the College of Agriculture, Forestry, and Home Economics Bulletin, where further information may be found.

† Page numbers in course descriptions refer to the Graduate School Bulletin, where further information may be found.

- 206su. Research in Plant Pathology. (Page 138,† description for Course 203-204-205.) (Cred. ar.; grad.; PP.) Mr. Stakman, Mr. J. J. Christensen, Mr. Leach, Miss Dosedall.
- 210su. Research in Mycology. (Page 139,† description for Course 207-208-209.) (3 cred.; grad.; prereq. 105-106-107; PP.) Mr. Stakman, Miss Dosedall.
- 257su. Research Problems in Applied Plant Physiology. (Page 139.†) (Cred. ar.; grad.; PP.) Mr. Harvey.

SECOND TERM

COURSE TO BE GIVEN AT THE FORESTRY AND BIOLOGICAL STATION,
ITASCA PARK

- 50su. Field Mycology. (3 cred.; prereq. one yr. of bot. or equiv. or consent of instructor; MTh.) Mr. Christensen.

For detailed description of courses offered see Forestry and Biological Station.

† Page numbers in course descriptions refer to the Graduate School Bulletin, where further information may be found.

FORESTRY AND BIOLOGICAL STATION

Conducted co-operatively by various departments in the College of Agriculture, Forestry, and Home Economics, and the College of Science, Literature, and the Arts at Itasca Park during the second term of the Summer Session, beginning August 2 and ending September 4.

GENERAL INFORMATION

The Forestry and Biological Station of the University of Minnesota exists for the advancement of terrestrial and fresh-water biology in its most fundamental aspects. To this end it promotes and provides opportunity for instruction and research, as well as training of scientific investigators, in the field of terrestrial and fresh-water biology. Through these activities it hopes to stimulate and promote a better knowledge of the rich flora and fauna found in the midwestern and Lake States regions.

The station offers elementary and advanced courses in the fields of biology under the excellent conditions furnished at Itasca Park. Opportunities are also offered for research and investigation in biology and forestry.

Courses, consisting of field trips and indoor laboratory work, are given on alternate days. In the field the students visit typical habitats and gather specimens for laboratory study, supplemented by informal lectures by the instructors in charge of each tour. The same scholastic standards are maintained at the station as on the campus of the University of Minnesota, and university credit is given for work satisfactorily accomplished in the courses registered. Some may prefer, however, to take courses for self-improvement without credit.

FEEES AND EXPENSES

Registrations will be accepted during the week of July 24 to July 31. The following fees are payable by each registrant on or before July 31 and must be paid before registration is completed:

Tuition fee	\$21.80
Incidental fee	3.20
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Total tuition fee	\$25.00
General deposit fee	\$ 2.00
Equipment fee	10.00
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Total fees for the term.....	\$37.00

The incidental fee of \$3.20 per term includes the use of library books, post-office service, etc. In addition it is estimated on the basis of the experience of other groups of students that the cost of board will not exceed a total of \$30 for the five weeks.

Charges for lockers, laboratory, breakage, library fines, etc., will be deducted from the \$2 deposit and the balance will be refunded by mail after the close of the term.

Equipment fees include the use of microscopes, nets, boats, various class supplies, and accessories.

The estimated cost of \$67 for the five-week session does not include traveling expenses, clothing, laundry, and minor incidental personal expenses.

Tuition and fees are payable on or before July 31. After July 31 the late registration fee will be charged according to the following schedule:

Monday, August 2	\$2.00
Tuesday, August 3	3.00
Wednesday, August 4	4.00
Thursday, August 5	5.00

No registration will be accepted after August 5 without the approval of the professor in charge and payment of a \$5 fee.

ADMISSION

The courses in the Forestry and Biological Station are open to all qualified graduate and undergraduate students who have had usual preliminary courses in biological subjects, as well as to qualified high school graduates. Certain courses are especially designed for the teachers of biological subjects in colleges, high schools, and public schools and others interested in plant and animal life. Graduate registrations must be approved by the major department and these submitted to the Graduate School for final approval.

For the 1937 session not more than one hundred (100) applicants can be admitted, and the priority of registration will govern admission.

For further information write to the associate director of the Summer Session for special folder describing the Forestry and Biological Station of the University of Minnesota.

SECOND TERM

The courses to be given at the Forestry and Biological Station will begin August 2 and close September 4. Special arrangement will be possible for those whose school or other duties make it impossible to remain through the final week of the session.

The following courses are offered in the Forestry and Biological Station for the year 1937 at Itasca Park during the second term of the Summer Session:

BOTANY

- 8su. Elements of Field Taxonomy. The identification of common wild flowers, and a general study of the classification and relationships of flowering plants. Field work in forest, swamp, bog, lake, and prairie. (3 cred.; prereq. Bot. 1, or consent of instructor; WS.) Mr. Buell.
- 11su. Field Botany. A general elementary field course in plant life. Fundamental facts of structure, growth, reproduction, relation of plants to each other and to their environment. Excursions with lectures and demonstrations to meet the needs of teachers of elementary botany and nature study, scout and camp leaders, and all who would know more about Minnesota plant life. (3 cred.; no prereq.; MTh.) Mr. Huff.

- 62su.‡ Bryophytes and Pteridophytes. A study of the structure, life histories, and classification of liverworts, mosses, and ferns. Textbook: Coulter, Barnes, and Cowles, *Textbook of Botany*, Vol. 1, (3 cred.; jr., sr.; prereq. Bot. 10 cred., or consent of instructor; TF.) Mr. Huff.
- 115su. Advanced Taxonomy. Advanced work in classification and relationships of flowering plants. Field trips, laboratory, and lectures. Text required: *Gray's New Manual of Botany*, or any other manual approved by instructor. (3 cred.; prereq. Bot. 10 cred. incl. Bot. 7; TF.) Mr. Buell.
- 131su. Field Ecology. A survey of the local plant communities and successions, and a study of the general principles of plant association and succession. Field work and lectures. (3 cred.; jr., sr., grad.; prereq. 10 cred. incl. 21; WS.) Mr. Daubenmire.
- 134su.‡ Research Methods in Ecology. Theory and practice of instrumental study of the habitat and of precise investigation of community and succession. (3 cred.; jr., sr., grad.; prereq. 18 cred. incl. 21; MTh.) Mr. Daubenmire.
- 221su. Research Problems in Ecology. Advanced study of plant association and succession. (Cred. ar.; adv. students.) Mr. Daubenmire.

ENTOMOLOGY AND ECONOMIC ZOOLOGY

- 52su. Field Entomology. A study of the insect fauna in various natural habitats of the park and surrounding areas. The course includes field trips, collection and classification of insects, as well as studies of general morphology, life histories and habits of local species under ecological conditions governing the distribution of insect fauna of the region. (3 cred.; jr., sr.; prereq. Zool. 1-2-3 or equiv.; TF.) Mr. Granovsky.
- 69su. Principles of Wild Life Conservation. A general course dealing with the various values of wild life, the nature of the biological mechanism involved in its conservation, and the economic, administrative, and legislative considerations of a conservation program. Treats of the values of wild life, attitudes toward this resource, the essentials of wild life environments, the requirements of the various species, and species and population properties. Lectures, laboratory, and field work. (3 cred.; prereq. Zool. 1-2-3 or equiv.; WS.) Charges for car mileage for field trips in this course will average \$4 to \$5 per student. Mr. King.
- 166su. Methods in Field Zoology. Methods of studying birds and mammals in the field. Collection and use of field data, mapping, census methods, collection and care of specimens, cataloging, identification and interpretation of field signs, environmental analyses, and wild life surveys. Lectures, laboratory, and field work. (3 cred.; prereq. Ent. 66, 67, and 68; TF.) Charges for car mileage for field trips in this course will average \$4 to \$5 per student. Mr. King.
- 197su. Special Problems in Entomology. Advanced work in entomology with ample opportunity for individual research, especially in various phases of

‡ A fee of \$1 is charged for this course.

faunistic studies in terrestrial, aquatic, and forest entomology. (Cred. ar.; open to advanced students with proper qualifications.) Mr. Granovsky.

FORESTRY

- 11su. Field Dendrology. Trees and shrubs found in the Itasca Park region, with special reference to identification by means of constant characters. (Not open for credit to students in Forestry.) Text required: Rosen-dahl and Butters, *Trees and Shrubs of Minnesota*. (3 cred.; prereq. Bot. 10 cred. or consent of instructor; TF.) Mr. Buell.

PLANT PATHOLOGY AND BOTANY

- 53su. Field Mycology. Taxonomy and classification of fungi, particularly mushrooms, wood rotting fungi, and those which cause disease of forest trees. Field collections, laboratory work, and lectures. (3 cred.; prereq. one year of botany or equiv., or consent of instructor.; MTh.) Mr. Clyde Christensen.

ZOOLOGY

- 53su. Faunistic Zoology. A survey of the local fauna, including life histories and habitats. Text required: Needham and Needham, *Guide to the Study of Fresh Water Biology*. (3 cred.; prereq. Zool. 1-2-3 or equiv.; WS.) Mr. Eddy.
- 107su. Protozoology. A survey of the Protozoa, with special reference to their structure and life histories. Text (not required): Kudo, *Handbook of Protozoology*. (3 cred.; prereq. Zool. 15 cred.; TF.) Mr. Turner.
- 116su. Limnology. A study of the conditions for life and the distribution of organisms in the lakes of the Itasca region. Text required: Welch, *Limnology*. Reference: Ward and Whipple, *Fresh-Water Biology*, or Needham and Needham, *Guide to the Study of Fresh Water Biology*. (3 cred.; prereq. Zool. 15 cred.; MTh.) Mr. Eddy.
- 144su. Parasitology. A study of animal parasites and parasitism in lecture, laboratory, and field work, with special emphasis on local forms. Text required: Riley, *Introduction to the Study of Animal Parasites and Parasitism*. References: Hegner, Root, and Augustine, *Animal Parasitology with Special Reference to Man and Domesticated Animals*; and Brumpt, *Precis de Parasitologie*. (3 cred.; prereq. Zool. 15 cred.; WS.) Mr. Turner.
- 198su. Problems in Parasitology, Limnology, and Protozoology. Principles and further work in special lines adapted to needs of individual students. (Cred. ar.; prereq. Zool. 1-2-3, and special requirements; adv. students.) Mr. Riley, Mr. Eddy, Mr. Turner.

The above described courses are listed under the respective departments in the College of Science, Literature, and the Arts and the College of Agriculture, Forestry, and Home Economics of this bulletin.

MEDICAL SCHOOL

GENERAL INFORMATION

GENERAL

Any of the courses offered by the departments of the Medical School (except section clinics of limited registration) are open to any student in the Summer Session, who has the necessary preparation to benefit therefrom.

FEES—MEDICAL STUDENTS

The Medical School tuition fee for a full Summer Session is \$75 for residents of Minnesota, and \$100 for nonresidents. Less than a full program may be paid for on a clock-hour basis, namely \$3.25 (nonresidents, \$4.50) for each weekly clock hour of scheduled work per quarter. In addition each student will pay the incidental fee of \$6, and a deposit of \$15 for men, \$5 for women. Students in certain courses are required to furnish microscopes.

Term fees are one half the quarter fees. Laboratory fees are not required under this plan. The schedule of total fees will therefore be:

	Per Quarter	Per Term
Tuition fee	\$75.00 (\$100.00)	\$37.50 (\$50.00)
Incidental fee	6.00	3.00
Deposit (men)	15.00	15.00
Deposit (women)	5.00	5.00

Fees must be paid on the above basis by all who elect the program of clinical subjects in the senior medical year; and by all who desire time credit on the medical course in this or any other medical school.

FEES—SUMMER SESSION STUDENTS

Students who do not desire to register for time credit toward a medical degree nor for a program of clinical subjects may pay on the above basis; or at their option they may pay the regular Summer Session fee of \$25 per term, plus special course fees as indicated in course descriptions and a \$2 deposit.

CLINICAL YEARS

The Medical School offers a full regular program for any quarter of the senior year. In order to receive legal time credit toward the degree of doctor of medicine or bachelor of medicine in this institution, students must be matriculated in the Medical School; see the Bulletin of the Medical School for requirements for admission and regulations governing advanced standing. Medical students from other schools who desire to enter for the summer only may do so as unclassified students, receiving subject credit only. If such students desire legal time credit toward a medical degree, they should make arrangements with the institution from which they intend to take the degree. No obligation to accept such students into regular classes at this school is attached to unclassified registration. Such students from other medical schools

may take one of the programs listed below (except section clinics if already full) or, provided there is room in the classes, make up a special program from the courses offered. Admission to any course is conditioned upon the limit set by the department concerned.

Students from other institutions should consult the Bulletin of the Medical School to make sure to what extent the courses listed fulfill their respective needs. They should consult the dean or department heads in their own schools as to equivalence of the courses offered at the University of Minnesota.

PROGRAMS FOR CLINICAL YEARS

The following are the required courses to be offered in the clinical years.

JUNIOR YEAR IN THE MEDICAL SCHOOL

No didactic courses for juniors are offered in the Summer Session nor is any division of the junior class in regular attendance. However, junior students of this or other schools who desire to extend their clinical knowledge may register for the courses offered below if there is room in the classes. No Minnesota junior may register for clerkship work for senior credit until he has passed the Junior Comprehensive Examination.

SENIOR YEAR IN THE MEDICAL SCHOOL

The program for the Summer Session will consist of the following courses. For description and schedules see departmental statements.

Division A, Obstetrics and Pediatrics Clerkship Quarter

Med. 30su; Obst. 30su, 35su.; Path. 109su; Ped. 30su, 35su; Surg. 30su.

Division B, Medicine Clerkship Quarter

Med. 30su, 35su, 44su, 47su; Obs. 30su; Path. 109su; Ped. 30su; Surg. 30su.

Division D, Surgery Clerkship Quarter

Med 30su; Obs. 30su, 35su; Path. 109su; Ped. 30su; Surg. 30su, 35su, 49su; O. and O. 36su, 37su, 38su.

Under the curriculum, senior students are assigned to a particular clerkship and to particular dispensary clinics each quarter, for which see special schedules.

LABORATORY YEARS

No regular programs for freshman or sophomore medical students are offered, but many of the courses of these years will be given (see departmental statements for description of courses, program of hours, and laboratory fees). These courses may be taken by properly prepared students from other institutions as unclassified students, without matriculation in the Medical School. But students who desire to secure time credit toward the degree of doctor or bachelor of medicine in this school must matriculate and secure written consent from the officers of the school from which they expect to receive their medical degree.

OPPORTUNITY FOR PRACTITIONERS

All the Summer Session courses offered are open to physicians, who will be registered as special students. Attention is also called to short courses offered from time to time throughout the year under the General Extension Division. These courses are exclusively for practitioners and are largely practical in nature. Circulars will be sent on request.

The regular clinics in the University of Minnesota Hospitals and Dispensary, the Minneapolis General Hospital, the Ancker Hospital, Glen Lake Sanatorium, and the Wilder Dispensary, St. Paul, will go on as usual during the Summer Session, and will be open to visiting physicians.

ELECTIVES

Various electives will be offered in the laboratory and clinical departments. See departmental statements in this bulletin and also special Summer Session programs of the Medical School (to be published later) for details.

GRADUATE COURSES

Attention is called to opportunities offered in Medical School departments to work during Summer Session for advanced degrees, either in laboratory or clinical branches.

GRADING

Regular medical students are subject to the comprehensive examination rules. These examinations cover all courses of respective years of the curriculum. The comprehensive examinations are offered at the end of the spring quarter and in the week before the opening of the University in the fall. Students desiring to enter from another medical school with advanced standing are required to take the comprehensive examination for (at least) the year preceding the one they desire to enter. For admission to the junior year, Part I of the National Board Examination is accepted in lieu of the comprehensive examination of the school. Summer Session students, not candidates for the medical degree in this school, are subject to ordinary course examinations and are graded in the regular way.

STUDENTS IN NURSING

No beginning student can be received in the Summer Session. For the regular courses, requirements, etc., see the Bulletin of the School of Nursing.

FEES FOR STUDENTS IN THE SCHOOL OF NURSING

Students in the School of Nursing who give hospital service during the Summer Session may carry any of the following courses: Pharmacology 7, 8; Nursing 2, 6, 11, 15, 23, 35, 36, 52, 60, 72, 73, 74; Preventive Medicine and Public Health 40, 53, 58, 60, 61, 62, 64; Child Welfare 40, 80, for which the hospital service is accepted in lieu of tuition.

Undergraduate students in the School of Nursing who are not on duty in the hospital during the summer will be charged \$1 per clock hour for the above courses plus a \$6 incidental fee.

All students in the School of Nursing who take courses other than those listed above and any student registering in the School of Nursing for the Summer Session only will pay regular Summer Session fees for each term.

POSTGRADUATE STUDENTS

The School of Nursing admits postgraduate students at the beginning of each quarter for one-year courses. Such applicants must meet university entrance requirements and be graduates of accredited schools of nursing. For further information see the Bulletin of the School of Nursing.

TEACHERS AND ADMINISTRATORS OF NURSING SCHOOLS

Special courses for teachers and administrative officers in nursing schools will be offered in the Summer Session. See departmental announcements of Nursing and of Preventive Medicine and Public Health. For a circular giving full particulars concerning these courses apply to the director of the School of Nursing.

PUBLIC HEALTH NURSING

See Department of Preventive Medicine and Public Health in this bulletin for special courses in Public Health Nursing.

COURSES FOR MEDICAL TECHNOLOGISTS

The regular course in Medical Technology is offered during the Summer Session. No special arrangement for practical work can be made without the necessary prerequisites. See special bulletin on Medical Technology, or consult Dr. W. A. O'Brien, director of the Technologists Course for the University of Minnesota Hospitals.

COURSES FOR DENTAL STUDENTS

For appropriate courses in the laboratory sciences, dental students should consult the departmental statements which follow.

ANATOMY

FIRST TERM

- 6su. Gross Human Anatomy. Dissection of abdomen and lower extremity. Disarticulated skeletons issued for study of osteology. (9 cred.; 3rd. yr. med.; prereq. Zool. 1-2-3; MTWThFS I, II, III, IV, TTh VI, VII, VIII; 304,306IA.) Course fee \$7.50. Class limited to 60. Application for admission should be made in advance. Dr. Jackson, Dr. Blount, and assistants.
- 14su. Histology and Embryology. Minute structure and development of the tissues and organs, with special emphasis upon the oral region and digestive tract. (6 cred.; prejunior dent.; prereq. Zool. 1-2, Anat. 9; MTWThFS I, II, III, IV; 102,213IA.) Course fee \$7.50, microscope fee \$1.50. This course may also be taken for 5 credits with reduced laboratory work, as a substitute for Zoology 21, required for medical

- technologists. For this reduced course, the course fee is \$5, microscope fee \$1.50. Dr. Rasmussen and assistant.
- 103su. Human Histology. Minute structure of the various tissues and organs. (9 cred.; 3rd yr. med.; prereq. Zool. 1-2, Anat. 6-7; MTWThFS I, II, III, IV, MWF V; 102,215IA.) Course fee \$7.50, microscope fee \$1.50. (Medical students are required to furnish their own microscopes.) Dr. Rasmussen and assistant.
- 111su. Human Neurology. Morphology of the central nervous system and sense organs. (6 cred.; 4th yr. med. and others; prereq. Anat. 103, 107; lect. daily 7:00 a.m., lab. MTWThF I, II, III; 102,214IA.) Course fee \$5, microscope fee \$1.50. (Medical students are required to furnish their own microscopes.) Dr. Rasmussen and assistant.
- 156su. Advanced Anatomy. Individual problems in gross anatomy, histology, embryology, or neurology. Includes advanced work for clinical graduate students. Permission by instructor required. (Cred. and hrs. ar.) Course fee \$1 per cred. Dr. Jackson, Dr. Rasmussen, Dr. Miller, Dr. Blount.
- 165su. Hematology. For medical technologists and graduate students. Lecture and laboratory work. (3 cred.; prereq. Anat. 103, or equiv.; MTWTh VI, VII, VIII; 102,215IA.) Microscope fee \$1.50. Dr. Jones and assistant.
- 204su. Research in Anatomy. Research work in gross or microscopic anatomy, histology, embryology, or neurology. Permission of instructor required. (Cred. and hrs. ar.) Dr. Jackson, Dr. Rasmussen.

SECOND TERM

- 7su. Gross Human Anatomy. Dissection of head, neck, thorax, and upper extremity. Continuation of 6su. (9 cred.; MTWThFS I, II, III, IV, TTh, VI, VII, VIII, IX; 304,306IA.) Course fee \$7.50. Class limited to 60. Dr. Boyden, Dr. Jones, and assistants.
- 10su. Anatomy of the Head and Neck. Human dissection. (5 cred.; pre-junior dent.; prereq. Anal. 9; MTWThFS I, II, III; 313,304IA.) Course fee \$5. Dr. Miller.
- 156su. Advanced Anatomy. See under first term, Course 156. Permission by instructor required. (Cred. and hrs. ar.) Course fee \$1 per cred. Dr. Boyden, Dr. Miller.
- 204su. Research in Anatomy. See under first term, Course 204. Permission by Dr. Boyden required. (Cred. and hrs. ar.)

BACTERIOLOGY

FIRST TERM

- 41su. General Bacteriology. (Page 18.*) (5 cred.; prereq. general chemistry and biology. MTWThF I, II, III; 214,201MH.) Course fee \$1.50. Dr. Larson, Dr. Ordal.
- 116su. Immunity. (Page 19.*) (3 cred.; prereq. general bacteriology; MTThF II, III; 201MH.) Course fee \$1.50. Dr. Larson.

* Page numbers in course descriptions refer to the Medical School Bulletin where further information may be found.

201su. Research in Bacteriology. (Page 35.†) (Cred. and hrs. ar.) Dr. Larson.

SECOND TERM

102su. Special Bacteriology. (Page 19.*) (4 cred.; prereq. general bacteriology; MTWThF VI, VII, VIII; 214,201MH.) Course fee \$1.50, microscope fee \$1.50. Dr. Henrici, Mr. Savage.

114su. The Higher Bacteria. (Page 19.*) (3 cred.; prereq. general and special bacteriology; hrs. ar.; 201MH.) Dr. Henrici.

201su. Research in Bacteriology. (Page 35.†) (Cred. and hrs. ar.) Dr. Henrici.

MEDICINE

FIRST AND SECOND TERMS

Required Courses

30su. Clinic in Medicine. (22 hrs.; 6th yr., Divs. A, B, D; TTh 8:00-8:50; UH and MGH.) Dr. Fahr and others.

35su.§ Clinical Clerkship in Medicine. The personal observation of patients in hospital; taking and recording of case histories; making of provisional diagnosis; and study of treatment. (6th yr., sections of Div. A; 200 hrs. cred.) See special schedule. Staff.

35vsu. Admission Clerkship. Assignment to admission service, University of Minnesota Hospitals. Part of medical clerkship. Dr. Wetherby.

35xsu. Same as 35 at the Minneapolis General Hospital. Dr. Fahr and staff.

35ysu. Physical Diagnosis and Therapy. Conducted with sections in the following dispensary clinics: (1) general medicine; (2) heart clinic; (3) chest clinic; (4) metabolism; (5) gastrointestinal clinic. Sixth year. Part of medical clerkship, Course 35.

35zsu. Clerkship in Tuberculosis. Two-week periods residence at Glen Lake Sanatorium. Seniors in medical clerkship quarter. Dr. Mariette and staff.

Elective Courses

25su. Physical Diagnosis and Therapy. Conducted with sections in the following dispensary clinics: (a) general medicine; (b) cardiac and vascular diseases; (c) respiratory diseases and tuberculosis; (d) food; (e) gastrointestinal diseases. Elective for juniors in summer to the extent of facilities. See special schedule. Dr. Wetherby.

102su.† The Respiratory Organs in Health and Disease. For students who desire training in preparation of scientific papers for publication. The student selects a problem pertaining to some part of the respiratory tract, which he pursues independently or in collaboration with instructor. Limited to 5 students. (Cred. and hrs. ar.; 5th and 6th yr.) Dr. Myers.

* Page numbers in course descriptions refer to the Medical School Bulletin where further information may be found.

† Page numbers in course descriptions refer to the Graduate School Bulletin, where further information may be found.

§ Course 35su or the separate parts thereof including Med. 44 and 47 will be open as electives to prepared students other than Division A seniors to the extent that facilities permit.

- 105su.† Problems in Pathological Physiology. Experimental work. One to four students. (Problems and cred. ar.; soph.; hrs. ar.; laboratory of Pathological Physiology, MH.) Dr. Fahr and staff.
- 106su.† Problems in Clinical Physiology. Experimental and clinical investigations of the pathological functions in cardiovascular, renal, gastrointestinal, and respiratory diseases. One to four students. (Problems and cred. ar.; jr., sr.; laboratory of Pathological Physiology; MH; MGH, UD.) Dr. Fahr and staff.
- 203su.† Research in Medicine. (Cred. and hrs. ar.) Dr. Fahr.

DIVISION OF DERMATOLOGY

Required Course

- 47su. Diagnosis and Therapy. Observation and study of cases in the University Dispensary and Minneapolis General Hospital; a part of medical clerkship, Medicine 35. (40 or 24 hrs. cred.; see special schedule, sections of sr. class; daily 1:00-3:00.) Dr. Michelson, Dr. Sweitzer, Dr. Lynch, Dr. Madden, Dr. Rusten.

Elective Course

- 95su. Therapy of Syphilis. (Prereq. medical clerkship, 1 student; daily 1:00-3:00; UH.) Dr. Michelson, Dr. Lynch, Dr. Laymon.

DIVISION OF NERVOUS AND MENTAL DISEASES

Required Course

- 44su. Nervous and Mental Diseases. Observation and study of cases in the University Dispensary; required of clerks in nervous and mental service at University of Minnesota Hospitals. (Credit included in clerkship, Medicine 35.) Dr. Gray, Dr. Berkwitz.

Elective Courses

- 121su.§ Resident Clerkship in Psychiatry. Two weeks or more arranged at a state hospital. Dr. G. H. Freeman, Dr. Patterson, and staffs.
- 124su.† Advanced Neuropathology. Individual gross and microscopic studies on existing preparations in neuropathology. Limit, 2 students. (Cred. and hrs. ar.; prereq. Path. 102; 126MH.) Dr. McKinley.
- 125su.† Problems in Neuropathology. The student will be assigned a topic for special study. Limit, 2 students. (Cred. and hrs. ar.; prereq. Path. 102; 126MH.) Dr. McKinley.

OBSTETRICS AND GYNECOLOGY

FIRST AND SECOND TERMS

Required Courses

- 30su. Obstetrics and Gynecology Clinic. Lectures, class clinics, and case analysis of the pathology of obstetrics and gynecology. (21 hrs.; sr.; MF 8:00-8:50.) Dr. Litzenberg, Dr. Solhaug, Dr. Swanson, Dr. Lang.

† Permission of instructor required.

§ The dean's office will be glad to assist in making arrangements.

- 35su. Clinical Clerkship in Obstetrics and Gynecology. The study and care of assigned patients in the University of Minnesota Hospitals and Dispensary, Minneapolis, and Salvation Army Home, St. Paul; manikin practice, case histories, physical and laboratory examinations; parturition and bedside clinics, and operations. Includes 35xsu, 35ysu. (240 hrs.; selection of Div. B, sr.; prereq. Courses 20, 21, 22, 23; daily through either term, 9:00-5:00; UH.) Dr. Litzenberg and staff.
- 35xsu. Clinical Clerkship in Obstetrics and Gynecology. Part of Course 35su, but given at the Minneapolis General Hospital. (MTWThFS 9:00-5:00.) Dr. Urner and staff.
- 35ysu. Residence in Obstetrics. Part of Course 35. (Ancker Hospital.) Dr. Barry and staff.

Elective Courses

- 50su. Gynecologic Clinic. Diagnosis and treatment of diseases of women. Limit, four students. (34 hrs.; M 1:00-3:00; Wilder Dispensary.) Dr. Hartley.
- 51su. Gonorrhoea in the Female. Limited to three junior or senior students. (T 6:00-8:00 p.m.; MGH.) Dr. Urner, Dr. Proshek, and staff.
- 51asu. Same as 51su. (F 7:00-9:00 p.m.)
- 55su. Prenatal Clinics. (Antepartum care of pregnant women at the various prenatal stations. One student at each station.) Obs. 55asu, Margaret Barry Settlement House, 1:30 p.m. Dr. Abramson; Obs. 55bsu, South Town Clinic, F 10:00 a.m., Dr. Hiebert.)

OPHTHALMOLOGY AND OTOLARYNGOLOGY

FIRST AND SECOND TERMS

Required Courses

- 36su. Clinic in Diseases of the Eye. Diagnosis and treatment of cases. Part of the required section clinics, surgical clerkship period. (35 hrs.; UD.) Dr. Burch, Dr. Macnie, Dr. Camp, Dr. Hansen, Dr. Hymes, Dr. Stanford, Dr. Hoffmann.
- 37su. Clinic in Diseases of the Ear. Diagnosis and treatment of cases. Part of section clinics, surgical clerkship period. (18 hrs.; UD.) Dr. Newhart, Dr. Fjeldstad, Dr. Delavan, Dr. Hurd, Dr. Juers.
- 38su. Clinic in Diseases of the Nose and Throat. Diagnosis and treatment of cases. Part of required section clinics, surgical clerkship period. (18 hrs.; UD.) Dr. Boies, Dr. Bryant, Dr. Hurd, Dr. Juers.

Elective Courses

- 121su. Operative Clinic in Eye. Limited to six students. (12 hrs. cred.; Th 3:00-4:30; UH.) Dr. Burch, Dr. Macnie, Dr. Camp, Dr. Hansen, Dr. Hymes.
- 123su. Operative Clinic in Ear, Nose, and Throat. Limited to six students. (13 hrs. cred.; F 3:00-4:30; UH.) Dr. Newhart, Dr. Boies.

124su. Clinical Oto-Rhino-Laryngology. Demonstration of diagnosis and treatment of cases with special reference to the needs of the general practitioner. Classroom and bedside instruction. (Days ar., 1:00-3:00.) Staff.

A didactic course in Ophthalmology can be given (Dr. Macnie) during the Summer Session, if sufficient students desire it.

PATHOLOGY

FIRST AND SECOND TERMS

- 104su. Autopsies. Post-mortem technique; examination of fresh organs, etc. (Cred. and hrs. ar.; prereq. 101; 110 IA.) Staff.
- 109su. Clinical Pathological Conference. Presentation of clinical data on selected cases and of the pathological specimens from the same, with discussions of etiology and diagnosis. Required in clerkship period. Elective for others. (1 cred.; F 4:00-4:50; 104 IA.) Staff.
- 109xsu. Clinical Pathological Conference. (Elective; Th 11:30-12:30; MGH.) Staff.
- 111su. Conference on Autopsies. (1 cred.; T 12:30 to 2:00 p.m.; 104 IA.) Staff.
- 201su. Research. Students of the necessary preliminary training may elect research, either as major or minor in pathology. Permission required. (Cred. and hrs. ar.) Dr. Bell, Dr. Clawson, Dr. McCartney, Dr. Noble, Dr. O'Brien.

NOTE.—All courses may be taken either or both terms.

PEDIATRICS

FIRST AND SECOND TERMS

Required Courses

- 30su. Amphitheater Clinic. Detailed consideration of diagnosis, prognosis, prophylaxis, and treatment in individual clinical cases representing all phases of pediatric practice. (Sr. and other prepared students; S 8:00-9:00 a.m.; Eustis Amphitheater.) Dr. McQuarrie and senior staff.
- 35su. Clinical Clerkship in Pediatrics. Patients in the pediatric wards, dispensaries, and special clinics are assigned to individual students for history taking, complete examination, treatment, and "follow-up" observation under supervision. Bedside clinics for one hour daily. One sixth of class on pediatric clerkship at one time, part of work at the University of Minnesota Hospitals, the other part at the Minneapolis General Hospital. Required time for each student, daily from 9:00 a.m. to 5:00 p.m. for 6 weeks. Dr. McQuarrie, Dr. C. A. Stewart, Dr. Stoesser, and staffs.

*Elective Courses**

- 101su. Advanced Study on Contagious Diseases. Group conferences and demonstrations of special diagnostic and therapeutic procedures.

* To be arranged for with Dr. McQuarrie and staff.

- 102su. Advanced Study of Nutritional or Other Noncontagious Diseases. Both clinical and experimental subject-matter included.
- 103su. Weekly Seminar for Detailed Discussion of Fundamental Subjects Related to Pediatrics.
- 104su. Common Behavior Disturbances in Childhood. Their recognition and management.
- 205su. Pediatric Research. Special problems in the various subdivisions of the pediatric field may be selected for study. Students may collaborate with members of the staff or with other students where suitable arrangements can be made.

PHARMACOLOGY*

FIRST AND SECOND TERMS

- 7su. Metrology. Systems of weights and measures; equivalents; preparation of percentage solutions; dosage; together with appropriate laboratory exercises and problems. (1½ cred.; student nurses; 22 hrs.; 101MH.) Dr. Bieter, Dr. Wright.
- 8su. Elementary Pharmacology. A study of the history, uses, classification, and preparation of drugs; methods of administration; principles of dosage, etc., together with appropriate laboratory exercises. (2½ cred.; student nurses; 33 hrs.; 101MH.) Dr. Bieter, Dr. Wright.
- 109su.† Pharmacological Problems. Experimental study of special topics in pharmacology, with a review of the literature. (3 cred. or ar.; prereq. physiology; 3:00-6:00 p.m., or hrs. ar.; 132MH.) Course fee \$1 per credit. Dr. Hirschfelder, Dr. Bieter, Dr. Wright.
- 203su.† Research in Pharmacology. (Cred. and hrs. ar.; grad. and advanced students; permission required; 132MH.) Dr. Hirschfelder, Dr. Bieter, Dr. Wright.

FIRST TERM

- 108su.§ Prescription Writing. (1 cred.; 11 hrs.; hrs. ar.; 102MH.) Dr. Wright.
- 115su, 115xsu. General Pharmacology for Medical and Dental Students. The history, origin, nature, pharmaceutical preparations, uses and pharmacological and therapeutic actions of drugs. Laboratory exercises upon the chemical composition and mode of action of typical and important drugs in the test tube and upon animals and man. Lectures and laboratory may be taken separately. (MTWThF V to VIII incl. or ar.; 101MH.) Dr. Hirschfelder, Dr. Bieter, Dr. Wright.

For medical students: 115su, 44 hours of lecture, 11 hours of conference, 66 hours of laboratory, 8 credits. Course fee \$5.

For dental students: 115xsu, 44 hours of lecture, 22 hours of laboratory, 5 credits. (This course is the equivalent of 4w.) Course fee \$2.

* Special arrangements can be made by each student to adapt work in Pharmacology to the special needs for the school which he is attending.

SECOND TERM

- 105su. § General Pharmacology. Narcotics, hypnotics, opiates, etc. (2 cred.; 22 hrs.; hrs. ar.; 102MH.) Dr. Bieter, Dr. Wright.
- 106su. § General Pharmacology. Antiseptics. (2 cred.; 22 hrs.; hrs. ar.; 102MH.) Dr. Bieter, Dr. Wright.

NOTE.—Sophomore Comprehensive Examination includes Pharm. 115su. Junior Comprehensive Examination includes Pharm. 105su, 106su, and 108su.

Students from other schools can arrange to complete all required work in pharmacology by registering for 115su, 105su, 106su, and 108su.

PHYSIOLOGY

FIRST TERM

- 4su. Human Physiology. A brief course for academic and home economics students. Lectures, demonstrations, recitations. (4 cred.; prereq. high school or college biology and chemistry; lect. and dem. MTWThFS I, II; 113MeS.) Course fee \$2. Dr. King and assistant.
- 58-59su. Human Physiology. An intermediate course for academic, dental, physical education students, and others. (6 cred.; prereq. general chemistry and anatomy or zoology; lect., rec., and dem. MTWThFS I, II, 113MeS; lab. MTWFS III, IV, Th III, V.) Course fee \$5. Dr. Peters and assistant.
- 100su. Physiologic Chemistry. Metabolism of inorganic substances and application of physical chemistry. (7 cred.; prereq. organic chemistry and physics; lect. MTWThF I, IV, 15MeS; lab. MTWThF II, III, 310MH.) Course fee \$7.50. Lectures only, 5 cred., may be registered for as 100xsu; laboratory only as 100ysu. Dr. McClendon and assistant.
- 103su. Physiology of Muscle, Nerve, Blood, Circulation, Respiration, Digestion. (8 cred.; 4th yr. med. and others; prereq. organic chemistry and zoology; lect. and rec. MTWThFS I-II, 12MeS; lab.* MTWFS III-IV, Th IV-V, 301,315MH.) Course fee \$7.50. Lectures only, 5 cred., may be registered for as 103xsu. Dr. Scott, Dr. Peters, and assistant.
- 113su. Problems in Physiology. Arranged by instructor with qualified students. Each student will be assigned a topic for special laboratory study, leading in some cases to original investigation. Conferences and reading. May be taken one or more terms. (3 cred. or ar.; prereq. Courses 103, 104, or equiv.; 310MH.) Course fee \$1 per credit. Dr. Scott.
- 153su. Problems in Physiologic Chemistry. Arranged by instructor with qualified students for special work. May be taken one or more terms. (3 cred. or ar.; prereq. Course 100-101; TTh 2:30-5:30 or ar.; 310MH.) Course fee \$1 per credit. Dr. McClendon.
- 203su. Research in Physiology. (Cred. and hrs. ar.) Dr. Scott.
- 204su. Research in Biophysics. (Cred. and hrs. ar.) Dr. Stenstrom.
- 205su. Research in Physiologic Chemistry. (Cred and hrs. ar.) Dr. McClendon.

* Students who find it more convenient may do part of their laboratory work in the afternoon.

† Permission required.

§ Offered if four or more students apply.

SECOND TERM

- 101su. Physiologic Chemistry. Metabolism of organic substances. (6 cred.; prereq. Physiol. 100; lect. MTWThF I, IV, 214MH; lab. MTWThF II, III; 310MH.) Course fee \$7.50. Lectures only, 4 cred., may be registered for as 101xsu; laboratory only, as 101ysu. Dr. Arnow and assistant.
- 104su. Physiology of the Nervous System and Special Senses, Metabolism, Nutrition, and Excretion. (7 cred.; 4th yr. med. and others; prereq. Course 103 or organic chemistry and neurology; lect. MTWThFS I, 12MeS; rec. and lab.* MTWF II, III, IV, Th II, IV, V; 301,215MH.) Course fee \$7.50. Lectures only, 5 cred., may be registered for as 104xsu. Dr. Kabat, Dr. Peters, and assistant.
- 113su. Problems in Physiology. Continued as in first term.
- 153su. Problems in Physiologic Chemistry. Same as 153su, first term, given above.
- 203su. Research in Physiology. (Cred. and hrs. ar.)
- 204su. Research in Biophysics. (Cred. and hrs. ar.) Dr. Stenstrom.
- 205su. Research in Physiologic Chemistry. (Cred. and hrs. ar.)

PREVENTIVE MEDICINE AND PUBLIC HEALTH

FIRST TERM

- 53su. Elements of Preventive Medicine. Susceptibility, resistance, and immunity to disease; methods of spread and the prevention of communicable and degenerative diseases; importance of heredity and environment; proper types and protection of food, water, and milk. (3 cred.; prereq. 12 cred. in biological science, or by permission; MTWThF II; 129MH.) Dr. Maxcy.
- 58su. Maternal and Child Hygiene. Maternal welfare program; importance of breast feeding; origin and conduct, infant welfare clinics in cities and rural communities; consideration of preschool and school age as to malnutrition, physical defects, cardiac and nervous disorders. (2 cred.; jr., sr. public health nurses only; prereq. 52 or 53; MTWF III; 12MeS.) Dr. Boynton.
- 60su. Tuberculosis and Its Control. History of tuberculosis movement and campaign in the United States. Early diagnosis and treatment. Tuberculosis in children. The psychology of tuberculosis, supervision of returned sanatoria patients. State program for the eradication of tuberculosis; legislation. (2 cred.; jr., sr.; prereq. 40, 52, or 53; MTWThF IV; 15MeS.) Dr. Myers.
- 62su. Principles of Public Health Nursing. Development, principles, and technique of public health nursing; methods of co-operative endeavor with social agencies; health teaching as an essential factor in promotion of individual, family, and community well-being. (3 cred.; public health nurses; prereq. 53 or equiv.; MTWThF I; 116MH.) Miss Butzerin.
- 67su. Field Practice in Tuberculosis Sanatorium. Observation and practical care of pulmonary, osseous, laryngeal tuberculosis; tuberculous enteritis;

* Students who find it more convenient may do part of their laboratory work in the afternoon.

- general sanatorium treatment; special treatment; exercise; laboratory; occupational therapy and the reading of literature on tuberculosis. (2 cred.; public health nurses; prereq. 60, 62; hrs. and place ar.) Miss Butzerin.
- 71su. Supervision in Public Health Nursing. Nature of supervision, historical survey, classification of activities; methods of supervision, including field visitation, individual counseling, group conferences, staff education programs, administrative functions of supervisors, preparation and selection of supervisors. (2 cred.;* public health nurses; prereq. 53, 61, 63 or permission; MTWThF III, IV, June 16-30.) Miss Grant,
- 76su. Field Practice with Family Health Agency. Lectures, demonstrations, and supervised experience in prenatal and infant clinics and in home visiting. This includes bedside care of all types of cases, with emphasis on promotion of physical and mental health and recognition of social problems. (Cred. ar.; 8-11 weeks; public health nurses; prereq. 62.) Miss Butzerin, Miss Draper.
- 80su. Health of the School Child. For teachers and others interested in the health and development of the school child. Mental and physical growth; discovery of physical defects; exercise; fatigue; emotional problems; health habits; diseases of school children; practical problems of health supervision and health instruction. (3 cred.; prereq. 40, 52, or 53; will be waived for teachers and school nurses, but credit granted only after completion of prerequisites; MTWThF I; 116MH.) Dr. Ellis.
- 101su. Public Health Administration and Field Work. Demonstrations of health agencies at work; boards of health, laboratories, filtration, pasteurization, and garbage disposal plants. Presentation of actual health problems. (2 cred.; groups of 10 to 15 med. stud. for 6 wks. [18 hrs.] sr. medics; prereq. 100; hrs.—see clerkship schedule, Medical School.) Dr. Maxcy and Health Service staff.
- 171su. Advanced Problems in Public Health Nursing. For experienced public health nurses. Will include a discussion of advanced problems dealing with administrative practice, organization and budget problems, the establishment of relationships with medical and community groups, etc. (2 cred.;* public health nurses; prereq. 53, 61, 63; experience in public health nursing or permission of instructor; MTWThF VII, VIII, July 6-20, reg. limited.) Mrs. Soule.
- 200su. Research. Opportunities will be offered by the University and by the various co-ordinated organizations for qualified students to pursue research work. (Cred. ar.; grad.) Dr. Maxcy and Health Service staff.

TEACHER TRAINING COURSE FOR INSTRUCTORS IN HOME HYGIENE
AND CARE OF THE SICK

(In co-operation with the American National Red Cross)

In order to serve both adult education and the work of the organized school, the University of Minnesota, in co-operation with the American

* Summer, 1937.

National Red Cross, is offering to graduate registered nurses a program in the theory and practice of teaching home hygiene and care of the sick during the first term of the Summer Session.

Applications for admission to the Teacher Training Course must be approved by Miss I. Malinde Havey, national director, Public Health Nursing and Home Hygiene and Care of the Sick Service, American Red Cross, Washington, D.C., and Miss Eula B. Butzerin, director, Course in Public Health Nursing, University of Minnesota. Further information and application blanks will be sent upon request. Nurses living in the Midwest should write to Mrs. Elsbeth H. Vaughan, director of nursing, Midwestern Branch, American Red Cross, 1709 Washington Avenue, St. Louis, Missouri, for Red Cross application blanks, and to the registrar, University of Minnesota, Minneapolis, for registration information.

- 70su. Principles of Teaching Home Hygiene and Care of the Sick. A study of the fundamental principles in the teaching and learning process and in the selection and organization of subject-matter for courses in home hygiene. To be taken concurrently with 72. (3 cred.; jr., sr.; prereq. 62 or permission of instructor; MTWThF I.) Miss Palmer.
- 72su.‡ Technique of Teaching Home Hygiene and Care of the Sick. A practical application of the educational principles studied in 70. Classroom demonstrations, observations, and practice teaching will be a part of the course. Community groups will be organized for student teaching. To be taken concurrently with 70. (3 cred.; jr., sr.; prereq. 62 or permission of instructor; MWF II-III.) Miss Palmer.

SECOND TERM‡‡

- 67su. Field Practice in Tuberculosis Sanatorium. Same as first term.
- 101su. Public Health Administration and Field Work. Same as first term.
- 200su. Research. Same as first term.

SURGERY

FIRST AND SECOND TERMS

Required Courses

- 19su. Principles of Surgical Nursing. (See School of Nursing schedule—Course 19.) (11 hrs.; 1 cred.) Surgery staff.
- 30su. Class Clinic in Surgery. (11 hrs. cred.; Divs. A, B, and D seniors; W 8:00-8:50; UH). Dr. Peyton and others.
- 35su.* Clinical Clerkship. The personal study of assigned patients; case histories, laboratory examinations, provisional diagnoses with suggestions as to therapy; attendance at operation of such studied cases and

* All courses bearing No. 35 are required of University of Minnesota seniors in particular clerkship schedules, but may be registered for separately and for arranged periods by students from other schools.

‡ A fee of \$1 per credit hour is charged for this course.

‡‡ No additional fee for public health nursing field work during second term, if student has been enrolled in first term.

- observation of postoperative management. Participation in operations of assigned classes as third assistant. (6th yr.; 300 hrs.; UH.) Surgery staff.
- 35usu. Reading Course. A weekly recitation during the clerkship period on assigned surgical reading, with a standard textbook of surgery as a guide. Quiz and lecture. Part of Course 35. Surgery staff.
- 35vsu. Anesthetics and Dressings. Administration of anesthetics under supervision and dressing of wounds of hospital patients under supervision of hospital staff. Part of Course 35. (UH.) Dr. Knight and others.
- 35wsu. Outpatient Surgical Clinic, Including Minor Surgery and Proctology. Sections daily in the Outpatient Department. Part of Course 35 (6th yr.) Dr. Wangenstein, Dr. Peyton, Dr. Hayes, Dr. McKinney, Dr. Bratrud, Dr. J. K. Anderson, Dr. H. A. Carlson, Dr. W. A. Hanson, Dr. Leven.
- 35xsu. Clinical Clerkship. The personal study of assigned patients; case histories, laboratory examinations, provisional diagnoses with suggestions as to therapy; attendance at operation of such studied cases and observation of postoperative management. Participation in operation of assigned cases as third assistant, surgical therapy malignancies. Part of Course 35. (MGH.) Minneapolis General Hospital staff.
- 35ysu. Clerkship on Fractures. Under the supervision of the hospital staff the student participates in the care of fractures. Part of Course 35. (MGH.) Staff.
- 35zsu. Tumor Clinic. Diagnosis and demonstration of malignancies removed at operation and autopsy. Sixth year. One division each quarter. Part of Course 35. Surgery staff.
- 41su. Orthopedic Course. In the Outpatient Department; a part of surgery clerkship. Course 35. See special schedule. (MF 1:00-3:00 and W 9:00-11:00; UD.) Orthopedics staff.
- 49su. Urology Clinic. In the Outpatient Department; a part of surgery clerkship, Course 35. See special schedule. MTh 9:00-11:00 and S 11:00-1:00; UD.) Also Cystoscopy Clinic. W 1:00-3:00; UH.) Urology staff.

Elective Courses

- 53su. Problems in Clinical Investigation. Limit 8 students. (Cred. and hrs. ar.; sr.) Dr. Wangenstein, Dr. Creevy, Dr. Peyton.
- 54su. Proctology: Assistantship in Proctology. A clinical course conducted in the Outpatient Department. Two to four students. (33 hrs.; jr., sr.; TF 9:00-11:00; UD.) Dr. Fansler, Dr. J. K. Anderson.
- 56su. Bedside, Diagnostic Clinic. Eight students. (12 hrs.; jr., sr., ar.; MGH.) Dr. Robitshek.
- 61su. Urology Clinic. Eight students. (Cred. and hrs. ar.; jr., sr.; Ancker Hospital.) Dr. Foley.
- 67su. Problems in Experimental Surgery. Limit 10 students. (Cred. and hrs. ar.; sr.) Dr. Wangenstein, Dr. Creevy, Dr. Peyton.

X-RAY

FIRST AND SECOND TERMS

Required Course

35x,y,zsu is offered as part of clerkships in Medicine, Pediatrics, and Surgery (see Bulletin of the Medical School).

Elective Courses

- 85su. Plate Reading. Limit 4 students. (Cred. and hrs. ar.; jr. or sr.; UH.) Dr. Rigler and others.
- 88asu. X-Ray Diagnosis. Four to 10 students. 22 hrs.; jr. or sr.; M 9:00-11:00; MGH.) Dr. Ude.
- 88bsu. X-Ray Diagnosis. Four to 10 students. (11 hrs.; jr. or sr.; W 1:00-2:00 p.m.; UH.) Dr. M. B. Hanson.
- 95su. Clinic in X-Ray Therapy. Limit 3 students. (11 hrs.; cred.; jr. or sr.; M 10:00-11:00; UH.) Dr. Stenstrom.
- 95asu. Same as 95su. (W 9:00-10:00.)
- 95bsu. Same as 95su. (F 9:00-10:00.)
- 101su. Surgical-Roentgenological Conference. Part of Surg. 35. For surgical clerks and graduate students. Dr. Rigler.
- 103asu. Physical Therapy Clinic. (Cred. and hrs. ar.; T.) Dr. Stenstrom.
- 103bsu. Physical Therapy Clinic. (Cred. and hrs. ar.; Th.) Dr. Stenstrom.
- 107su. Medical-Roentgenological Conference. Part of Med. 35. For medical clerks and graduate students. Dr. Rigler.
- 108su. Pediatric-Roentgenological Conference. For pediatric clerks and graduate students. Dr. Rigler.
- 200su. Research in Roentgen Diagnosis. (Cred. and hrs. ar.) Dr. Rigler.
- 205su. Research Related to Radiation Therapy. (Cred. and hrs. ar.) Dr. Stenstrom.
- 207su. Roentgen and Radium Therapy. Treatment of patients under supervision both with medium and high voltage machines and with radium. Problems in connection with these treatments will be thoroly discussed. (Cred. and hrs. ar.) Dr. Stenstrom.

NURSING INSTRUCTION

FIRST TERM

Courses for graduate nurses. See also courses in Preventive Medicine and Public Health. A special circular of the nursing courses will be mailed on application to the director, School of Nursing, University of Minnesota.

- 52su. Teaching of Principles and Practice of Nursing. A course for graduate nurses who are teaching or supervising nursing practice. This course offers opportunity for the study of nursing procedures taught first year students. Techniques of these procedures will be demonstrated and discussed. The course will include sources of material and references which will aid in the teaching of the principles of technique

- and the preparation of lesson plans. (3 cred.; MWF VI-VII.) Miss McDonald.
- 60su. Ward Administration. Principles of administration and their application to ward management. A study of the opportunities for clinical teaching through efficient ward administration. (4 cred.; MTWTh VIII-IX.) Miss Hodgkins.
- 69su. A Study of Present-Day Trends in Nursing. Survey and discussion of trends in various nursing fields. (2 cred.; MTWThF I-II, July 6-20.) Miss Densford, Mrs. Soule.
- 72su. Teaching and Supervision in Schools of Nursing. Principles of teaching applicable in schools of nursing. Planning of class work. Use of case studies, ward clinics and demonstrations, and assignment of practice, as methods of clinical teaching. Methods of evaluating students' work. Principles of supervision and their application for the improvement of nursing practice. (5 cred.; MTWThF III, MTWF IV.) Miss Petry.

SCHOOL OF DENTISTRY

FIRST AND SECOND TERMS

Courses will be offered in the School of Dentistry as follows :

Clinical Practice. Clinical work will be offered in each of the following divisions under the direction of the division chairman: Crown and Bridge Work, Dr. Wells; Operative Dentistry, Dr. Walls; Orthodontia, Dr. Rudolph; Prosthetic Dentistry, Dr. Flagstad; Oral Surgery, Dr. Griffith; Major Oral Surgery of the Mouth and Jaws, Dr. Waldron. (Jr., sr., grad.; MTWThF 9:00-12:00 a.m., 2:00-5:00 p.m., and S 9:00-12:00 a.m.)

Fees: full time, \$30; half time, \$15, for each term. In addition each student pays an incidental fee of \$3.20, and a general deposit fee of \$5.†

Courses in contributing departments are announced elsewhere in this bulletin. See particularly Anatomy, Bacteriology and Immunology, Pathology, Pharmacology, Physiology.

† Student registering for half time in dentistry and for part time in other departments will not be required to duplicate the incidental fee.

COLLEGE OF EDUCATION

Courses in the College of Education presuppose completion of Junior College requirements in the University of Minnesota or the equivalent in colleges of similar grade, elsewhere. Graduation from the advanced course of Minnesota state teachers colleges is accepted as equivalent. Students with this training may be admitted to any course for which they have satisfied the prerequisite as stated under each course.

For all general matters, relating to admission, advanced standing, credits, honor points, curricula, and requirements for graduation, students should consult the College of Education Bulletin for the years 1936-38. Students expecting to become candidates for a degree should seek as early as possible the advice of the major adviser in the department concerned in order to learn the requirements of the special curriculum they will need to complete.

SUMMER DEMONSTRATION HIGH SCHOOL.

The University High School will be in session during the first term of the Summer Session. Instruction will be offered in English, mathematics, general science, chemistry, physics, biology, history, social studies, shorthand, typing, and other high school subjects. The school is a six-year high school comprising grades seven to twelve. The courses will be organized to provide individual attention to the needs and capacities of the pupils.

Admission to the Summer Session is open to any pupil of normal high school age. Children of teachers or other professional workers who are attending the Summer Session of the University are especially welcomed in the summer term of the University High School. For information regarding fees and registration procedure, address the Principal's Office, University High School.

Students registered in Ed.T. 16su will be assigned to observation and practice teaching in the classes of the high school. The facilities of the school are available to the college classes in special methods and in other courses for demonstration purposes. (MTWThF I, II, III, IV.)

SUMMER DEMONSTRATION ELEMENTARY SCHOOL

An elementary school, grades one to six inclusive, will be in operation during the first term of the Summer Session. This school will be staffed by the principal and teachers of the Tuttle School and the demonstration elementary school of the College of Education, by a co-operative agreement with the Board of Education of the city of Minneapolis. The school will be conducted on an activity basis and may be observed by students of elementary school methods and supervision. (MTWThF I, II, III, IV; Tuttle School, Talmadge Street and Eighteenth Avenue S.E.)

MINIMUM FEE FOR GRADUATE STUDENTS

Graduate students who have completed all their graduate work with the exception of their thesis will be allowed to register in the Summer Session for thesis work only upon the payment of a flat fee of \$5 plus a \$2 deposit.

DETAILED DESCRIPTION OF COURSES

For detailed description of courses and curricula in Education see the College of Education Bulletin for the years 1936-38.

AGRICULTURAL EDUCATION

FIRST TERM

- Agr.Ed.121su. Enterprise Analysis. Experience in analyzing enterprises in agriculture as a basis for identifying problems and distributing them in the integrated course of study in agriculture. (2 cred.; prereq. Agr. Ed. 51; MTWTh III; 102Ad(UF).) Mr. Nylin.
- Agr.Ed.145su. The Integrated Course of Study in Agriculture. A presentation of the problems of organization, administration, and teaching in the departments of agriculture in the secondary schools. Special emphasis on planning programs for individual students. (3 cred.; prereq. Agr.Ed. 51; MTWThF II; 102Ad(UF).) Mr. Field.
- Agr.Ed.186su. Special Problems in Agricultural Education. Analysis and discussion of special problems of individual teachers. Opportunity for intensive study of the objectives, the organization, and planning programs for the Future Farmers of America. (Cred. ar.; prereq. Agr.Ed. 51; MTWF IV and one hr. ar.; 102Ad(UF).) Mr. Field, Mr. Nylin.
- Agr.Ed.232su. Research in Agricultural Education. Introduction to investigational work in problems of teaching agriculture in high schools. Experience in selecting problems, preparation of bibliographies, analyzing and interpreting data, and preparing manuscripts. (Cred. ar.; grad.; lect. hrs. and individual work ar.; 209Ad(UF).) Mr. Field, Mr. Nylin.

ART EDUCATION

FIRST TERM

- ArtEd.1-2-3su. Fundamentals of Design with Reference to Opportunity Classes. (2 cred.; no prereq.; color lect. MF II; 207J, Mr. Hilpert; lecture and discussion of activities for subnormal children TWTh II; 207bJ, Miss Macander; supervised laboratory opportunities MTWF III-IV or VI-VII, 207bJ, 11J. Miss Macander, Mr. Stein.)
- ArtEd.4-6-8 or 24-26-28 or 61-62-63 or 66-67-68su. Art Appreciation and Creation. Practical laboratory work in drawing from pose, landscape, and still-life, including contact with any of the media used by artists. Students register under the course number suggested by their previous training. (2 cred. each; MTWF II-III or III-IV and 1 hr. ar.; 203J.) Mr. Harnes.

- ArtEd.20-21-22su. Fundamental Experiences in Design and Color. Development of sensitiveness in choosing and creativeness in originating or assembling the products of industry in their relation to daily life. (2 or 3 cred.; soph., jr., sr.; MTWThF I-II, lab. hrs. chosen from MTWF IV, VI, VII and 1 hr. ar.; 207J.) Mr. Hilpert and assistants.
- ArtEd.32-33su‡ 35-38su.‡ Handicraft Materials and Processes Appropriate for Subnormal Children. (1 cred. for each group; prereq. ArtEd. 1-2-3 or ar.; lect., demonstrations, and discussions MW or TF III; manipulative experience in supervised laboratory MTWF IV or VI; 10J.) Mr. Stein.
- ArtEd.55-56-57su. Enjoyment of Art. Lectures, discussion, field trips, and experimental work in drawing, painting, and clay modeling. Planned to develop observation and enjoyment of art qualities and ability to choose between good and poor design in relation to any work of art. (3 cred.; no prereq.; MTWThF I, additional hrs. ar.; 203J.) Mr. Harmes.
- ArtEd.58su. Functional Art in Contemporary Life. A nontechnical course developing a broad concept of art and relating it to everyday activity. Planned on the basis of the problems of a typical midwestern community for superintendents, teachers, and the layman consumer. (2 cred.; no prereq.; MTWTh VI; 207J.) Mr. Hilpert.
- ArtEd.70-71-72su. The same as ArtEd. 20-21-22su, except that it is held to Senior College level of achievement in either theory and theoretical application or in mastery of skills. (2 or 3 cred.; jr., sr., grad.; MTWThF II-III; 207J.) Mr. Hilpert and assistants.

CURRICULUM AND INSTRUCTION

FIRST TERM

- Ed.C.I.102su. Contents and Activities of the Social Studies in the Elementary Grades. (3 cred.; prereq. 61 A, B, C, or equiv.; MTWThF I; 204bEd.) Miss Jensen.
- Ed.C.I.105su. Teaching of Science in Elementary Schools. (3 cred.; MTWTh VI, MT VII; Dem.Sch.) Miss Hall.
- Ed.C.I.106su. Supervision of Science in Elementary Schools. (3 cred.; MTWTh VIII, WTh VII; Dem.Sch.) Miss Hall.
- Ed.C.I.113su (formerly Ed.Ad.113). High School Curriculum. (2 cred.; sr.; grad.; prereq. 10 hrs. in ed. including Ed. 51A; MTWTh II; 201WeH.) Mr. Peik.
- Ed.C.I.119su (formerly Ed.Ad.119). The Elementary School Curriculum. (3 cred.; sr., grad.; MTWThF I; 206Pt.) Mrs. Falk.
- Ed.C.I.122su (formerly Ed.T.122). Literature for Adolescents. (3 cred.; jr., sr., grad.; prereq. Ed. 51C or junior-senior high school teaching experience; MTWThF I; 210Bu.) Miss Smith.
- Ed.C.I.133su (formerly Ed.133). Guidance in Secondary Schools. (3 cred.; sr., grad.; prereq. 9 hrs. in ed.; MTWThF II; 102L.) Mr. Wrenn.

‡ A fee of \$1.50 per term is charged for this course.

- Ed.C.I.143su‡ (formerly Ed.T.143). Teaching of Reading. (3 cred.; jr., sr., grad.; prereq. 9 hrs. in ed. including Ed. 51A; MTWThF I; 101L.) Mr. Brooks.
- Ed.C.I.150su‡ (formerly Ed.Ad.150). Supervision and Improvement of Instruction. (2 cred.; sr., grad.; prereq. Ed. 61C or equiv.; MTWF III; 106Pt.) Mr. Brueckner.
- Ed.C.I.152su (formerly Ed.Ad.152). Supervision—The Adjustment of Schools to Individual Differences. (3 cred.; sr., grad.; prereq. 15 hrs. in ed.; MTWThF III; 200Pt.) Miss O'Leary.
- Ed.C.I.153su (formerly Ed.Ad.153). Supervision of English in the Elementary Schools. (3 cred.; sr., grad.; prereq. Ed. 61C or equiv.; MTWThF II; 202Pt.) Mrs. Falk.
- Ed.C.I.154su (formerly Ed.Ad.154). Supervision of the Social Studies. (2 cred.; sr., grad.; prereq. Ed. 61C or equiv.; MTWF III; 204aEd.) Mr. Wesley.
- Ed.C.I.161su (formerly Ed.Ad.161). Special Problems in Elementary School Supervision. (2 cred.; sr., grad.; prereq. 10 hrs. in ed. including Ed. 51A; MTWF IV; 204aEd.) Mr. Brueckner.
- Ed.C.I.162su (formerly Ed.Ad.162). The Significance of Progressive Education. (3 cred.; sr., grad.; MTWF IV and 1 hr. ar.; 200Pt.) Miss O'Leary.
- Ed.C.I.181su‡ (formerly Ed.T.181). Foundations of Elementary School Methods. (3 cred.; jr., sr., grad.; prereq. 9 cred. in ed. including Ed. 61 or equiv.; MT IV-V, 1 hr. ar.; 101L.) Mr. Cooper.
- Ed.C.I.191su‡ (formerly Ed.T.191). Advanced Course in the Teaching and Supervision of Secondary School Mathematics. (3 cred.; prereq. Ed. 51C or consent of instructor; MTWThF VII; 204aEd.) Mr. Kinney.
- Ed.C.I.194su‡ (formerly Ed.T.194). Advanced Course in Methods of Teaching English. (3 cred.; sr., grad.; prereq. Ed.T. 66A, B, C or equiv.; MTWThF III; 204bEd.) Miss Smith.
- Ed.C.I.201su‡ (formerly Ed.T.201). Advanced Course in the Methods of Teaching History and the Social Studies. (3 cred.; grad. and teachers; prereq. consent of instructor; MTWThF VI; 204bEd.) Mr. Krey.

SECOND TERM

- Ed.C.I.119su (formerly Ed.Ad.119). The Elementary School Curriculum. (2 cred.; sr., grad.; MTWTh II; 200Pt.) Mr. Peik.
- Ed.C.I.123su (formerly Ed.Ad.123). Supervision of High School Instruction. (3 cred.; sr., grad.; prereq. 10 hrs. in ed.; MTWThF III; 204aEd.) Mr. Boardman.
- Ed.C.I.143su‡ (formerly Ed.T.143). Teaching of Reading. (3 cred.; jr., sr., grad.; prereq. 9 hrs. in ed. including Ed. 51A; MTWThF I; 106Pt.) Mr. Bond.
- Ed.C.I.168su (formerly Ed.T.168). Current Developments in the Social Studies. (3 cred.; sr., grad.; MTWThF III; 111Ed.) Mr. Wesley.

‡ A fee of \$1 per credit is charged for this course.

- Ed.C.I.172su (formerly Ed.Ad.172). Curriculum and Course of Study Construction. (2 cred.; sr., grad.; prereq. 15 hrs. in ed.; MTWTh III; 200Pt.) Mr. Peik.
- Ed.C.I.173su (formerly Ed.Ad.173). Recent Research and Literature in Reading. (3 cred.; sr., grad.; prereq. previous training in reading such as Ed.Ad. 159 or equiv.; MTWThF II; 106Pt.) Mr. Bond.
- Ed.C.I.193su (formerly Ed.T.193). Foundations of Secondary School Methods. (3 cred.; sr., grad.; prereq. Ed. 51C; MTWThF I; 200Pt.) Mr. Kinney.

EDUCATIONAL ADMINISTRATION AND SUPERVISION

FIRST TERM

- Ed.Ad.124su. Public School Administration. (3 cred.; sr., grad.; prereq. 10 hrs. in ed.; MTWThF III; 210Bu.) Mr. Neale.
- Ed.Ad.125su. Techniques in Administration. (3 cred.; sr., grad.; prereq. Ed.Ad. 124; MTWThF I; 200Pt.) Mr. Cocking.
- Ed.Ad.128su. Special Problems in Educational Administration. (1 or 2 cred.; prereq. Ed.Ad. 124, 125; MTWF IV; 210Bu.) Mr. Neale.
- Ed.Ad.175su. Financial Aspects of Public School Business Administration. (3 cred.; sr., grad.; prereq. Ed.Ad. 124, 125; MTWThF II; 200Pt.) Mr. Cocking.
- Ed.Ad.205su. Seminar in Educational Administration. (No cred.; F IV-V; 224Bu.) Mr. Neale.

See also Industrial Education for the courses Ind. 105su and Ind. 110su.

SECOND TERM

- Ed.Ad.124su. Public School Administration. (3 cred.; sr., grad.; prereq. 10 hrs. in ed.; MTWThF III; 106Pt.) Mr. Neale.
- Ed.Ad.125su. Techniques in Administration. (2 cred.; sr., grad.; prereq. Ed.Ad. 124; MTWF IV; 106Pt.) Mr. Neale.
- Ed.Ad.206su. Seminar in Educational Administration. (No cred.; Th V-VI; 224Bu.) Mr. Neale.
- Ed.Ad.264su. High School Administration. (3 cred.; grad.; MTWF IV and 1 hr. ar.; 204aEd.) Mr. Boardman.

See also Industrial Education for the courses Ind. 105su and Ind. 110su.

EDUCATIONAL PSYCHOLOGY

FIRST TERM

- Ed.Psy.60su. Introduction to Statistical Methods. (3 cred.; jr., sr.; prereq. 6 cred. in psy. or consent of instructor; MTWThF I; 202Pt.) Mr. Van Wagenen.
- Ed.Psy.111su. Educational Measurements in the Elementary School. (3 cred.; jr., sr., grad.; prereq. Ed. 51A or equiv.; MTWThF II; 106Pt.) Mr. Van Wagenen.

- Ed.Psy.116su. Advanced Statistical Methods in Education. (3 cred.; sr., grad.; prereq. Ed.Psy. 60 or equiv.; MTWThF II; 204bEd.) Mr. Johnson.
- Ed.Psy.120su. Basic Principles of Measurement. (3 cred.; sr., grad.; prereq. Ed. 51A or equiv.; MTWThF II; 210Bu.) Mr. Eurich.
- Ed.Psy.142su. Construction and Use of Individual Aptitude Tests. (3 cred.; sr., grad.; prereq. 120 or equiv.; MTWF IV and 1 hr. ar.; 211Psy.) Mr. Sorenson.
- Ed.Psy.146su. Child Guidance. (3 cred.; jr., sr., grad.; prereq. 15 cred. in psy. and ed.; MTWThF V; 102L.) Mr. Challman.
- Ed.Psy.153su. Research Problems. (Ar.; sr., grad.; prereq. consult instructor; ar.) Mr. Eurich, Mr. Miller, Mr. Johnson, Mr. McConnell, Mr. Sorenson, Mr. Van Wagenen.
- Ed.Psy.158su. Psychology of Adolescence. (3 cred.; jr., sr., grad.; prereq. Ed. 51A or equiv.; MTWThF III; 202Pt.) Mr. Brooks.
- Ed.Psy.180su. Esthetics in Education. (3 cred.; sr., grad.; consent of instructor; MTWThF I; 206WeH.) Mr. Faulkner.
- Ed.Psy.191su. Individual Differences. (3 cred.; sr., grad.; prereq. Ed. 51A and Ed.Psy. 60 or equiv. and consent of instructor; MTWThF I; 301Psy.) Mr. Miller.
- Ed.Psy.192su. Recent Literature in Educational Psychology. (3 cred.; sr., grad.; prereq. Ed. 51A and 60 or equiv. and permission of instructor; MTWThF III; 301Psy.) Mr. Miller.
- Ed.Psy.193su. Psychology of Learning. (3 cred.; sr., grad.; prereq. 12 cred. in psy. and ed. psy.; MTWF IV and 1 hr. ar.; 102L.) Mr. McConnell.

SECOND TERM

- Ed.Psy.60su. Introduction to Statistical Methods. (3 cred.; jr., sr.; prereq. 6 cred. in psy. or consent of instructor; MTWThF III; 211Psy.) Mr. Sorenson.
- Ed.Psy.111su. Educational Measurements in the Elementary School. (3 cred.; jr., sr., grad.; prereq. Ed. 51A or equiv.; MTWThF I; 115Psy.) Mr. Van Wagenen.
- Ed.Psy.115su. Psychology of Elementary School Subjects. (3 cred.; jr., sr., grad.; prereq. 10 cred. in psy. and ed.; MTWThF II; 115Psy.) Mr. Van Wagenen.
- Ed.Psy.120su. Basic Principles of Measurement. (3 cred.; sr., grad.; prereq. Ed. 51A or equiv.; MTWF IV and 1 hr. ar.; 115Psy.) Mr. Wrenn.
- Ed.Psy.140su. Construction and Use of Educational Tests and Examinations. (3 cred.; sr., grad.; MTWThF II; 210Bu.) Mr. Eurich.
- Ed.Psy.141su. Construction and Use of Group Aptitude Tests. (3 cred.; sr., grad.; prereq. 120 or equiv.; MTWF IV and 1 hr. ar.; 211Psy.) Mr. Sorenson.
- Ed.Psy.154su. Research Problems. (Ar.; sr., grad.; prereq. consult instructor; ar.) Mr. Eurich, Mr. McConnell, Mr. Sorenson, Mr. Van Wagenen.

- Ed.Psy.184su. Mental Deficiency. (3 cred.; jr., sr., grad.; prereq. Ed. 51A or equiv.; MTWThF I; 204aEd.) Mr. Finch.
- Ed.Psy.190su. Original Nature of Man. (3 cred.; sr., grad.; prereq. Ed. 51A and 60 or equiv. and permission of instructor; MTWF IV and 1 hr. ar.; 210Bu.) Mr. McConnell.
- Ed.Psy.197su. Special Problems of Subnormality. (3 cred.; sr., grad.; prereq. Ed. 51A or equiv.; MTWThF II; 204aEd.) Mr. Finch.

GENERAL COURSES

FIRST TERM

- Ed.51Asu* (formerly Ed.51). Introduction to Secondary School Teaching. (3 cred.; jr., sr.; prereq. 6 cred. in psy.; MTWThF I; 102L.) Mr. McConnell.
- Ed.51Bsu*‡ (formerly Ed.52). Introduction to Secondary School Teaching. (3 cred.; jr., sr.; prereq. Ed. 51A or consent of instructor; MTWThF III; 206Pt.) Mr. Patterson.
- Ed.51Csu* (formerly Ed.53). Introduction to Secondary School Teaching. (3 cred.; jr., sr.; prereq. Ed. 51B or consent of instructor; MTWF IV and 1 hr. ar.; 100Pt.) Mr. Patterson.
- Ed.73su (formerly H.Ed.3). Educational Sociology. (3 cred.; jr., sr.; prereq. 6 cred. in psy.; MTWThF III; 101L.) Miss Elliott.
- Ed.Wsu. Professional Preparation for Teaching. (Cred. ar.; hrs. ar.) Mr. Eurich.
- Ed.101su (formerly H.Ed.101). Historical Foundations of Modern Education. (3 cred.; jr., sr., grad.; prereq. 6 cred. in psy.; MTWThF II; 101L.) Miss Alexander.
- Ed.103su (formerly H.Ed.103). History of Modern Elementary Education. (3 cred.; jr., sr., grad.; prereq. 6 cred. in psy.; not open to students who have had H.Ed. 71; MTWThF III; 102L.) Miss Alexander.
- Ed.104su. Adult Education. (3 cred.; jr., sr., grad.; MTWThF III; 211Psy.) Mr. Sorenson.
- Ed.105su. Visual Aids in Teaching. (2 cred.; jr., sr., grad.; TTh VI-VII; 101WeH.) Mr. Kissack.
- Ed.185su (formerly Ed.Ad.185). The Professional Education of Teachers. (2 cred.; sr., grad.; prereq. 15 hrs. in ed.; MTWTh III; 201WeH.) Mr. Peik.
- Ed.188su (formerly H.Ed.188). Special Problems in Educational Sociology. (3 cred.; sr., grad.; prereq. Ed. 73; MTWThF VI; 204aEd.) Miss Elliott.
- Ed.200su. Colloquium in Education. (1-9 cred.; grad.; ar.) Staff.
- Ed.208su. Methods in Educational Research. (3 cred.; grad.; MTWThF I; 204aEd.) Mr. Johnson.
- Ed.227su. Current Readjustments in Higher Education. (3 cred.; grad.; MTWF IV, 1 hr. ar.; 206WeH.) Mr. Eurich, Mr. MacLean.

* The entire course including the final examination covering all units must be successfully completed before credit is received for any quarter.

‡ A fee of \$1 per credit is charged for this course.

SECOND TERM

- Ed.51Asu* (formerly Ed.51). Introduction to Secondary School Teaching. (3 cred.; jr., sr.; prereq. 6 cred. in psy.; MTWThF I; 210Bu.) Mr. McConnell.
- Ed.51Bsu*‡ (formerly Ed.52). Introduction to Secondary School Teaching. (3 cred.; jr., sr.; prereq. Ed. 51A or consent of instructor; MTWThF II; 204bEd.) Mr. Patterson.
- Ed.51Csu* (formerly Ed.53). Introduction to Secondary School Teaching. (3 cred.; jr., sr.; prereq. Ed. 51B or consent of instructor; MTWThF III; 204bEd.) Mr. Patterson.
- Ed.101su (formerly H.Ed.101). Historical Foundations of Modern Education. (3 cred.; jr., sr., grad.; prereq. 6 cred. in psy.; MTWF IV and 1 hr. ar.; 111Ed.) Mr. Wesley.
- Ed.167su (formerly Ed.Ad.167). The Junior High School. (3 cred.; prereq. 10 hrs. in ed. including Ed. 51A; MTWThF II; 100Pt.) Mr. Kinney.
- Ed.Wsu. Professional Preparation for Teaching. (Cred. ar.; hrs. ar.) Mr. Eurich.
- Ed.200su. Colloquium in Education. (1-9 cred.; grad.; ar.) Staff.
- Ed.228su. Problems of College Education. (3 cred.; grad.; MTWThF III; 210Bu.) Mr. Eurich.

HOME ECONOMICS EDUCATION

FIRST TERM

- H.E.Ed.192su (formerly H.E.Ed.142a). Educational Measurement in Home Economics. (3 cred.; sr.; prereq. H.E.Ed. 91, 93, parallel H.E.Ed. 92 and 94; MWF VI-VII; 112HE(UF).) Miss Brown.
- H.E.Ed.193su (formerly H.E.Ed.143.) Curricula. (2 cred.; sr.; prereq. H.E.Ed. 94 or permission of instructor; MTThF II; 213HE(UF).) Miss Brown.
- H.E.Ed.194asu. Adult Education Problems. (3 cred.; prereq. H.E.Ed. 91 or equiv.; MTWThF, 1 hr. ar.; 313HE(UF).) Miss Krost.
- H.E.Ed.194bsu. Adult Education Problems. (3 cred.; prereq. H.E.Ed. 91 or equiv.; MTWF III, 2 hrs. ar.; 203HE(UF).) Miss Krost.
- H.E.Ed.243su. Trends in Home Economics Education. (3 cred.; prereq. permission of instructor; MTWThF V, 1 hr. ar.; 213HE(UF).)
- H.E.Ed.295su. Problems in Home Economics Education. (3 cred.; grad.; MTWThF I, 1 hr. ar.; 213HE(UF).)

INDUSTRIAL EDUCATION

FIRST TERM

- Ind.11su.‡ Special-Class Woodwork. For teachers of art, subnormal, and primary work; not open to those with college credit in woodworking. (2 cred.; no prereq.; TWThF VII-VIII; 6Pt.) Mr. Gilker.

* The entire course including the final examination covering all units must be successfully completed before credit is received for any quarter.

‡ A fee of \$1 per credit is charged for this course.

- Ind.30su. Graphic Presentation. (2 cred.; no prereq.; TWThF II; 204aEd.) Mr. Gilker.
- Ind.44su. Equipment and Management. (2 cred.; prereq. Ind. 40 and 41 or consent of instructor; TWThF II; 112Bu.) Mr. Widdowson.
- Ind.60su. Philosophy of Vocational Education. (2 cred.; no prereq.; TWThF I; 112Bu.) Mr. Widdowson.
- Ind.66su.‡ Related Subjects. (2 cred.; prereq. Ind. 40 and Ind. 42 or consent of instructor; TWThF III; 112Bu.) Mr. Craigo.
- Ind.70su.‡ Methods in Shop Subjects. (2 cred.; prereq. Ind. 40 and Ind. 42 or consent of instructor; TWThF III; 114Ed.) Mr. Smith.
- Ind.105su. Industrial Education. An overview course for advanced students in the field and for principals, superintendents, and teachers outside the major. (3 cred.; jr., sr., grad.; TWThF I, 1 hr. ar.; 114Ed.) Mr. Smith.
- Ind.171su. Evening Industrial Schools. (2 cred.; jr., sr., grad.; prereq. Ind. 170 or consent of instructor; TWThF IV, 1 hr. ar.; 112Bu.) Mr. Craigo.

Graduate students under Plan B may consult with Mr. Smith concerning colloquium papers under the enrolment number Ed.200.

Dunwoody Shop and Drawing arranged by Mr. Smith.

NOTE.—The statements in fine print shown after the second term list of courses apply, likewise, to the first term.

SECOND TERM

- Ind.110su. Guidance in the Schools. (3 cred.; jr., sr., grad.; prereq. ed.psy. 3 cred.; TWThF I, 1 hr. ar.; 112Bu.) Mr. Smith.
- Ind.172su. Part-time Education. (2 cred.; jr., sr., grad.; prereq. Ind. 170, Ind. 171 or consent of instructor; TWThF III; 112Bu.) Mr. Smith.

Graduate students under Plan B may consult with Mr. Smith concerning colloquium papers under the enrolment number Ed.200.

Dunwoody Shop and Drawing arranged by Mr. Smith.

All degree candidates should keep in mind the maximum of 45 quarter credits in shop and drawing combined. Twenty quarter credits of shopwork and 10 quarter credits of drawing are required. See also the requirement in Art Education.

Shop and drawing courses in wide variety are listed elsewhere in this bulletin. (See Architecture and Fine Arts, Drawing and Descriptive Geometry, Mechanical Engineering, and Agricultural Engineering.)

Special arrangement has been made with the Department of Mechanical Engineering, Main campus, which will materially strengthen the offering in manipulative subjects. It is hoped that sufficient numbers will enroll to make possible special sections for teachers, particularly in the afternoons, so as not to conflict with lecture courses scheduled in the earlier half of the day.

The Division of Agricultural Engineering, Farm campus, will offer courses in mechanical training suited to the purposes of general industrial instruction in the small towns which are typical of our state.

Students may pursue shop and drawing courses at Dunwoody Institute, without fees other than those paid to the University, except a one-dollar deposit which is refunded in most cases. The types of instruction there made available will be determined by the demand, and students are urged to write us of their desires. Hours spent at Dunwoody will vary by special arrangement, and it is suggested that enrolments be made for two or three credits at the rate of twenty-four clock-hours per credit.

‡ A fee of \$1 per credit is charged for this course.

A new bulletin descriptive of the department and showing the four-year curriculum will be mailed upon request. Acquaintance with the curriculum and consultation with the adviser will aid students in selecting courses from other sections of this catalog.

Correspondence is invited upon such matters as credit transfer, Smith-Hughes certification, and graduate status. Please address inquiries to Professor Homer J. Smith, 222 Burton Hall.

METHODS AND DIRECTED TEACHING

FIRST TERM

- Ed.T.52su*‡ (formerly Ed.T.16). Directed Teaching. (3-5 cred.; sr., grad.; prereq. consent of instructor; ar.) Mr. Floyd.
- Ed.T.55su (formerly Ed.T.30). Principles of Kindergarten and Nursery School Education. (3 cred.; jr., sr.; prereq. C.W. 80; MTWThF II, 1 hr. ar.; 100Pt.) Mrs. Foster.
- Ed.T.56su (formerly Ed.T.31). Permanent Play Materials. (2 cred.; jr., sr.; prereq. Ed.T. 55; TWThF I; 100Pt.) Mrs. Foster, Miss Peterson.
- Ed.T.59su (formerly Ed.T.59). Story Telling for Young Children. (2 cred.; jr., sr.; prereq. Ed.T. 55; MTWTh VII; 202Pt.) Miss Headley.
- Ed.T.64su.*‡ Teaching of Geography and History in the Elementary Schools. (3 cred.; sr.; prereq. Ed. 61A,B,C, or equiv.; MTWThF II; 204aEd.) Miss Jensen.
- Ed.T.66Amsu.*‡ (formerly Ed.T.52a). The Teaching of Composition in the Senior High School. (2 cred.; sr.; TWThF VI; 111Ed.) Miss Bullard.
- Ed.T.66Bmsu.*‡ (formerly Ed.T.53a). The Teaching of Literature in the Senior High School. (2 cred.; sr.; TWThF V; 111Ed.) Miss Bullard.
- Ed.T.68Am,Bmsu.*‡ (formerly Ed.T.62a-63a). Methods of Teaching Secondary School Science. (4 cred.; sr.; prereq. consent of instructor; TWThF VI-VII; 215Ed.) Mr. Peterson.
- Ed.T.69Am,Bmsu.*‡ (formerly Ed.T.66a-67a). Methods of Teaching History and Social Studies. (4 cred.; jr., sr.; prereq. consent of instructor; MTWF IV-V; 204bEd.) Mr. Wesley.
- Ed.T.73A,Bsu.*‡ (formerly Ed.T.80-81). Special Methods and Directed Teaching in the Commercial Subjects. (4 cred.; jr., sr.; prereq. consent of instructor; TWThF VII-VIII; 204bEd.) Miss Kean.
- Ed.T.75su‡ (formerly Ed.T.84). Methods and Observation in the Nursery School. (1 cred.; jr., sr.; prereq. Psy. 1-2, Ed.T. 55 or simultaneously; F I and observation hrs. as ar.; 100Pt.) Miss Headley, Miss Peterson.
- Ed.T.130su. Problems of Childhood Education, with Special Reference to the Kindergarten. (2 cred.; sr., grad.; prereq. 9 cred. in ed., including Ed.T. 55 or equiv.; MTWTh VI; 202Pt.) Miss Headley.

MUSIC EDUCATION

FIRST TERM

- Mu.Ed.4su.‡ Applied Instrumental Technique (Strings). (2 cred.; no prereq.; MTWThF I; 5NMA.) Mr. Pepinsky.

* Passing the qualifying examination is prerequisite to registration in this course.

‡ A fee of \$1 per credit is charged for this course.

- Mu.Ed.5su.‡ Applied Instrumental Technique (Brass). (2 cred.; no prereq.; MTWThF VI; 4NMA.) Mr. Prescott.
- Mu.Ed.6su.‡ Applied Instrumental Technique (Woodwinds). (2 cred.; no prereq.; MTWThF VII; 4NMA.) Mr. Prescott.
- Mu.Ed.50su.‡ Elementary Methods. (3 cred.; no prereq.; MTWThF III; 4Mu.) Mr. Mapes, Mrs. Nohavec.
- Mu.Ed.53su.‡ High School Methods. (3 cred.; jr.; prereq. Mu.Ed. 50; MTWF IV and 1 hr. ar.; 4Mu.) Mr. Mapes, Mrs. Nohavec.
- Mu.Ed.54su.‡ Operetta Conducting. (3 cred.; prereq. Ed. 51; MTWThF II; 4Mu.) Mr. Mapes, Mrs. Nohavec.
- Mu.Ed.58su.‡ Orchestra Conducting. (2 cred.; prereq. Mu.Ed. 65; MTWF VI; 4Mu.) Mr. Pepinsky.
- Mu.Ed.59su.‡ Choral Literature and Conducting. (1 cred.; all; TTh VII; 4Mu.) Mr. Mapes, Mrs. Nohavec.
- Mu.Ed.64su.‡ Band Organization. (3 cred.; prereq. Mu.Ed. 4-5-6; MTWThF I; 4NMA.) Mr. Prescott.
- Mu.Ed.65su.‡ Instrumentation. (3 cred.; prereq. Mu.Ed. 4-5-6; MTWThF II; 5NMA.) Mr. Pepinsky.
- Mu.Ed.70su. Accompanying and Sight Reading. (2 cred.; jr. and sr.; MTWTh VIII; 104Mu.) Mr. Scott.

‡ A fee of \$1 per credit is charged for this course.

PHYSICAL EDUCATION AND ATHLETICS

PHYSICAL EDUCATION FOR MEN

Credit for courses taken in the Summer Session will be given toward a regular teacher's certificate in physical education where the courses are included in the physical education major.

The gymnasium, tennis courts, baseball diamonds, running track, and handball and squash courts will be available to students in the Summer Session. The swimming pools in the Athletic Building and University Farm gymnasium will be open for recreational swimming from 2:30 to 5:30 p.m. each day except Saturdays.

FIRST TERM

Short Course, Coaching School, June 14 to 19

An intensive athletic coaching school will be conducted from June 14 to 19 by the Athletic Department through the General Extension Division. This short course will consist of lectures, demonstrations, and actual participation in many phases of athletic coaching, football, basketball, track, baseball, athletic training and treatment of injuries, swimming, and various other sports that can be used in physical education programs. Classes will be conducted from 8:00 to 12:00 a.m., 1:30 to 5:30 p.m., and 7:00 to 9:00 p.m. The faculty for this short course will be the regular coaches of the various sports at the University of Minnesota supplemented by additional men who are outstanding in the profession. The football course will be conducted by Mr. Bierman, Dr. Hauser, and others of the staff. The basketball work will be headed by Mr. MacMillan, who will be assisted by other members of the staff and other outstanding coaches. Dr. Hauser and Mr. Stein will lecture and give demonstrations in the athletic training and injury course. Other staff members will lead discussions and demonstrations in various other sports.

The fee for this course is \$15 plus \$2 deposit. By paying an additional fee of \$10 the other courses in the regular Summer Session may be taken. Further details may be obtained by writing to the Department of Physical Education for Men, or to the General Extension Division, University of Minnesota.

Regular Session, June 21 to July 24

- A,B,C,su. Physical Education Activities. Various types of calisthenics, marching tactics, dancing, individual and double stunts, apparatus exercises, elementary tumbling, and softball. (1 cred.; MTWThF VII; Gym., Ath.) Mr. Piper, Mr. Beise.
- 4su. Beginning Swimming. Instruction for men who are unable to swim. Altho the correct form is stressed from the very beginning and no attempt is made to hurry the learner, most men will be able to swim the length of the pool in three or four weeks. Different strokes will be

- taught as the ability of individuals warrants. (1 cred.; MTWThF VIII; Recreation Pool, Ath.) Mr. Piper.
- 11su. Minor Sports. A study of the rules and techniques of teaching and actual practice in handball, squash racquets, badminton, golf, archery, and volleyball (1 cred.; MTWF IV, Th V; Gym, Ath.) Mr. Bartelma.
- 12su. Intermediate Swimming. For those who can swim at least forty yards. Instruction in the form of various strokes, diving, lifesaving, water games, and stunts. Designed to aid those men who may be called upon to teach swimming in schools, playgrounds, or camps, as well as for men who wish to improve their own performance. (1 cred.; MTWThF VIII; Recreation Pool, Ath.) Mr. Piper.
- 19-20-21su. Physical Education Activities. Playground games, boxing, wrestling, elementary horse and ring exercises, relays, pyramid building, noon hour activities (deck tennis, shuffleboard, disco, darts, etc.), party games. (1 cred.; MTWThF VI; Gym, Ath.) Mr. Bartelma, Mr. Beise.
- 32su. Elementary Principles of Physical Education. An introductory course in the principles of physical education and the problems connected with the organization and administration, program construction, and methods of teaching. (3 cred.; MTWThF III; 215Ath.) Mr. Bartelma.
- 36su. Kinesiology. A discussion of the principles and mechanics of bodily movements; the relation of posture to health and efficiency; the effects of various exercises upon the tissues and organs of the body. (2 cred.; MTWThF I; 206Ath.) Mr. Osell.
- 46su. Intramural Athletics. The organization and administration of intramural athletics. Methods of arranging schedules, keeping records, awarding points, etc. Evaluation of activities for an intramural program. (2 cred.; MTWThF I; 214Ath.) Mr. Smith.
- 48su. Organization of Boy Scout, Playground, and Camp Activities. Especially designed to assist men leading groups in leisure time activities and to train others to qualify as scout masters, playground directors, and camp leaders. (2 cred.; MTWThF II; 214Ath.) Mr. Osell.
- 58su. Physical Examination and Normal Diagnosis. Methods of inspection to determine deviations from the normal, including posture, musculature, skin, genitals, and feet; tests of hearing and vision; inspection of nose, throat, and teeth; examination of heart and lungs. (2 cred.; MTWThF III; 206Ath.) Dr. Hauser.
- 59su. Adaptation of Activities in Orthopedic Procedures. Lectures on theories governing the correction of physical and organic defects. Practice in executing the various remedial activities. (2 cred.; MTWF IV, Th V; 206Ath.) Mr. Osell.
- 60su. Athletic Training. Principles governing conditioning of men for various sports; diet, sleep, exercise, bathing, massage. Overtraining; its cause, diagnosis, prevention, and cure. Prevention and treatment of common athletic injuries. (2 cred.; MTWThF II; 206Ath.) Dr. Hauser.
- 62su. Principles of Physical Education. Study of the aims and scope, and the biological aspects of physical education, with special reference to its place in education; comparative value of various activities; activities

- suitable to either sex of different ages and varying conditions. (3 cred.; MTWThF I; 215Ath.) Mr. Keller, Mr. Nordly.
- 63su. Organization and Administration of Physical Education and Athletics. Problems of organization, administration, and supervision. Arrangement of programs in physical education activities. Discussion of place of athletics in the program; schedule making; construction; equipment, and care of gymnasias and athletic fields. (2 cred.; ar.) Mr. Piper.
- 67su. Football. See Short Course. (General Extension Division.)
- 68su. Basketball. See Short Course. (General Extension Division.)
- 133su. Special Administrative Problems in Physical Education. Survey of staff organizations in typical situations such as small towns, cities, states, schools, and colleges; construction, maintenance, and policies for use of facilities; purchase, care, and use of equipment, legal aspects of physical education and athletic activities. (3 cred.; sr., grad.; prereq. 63 or equiv.; MTWThF III; 214Ath.) Mr. Keller, Mr. Nordly.
- 134su. The Curriculum in Physical Education. Theory and principles of program construction applied to physical education. Critical analysis of existing programs and evaluation of activities in the light of modern trends. Practical application of principles in the construction of a program for a specific situation. (3 cred.; sr., grad.; prereq. 63 or equiv.; MTWF IV, Th V; 214Ath.) Mr. Keller, Mr. Nordly.
- 135su. Tests and Measurements and Research in Physical Education. Critical analysis of existing research studies in physical education with special emphasis upon tests and measurements. Study of current tests from both practical and theoretical standpoints. The use of tests in the administration of physical activity programs. Application of the principles of test construction to specific problems in physical education. (3 cred.; sr., grad.; prereq. Ed. Psy. 60 or equiv.; MTWThF II; 215Ath.) Mr. Keller.

PHYSICAL EDUCATION FOR WOMEN

Certain courses carry credit toward the teacher's certificate in physical education (see Courses 5 and 54) and toward the minor in physical education (see Courses 5, 32, and 54).

The swimming pool will be open for recreational use from 12:00 to 12:45 every day except Saturday and from 4:30 to 5:00 on Tuesday and Thursday. Tickets for recreational swimming are 10 cents apiece. This sum includes rental of swimming suit and towel.

The Washington Avenue tennis courts and the university golf course are open to students. Charges: tennis \$1 for each term of the Summer Session; golf 50 cents for 18 holes (45 cents if one buys a coupon book of ten tickets).

Except for courses in which course fees are charged, students may procure shower bath tickets from the matron at 5 cents apiece. Maximum course fee for students taking two or more courses in physical education, \$3.50 per term.

FIRST TERM

- 3su.‡ Recreational Leadership. Brief consideration of factors affecting play, types of recreational activities, organization, and administration; practice and demonstration in graded motor activities, hand crafts, first aid, and community singing; observation and assistantship on Minneapolis playgrounds. The portion covering practical work in activities and observation may be taken alone for one credit. (3 cred.; no prereq.; lect. and discussion MWF VII, practical work, observation, or assistantship MWF III and 3 hrs. weekly ar.; 201, 153WGm.) Miss Starr and specialists from Recreation Department of the Minneapolis Park Board and the University.
- 4su. Fundamentals of All Rhythmic Work. The fundamental elements of rhythm are applied to all types of rhythmic activity usable in the grade and junior high school; special applications are made to rhythms for little children, folk and clog dancing, and social dancing. Includes some reference to methods of approach. Not a skills course primarily. (1 cred.) (Not offered in 1937.)
- 5su.*‡ Methods of Coaching and Conducting Organized Games for the Junior and Senior High School. Special techniques for team games such as field ball, speed ball, soccer, hockey, volleyball, basketball, and baseball. Organization of extra-curricular activities, e.g., athletic associations, after-school programs, tournaments suited to various games, play days, methods of teaching, practice teaching within the group. Practical work MTWThF III may be taken for 1 cred. (2 cred.; prereq. permission of department; MW II, MTWThF III; 201, 60WGm.)
- 7su. Tennis for Beginners. ($\frac{1}{2}$ cred.; no prereq.; TTh 7:00 a.m. and 1 hr. ar.; 60WGm.) Miss Christensen.
- 8su. Golf for Beginners. Limited to 20. ($\frac{1}{2}$ cred.; no prereq.; Sec. 1 MW 6:30 a.m. and 1 hr. ar., Sec. 2 MW 7:15 a.m. and 1 hr. ar.; 60WGm.) A period for elective practice will be arranged for members of the classes. Miss Christensen.
- 9su. Elementary-Intermediate Golf. Limited to 20. Designed for those who play golf but desire further instruction in the form of the following strokes: drive, midiron, full, half, and quarter mashie, and the putter. The class meets at the university golf course and has access to its facilities: the practice approach and putting greens, and the practice fairways for the use of wood and long iron shots, as well as the eighteen-hole golf course. Mr. Stanley Larson, golf professional at the course, assists with the instruction. ($\frac{1}{2}$ cred.; no prereq.; W 3:30-5:30 p.m. and 1 hr. ar.; 60WGm.) Miss Christensen.
- 10su.‡ Teachers' Course in Physical Education for the Elementary School. The fundamentals of skill in balance, timing, force, and direction are applied to games and self-testing activities. Study of the use of underlying principles in teaching activities. Emphasis will be placed upon

* This course carries credit toward the state requirement for preparation of part-teachers of physical education.

‡ A fee of \$1.75 is charged for this course.

- motor experiences. (1 cred.; no prereq.; MTWThF I; 151WGm.) Miss Christensen.
- 11su.‡ Modern Dance. The fundamental elements of rhythm are applied to work in interpretive or natural dancing. The course content is suited to teaching senior high school girls, but will give any Summer Session student relaxation and rhythmic body training. (1 cred.; no prereq.; MTWTh II and 1 hr. ar.; 151WGm.) Miss Baker.
- 12su. Social Dancing and Mixers. The course includes training in social dance skills, the technique of teaching social dancing, and representative "ice breaker" procedure. (1 cred.; no prereq.; MTWTh III and 1 hr. ar.; 151WGm.) Miss Baker.
- 13su.*‡ Tumbling, Stunts, and Pyramids for Junior and Senior High Schools. Instruction and practice in technique of individual, companion, and group tumbling and stunts with progression from elementary to more advanced. Discussion and application of principles underlying pyramid building. Self-testing activities and track and field events for girls of junior and senior high school age. (1 cred.; no prereq.; MTWTh I and 1 hr. ar.; 153WGm.) Miss Snell.
- 16su.*‡ Elementary Tap Dancing. Primarily an intensive skill experience in routines, dances, and basic steps in clog and tap dancing. (1 cred.; no prereq.; Sec. 1 MTWTh 7:00 a.m. and 1 hr. ar.; Sec. 2 MTWTh VI and 1 hr. ar.; 151WGm.) Miss Zimmerli.
- 17su.‡ Intermediate Tap Dancing. More advanced routine steps and dances adapted particularly for use in schools and stunt programs. Experience in creating dances. Suggestions for costuming and music. (1 cred.; no prereq.; MTWTh 7:00 a.m. and 1 hr. ar.; 153WGm.) Miss Snell.
- 18su.*‡ Folk Dancing and Singing Games. This course presents material primarily for those teaching in the elementary and secondary school. Consideration is given to the methods of organizing and teaching the activities. (1 cred.; no prereq.; MTWTh II and 1 hr. ar.; 153WGm.) Miss Zimmerli.
- 32su.‡ Elementary Swimming. Class instruction given. Sections limited to 25. (1 cred.; prereq. phys. exam.; Sec. 1 MTWF IV and 1 hr. ar., Sec. 2 MTWTh VI and 1 hr. ar.; 51WGm.) Miss Heiberg, Miss Starr.
- 33su.‡‡ Intermediate and Advanced Swimming. Class instruction given. Class will be divided into intermediate and advanced sections as result of test. Sections limited to 25. Students may register for two sections and petition for credit. ($\frac{1}{2}$ cred.; prereq. swim. test, phys. exam.; Sec. 1 MW VI and 1 hr. ar.; Sec. 2 TTh VII and 1 hr. ar.; 58WGm.) Miss Heiberg, Miss Starr.
- 34su.‡ Lifesaving and Diving. Instruction and practice to pass requirements of the American Red Cross senior lifesaving test. Discussion of first aid and water safety. The Lifesaving Emblem can be received at the end of the course. Class instruction will be given in running front, swan,

* This course carries credit toward the state requirement for preparation of part-time teachers of physical education.

‡ A fee of \$1.75 is charged for this course.

‡‡ A fee of \$1 is charged for this course.

- jack, and back dives and the fundamentals of the more difficult dives. Individuals will be advanced from one group to the other according to their skill and interest in the various dives. (1 cred.; prereq. swim. test, phys. exam.; MTWTh VIII and 1 hr. ar.; 58WGm.) Miss Heiberg.
- 35su. Horseback Riding, Beginning and Intermediate. Instruction in the fundamentals of the English style of riding, including the technique of mounting, dismounting, the proper form of riding the walk, trot, and beginning of the canter. Discussion of care of the horse and etiquette of park riding. A fee will be collected at the stable for the use of the horses. First meeting of the class in the Women's Gymnasium 4:00 p.m. Wednesday. ($\frac{1}{2}$ cred.; no prereq.; hrs. ar.) Miss Starr.
- 37su.*‡ Individual and Dual Games. This course deals with the various methods and techniques suitable for the teaching of the following sports: golf, tennis, archery, badminton, deck tennis, tether ball, shuffleboard. Consideration of group methods adaptable to the organization and teaching of these activities on the junior and senior high school level. The course consists of lectures and laboratory work. There is opportunity for practice teaching within group and for individual skill development. (1 cred.; no prereq.; MTWTh VI and 1 hr. ar.; 60WGm.) Miss Christensen.
- 38su.* Introduction to Physical Education for Teachers and Administrators. This course is planned to give a background of information to administrators who desire a general understanding of this branch of the curriculum as it is being conducted in public elementary and secondary schools and to teachers who are called upon to teach physical education without having had adequate professional preparation. It deals with philosophy, principles, trends, organization, and administration. Consideration will be given to problems inherent in the teaching situation. (3 cred.; no prereq.; MTWF IV, F III; 201WGm.) Miss Baker and others.
- 54su.‡ Danish Gymnastics. The aim of this course is to acquaint the class with Madam Bertram's system of Danish gymnastics and through its application to aid the student to improve her bodily control, grace of movement, and development of rhythmic sense. The exercises are done to music. The material of this course may be taught to children from the fourth grade on up through high school. ($\frac{1}{2}$ cred.) (Not offered in 1937.)

* This course carries credit toward the state requirement for preparation of part-time teachers of physical education.

‡ A fee of \$1.75 is charged for this course.

SCHOOL OF BUSINESS ADMINISTRATION

GENERAL INFORMATION

ADMISSION

For admission to the School of Business Administration a student must have satisfied the requirements of one of the two-year prebusiness courses, either in the College of Science, Literature, and the Arts, the College of Agriculture, Forestry, and Home Economics, or the Institute of Technology. A student must have a minimum of 90 credits, with one honor point per credit or a smaller number of credits determined as follows: For every five honor points in excess of one per credit, the number 90 is diminished by one.

SPECIAL STUDENTS

A limited number of high school graduates who have reached the age of twenty-four and can furnish evidence to the effect that they have had successful business experience in an executive capacity may be admitted as special students. If later they decide to become candidates for a degree they must complete the requirements of the prebusiness course.

STUDENTS IN OTHER SCHOOLS OR COLLEGES OF THE UNIVERSITY

Regularly enrolled students in other schools or colleges of the University may be admitted to such courses in the School of Business Administration as are authorized by the faculties of the School of Business Administration and the school or college concerned. Such students are urged to select their business subjects in accordance with a definite plan, and as far as possible to complete a systematic course of business study.

NOTE.—Special provision has been made this summer for the direction of graduate students working on theses. For further information inquire at the dean's office of the School of Business Administration.

FIRST TERM*

- Econ.3su. Elements of Money and Banking. (3 cred.; 2nd qtr. fr., soph., jr., sr.; no prereq.; MTWThF V; 209B.) Mr. Graves.
- Econ.5su. Elements of Statistics. (3 cred.; 3rd qtr. fr., soph., jr., sr.; no prereq.; MTWThF III; 209B.) Mr. Graves.
- Econ.6su. Principles of Economics. (3 cred.; soph., jr., sr.; no prereq.; MTWF IV and 1 hr. ar.; 209B.) Mr. Borak.
- Econ.20su. Elements of Accounting. (3 cred.; 3rd qtr. fr., soph., jr., sr.; no prereq., MTWThF II; 209B.) Mr. Reighard.
- B.A.58su. Elements of Public Finance. (3 cred.; jr., sr.; prereq. Econ. 4 or 6-7; MTWThF VI; 202B.) Mr. Borak.
- B.A.89su. Business Organization and Management. (3 cred.; jr., sr.; no prereq.; MTWF IV and 1 hr. ar.; 102B.) Mr. Filipetti.

* For course descriptions see the Bulletin of the School of Business Administration.

- B.A.101su. Advanced General Economics (value and distribution). For the Summer Session this course is the equivalent of Econ. 103. (3 cred.; jr., sr., grad.; prereq. Econ. 4 or 6-7; MTWThF III; 102B.) Mr. Mudgett.
- B.A.112su. Business Statistics. (3 cred.; jr., sr., grad.; prereq. Econ. 5 or 14 or B.A. 70; MTWThF I; 102B.) Mr. Mudgett.
- B.A.137su. Accounting in Governmental Controls of Business. (3 cred.; jr., sr., grad.; prereq. Econ. 25-26; MTWF IV and 1 hr. ar.; 202B.) Mr. Reighard.
- B.A.142su. Advanced Money and Banking. For the Summer Session this course is the equivalent of Econ. 141. (3 cred.; jr., sr., grad.; prereq. Econ. 3 and either 4 or 6-7; MTWThF V; 102B.) Mr. Marget.
- Econ.149su. Business Cycles. (3 cred.; jr., sr., grad.; prereq. Econ. 141 or B.A. 142; MTWThF VI; 102B.) Mr. Marget.
- B.A.165su. Economics of Public Utilities. For the Summer Session this course is the equivalent of Econ. 154. (3 cred.; jr., sr., grad.; prereq. Econ. 3, and either 4 or 6-7; MTWThF II; 202B.) Mr. Schmidt.
- Econ.176su. International Commercial Policies. (3 cred.; jr., sr., grad.; prereq. Econ. 4 or 6-7 or 83; MTWThF V; 202B.) Mr. Vaile.
- B.A.184su. Scientific Management. (3 cred.; sr., grad.; prereq. Econ. 4 or 6-7; MTWThF II; 102B.) Mr. Filipetti.
- Econ.185su. Economics of Marketing. (3 cred.; jr., sr., grad.; prereq. Econ. 4 or 6-7 or 83; MTWThF III; 202B.) Mr. Vaile.
- Econ.187su. Economic Reform. (3 cred.; jr., sr., grad.; prereq. Econ. 4 or 6-7 or 83; MTWThF I; 202B.) Mr. Schmidt.
- Econ.260su. Research. (Cred. ar.; hrs. ar.) Members of the staff.

SECOND TERM*

- Econ.7su. Principles of Economics. A continuation of Econ. 6su. (3 cred.; soph., jr., sr.; prereq. Econ. 6; MTWThF IV; 102B.) Mr. Boddy.
- Econ.25su.† Principles of Accounting. (3 cred.; soph., jr., sr.; prereq. Econ. 20; MTWThF II; 302B.) Mr. Heilman.
- B.A.102su. Advanced General Economics. A continuation of B.A. 101su. For the Summer Session this course is the equivalent of Econ. 104. (3 cred.; jr., sr., grad.; prereq. B.A. 101 or Econ. 103; MTWThF IV; 202B.) Mr. Garver, Mr. Boddy.
- B.A.139su. Advanced General Accounting. (3 cred.; jr., sr., grad.; prereq. Econ. 25-26; MTWThF I; 302B.) Mr. Heilman.
- B.A.146su. Investments. (3 cred.; jr., sr., grad.; prereq. Econ. 160 or B.A. 155 or consent of instructor; MTWThF III; 202B.) Mr. Stehman.
- B.A.155su. Corporation Finance. For the Summer Session this course is equivalent to Econ. 160. (3 cred.; jr., sr., grad.; prereq. Econ. 4 or 6-7; MTWThF V; 202B.) Mr. Stehman.

* For course descriptions see the Bulletin of the School of Business Administration.

† Students who have had a high school course or experience in bookkeeping will be admitted to Econ. 25 by passing a placement test. For other students Elements of Accounting (Econ. 20) is a prerequisite to Econ. 25.

- Econ.161su. Labor Problems and Trade Unionism. (3 cred.; jr., sr., grad.; prereq. Econ. 4 or 6-7 or 83; MTWThF II; 102B.) Mr. Yoder.
- B.A.167su. Personnel Administration. (3 cred.; jr., sr., grad.; prereq. Econ. 161; MTWThF I; 102B.) Mr. Yoder.
- Econ.169su. Recent Economic Legislation. (3 cred.; jr., sr., grad.; prereq. Econ. 4 or 6-7 or 83; MTWThF VI; 202B.) Mr. Garver.
- Econ.203su. Seminar in Economic Theory. (3 cred.; grad.; MTWThF VII; 202B.) Mr. Garver, Mr. Boddy.
- Econ.260su. Research. (Cred. ar.; hrs. ar.) Members of the staff.

INSTITUTE OF CHILD WELFARE

The Institute of Child Welfare was organized for three purposes: for research on child development; for the training of students and future workers; and for bringing to the people of the state through a parent education program the information accumulated in it and other research centers. Co-operating with the institute in its program are a number of university departments: Anatomy, Education, Home Economics, Nervous and Mental Diseases, Pediatrics, Psychology, Public Health Nursing, Sociology, and the General Extension and Agricultural Extension Divisions.

NURSERY SCHOOL AND KINDERGARTEN

The Nursery School will be in session from 9:00 a.m. to 1:00 p.m. beginning June 16 and closing July 23. Applications for the enrolment of children will be received at the office of the institute. The fee will be \$20 for tuition, including orange juice and lunch at noon. A few additional children can be accommodated from 9:00 to 11:45 a.m. with no lunch served but including orange juice at a tuition fee of \$15.

The Kindergarten will be in session beginning June 16 and closing July 23, from 9:00 a.m. to 11:45 a.m. at a tuition fee of \$10, including orange juice. Special arrangements may be made for a few kindergarten children to stay for lunch at a fee of \$5 for the term. Children in either the Nursery School or Kindergarten living in the southeast district, may be transported for an additional fee of \$8.

FIRST TERM

- C.W.40su. Child Training. (3 cred.; soph., jr., sr.; prereq. Psy. 1-2; MTWF IV and 2 hrs. observation as ar.; 202Pt.) Mrs. Cummings.
- C.W.82su. Later Childhood and Adolescence. (3 cred.; jr., sr.; prereq. Psy. 1-2; MTWThF I and 1 hr. ar.; 202Pt.) Mrs. Cummings.
- C.W.90su. Physical Growth and Health Care. (3 cred.; jr., sr.; prereq. Zool. 1-2-3 or Psy. 1-2; MTWThF V and 1 hr. ar.; 202Pt.) Miss Boyd.
- C.W.140su. Behavior Problems. (2 cred.; sr., grad.; prereq. 12 cred. in psy., ed. psy., or soc.; MTWTh III; 202Pt.) Mr. Anderson.
- C.W.260su. Seminar in Physical Growth. (Cred. ar.; grad. only; hrs. ar.) Miss Boyd.
- C.W.270su. Reading in Child Development. (Cred. ar.; grad. only; hrs. ar.) Mr. Anderson, Mrs. Foster, Miss Boyd.
- C.W.275su. Seminar in Parent-Child Relationships. (2 cred.; grad. only; MTWTh II; 202Pt.) Mr. Anderson.

The following courses: Ed.T.55su, Principles of Kindergarten and Nursery Education; Ed.T.56su, Permanent Play Materials; Ed.T.59su, Story Telling for Young Children; Ed.T.75su, Methods and Observation in the Nursery School or Kindergarten, and Ed.T.130su, Problems of Child-

hood Education, which are listed under Methods and Directed Teaching on page 93, are offered by the Institute of Child Welfare.

SECOND TERM

- C.W.80su. Child Psychology. (3 cred.; jr., sr.; prereq. Psy. 1-2; MTWThF II and 1 hr. ar.; 202Pt.) Mrs. Davis.
- C.W.170su. Parent Education. (3 cred.; sr., grad.; prereq. 15 cred. in ed. or psy. or soc. or prev. med.; MTWThF IV and 1 hr. ar.; 202Pt.) Mrs. Davis.
- C.W.270su. Readings in Child Development. (Cred. ar.; grad. only; hrs. ar.) Mrs. Davis.

LIBRARY INSTRUCTION

FIRST TERM

Academic credit is given only to students with at least two full years of approved work of collegiate grade. Candidates for a degree in library instruction must have had at least *three* years of approved work of collegiate grade in addition to a full year (45 quarter credits) in Library Instruction. "No-credit" students will be admitted only with the approval of the Library Division of the Minnesota State Education Department (in the case of residents of Minnesota) or of the director of the Division of Library Training (in the case of those not residents of Minnesota). Admission of "no-credit" students will be limited to candidates under appointment or promise of appointment to definite library positions. Candidates for "no-credit" standing should in every case present written evidence of such appointment or promise of appointment.

- Lib.Meth.52su. Cataloging. Elements of dictionary cataloging. Lectures and problems. (3 cred.; MTWThF I; 5Lib.) Miss Hutchinson.
- Lib.Meth.54su. Classification. Introduction to the Dewey Decimal Classification; subject headings, author numbers, shelf and accession records. (3 cred.; jr., sr.; MTWThF II; 5Lib.) Miss Penrose.
- Lib.Meth.57su. Secondary School Libraries. Administrative methods and problems of secondary school libraries. (3 cred.; prereq. 9 cred. in library methods; MTWThF III; 5Lib.) Miss Penrose.
- Lib.Meth.62su. Reference. Reference books and other material with emphasis on methods of search and adaptation of material to needs of users. (3 cred.; MTWF IV, Th III; 5Lib.) Miss Hutchinson.
- Lib.Meth.71su. Library Work with Children. Administration of children's rooms and book selection. (3 cred.; prereq. 9 cred. in library methods or 6 cred. and one 3-cred. course in library training simultaneously with 71; MTWThF I; 5Lib.) Miss McLaughlin.

GENERAL COLLEGE

G.C.160su‡-161su‡. Photography. Photography has increasingly become an attractive, pleasant, useful, and profitable hobby. With the development of a branch of the university photographic laboratory in the Department of Visual Education in Room 3 Wesbrook Hall, the General College has been able, with the co-operation of the photographic department, to offer a course for amateurs in photography.

This course will take up photographic printing, enlarging, negative making, and manipulation. Laboratory work in these processes will continue through the entire course, supplemented by the study and discussion of cameras, lenses, lighting, composition, and the finishing and mounting of prints. Students will have the opportunity to make photographs on field trips and in the studio. Competitions will be held for students' photographs and the prints will be judged and ratings given.

The course fee covers the use of the laboratory equipment, developing and printing chemicals, and a limited amount of contact and enlarging paper. The course requires a focusing camera with a ground glass back; miniature cameras using 35 mm. motion picture film will be permitted. As this is a course of individual instruction, a student is allowed to advance at his own pace; therefore, it would be possible for a student to enter the second term without taking the first term work. (5 cred.; MWF VI, VII, VIII.)
Mr. Nelson.

‡ A laboratory fee of \$5 per term is charged for this course.

FACULTY

THE GRADUATE SCHOOL

Guy Stanton Ford, Ph.D., LL.D., Dean

(The faculty of the Graduate School is included among those listed under the various schools and colleges.)

COLLEGE OF SCIENCE, LITERATURE, AND THE ARTS

John T. Tate, Ph.D., Dean

ASTRONOMY

Willem J. Luyten, Ph.D., Associate Professor

BOTANY

C. Otto Rosendahl, Ph.D., Professor

Ned L. Huff, M.A., Assistant Professor

Murry F. Buell, Ph.D., Instructor, University of North Carolina, Lecturer

Rexford Daubemire, Ph.D., Assistant Professor, University of Idaho,
Lecturer

Borghild Gunstad, Ph.D., Instructor

Elmer S. Miller, Ph.D., Instructor

John W. Moore, Ph.D., Assistant

CLASSICS

Marbury B. Ogle, Ph.D., Professor

Robert V. Cram, Ph.D., Assistant Professor

Edward F. D'Arms, Ph.D., Assistant Professor

ENGLISH

Edward K. Brown, Ph.D., Professor, University of Winnipeg

Alan McKillop, Ph.D., Professor, Rice Institute

G. Tremaine McDowell, Ph.D., Associate Professor

William P. Dunn, Ph.D., Assistant Professor

Lewis B. Hessler, Ph.D., Assistant Professor

Elizabeth Jackson, Ph.D., Assistant Professor

Charles W. Nichols, Ph.D., Assistant Professor

Amy E. Armstrong, M.A., Instructor

Frank Buckley, M.A., Instructor

Ruth Christie, M.A., Instructor

John W. Clark, M.A., Instructor

Clifford I. Haga, B.A., Instructor

Edward D. Mallam, M.A., Instructor

Sidney F. Pattison, Ph.D., Instructor, University of Arizona

GEOGRAPHY

Darrell H. Davis, Ph.D., Professor
Daniel R. Bergsmark, B.S., Associate Professor, University of Cincinnati

GEOLOGY

Clinton R. Stauffer, Ph.D., Professor

GERMAN

Oscar C. Burkhard, Ph.D., Professor
George Lussky, Ph.D., Associate Professor

HISTORY

August C. Krey, Ph.D., Professor
Lester B. Shippee, Ph.D., Professor
Theodore C. Blegen, Ph.D., Associate Professor
Lawrence D. Steefel, Ph.D., Associate Professor
George N. Stephenson, Ph.D., Associate Professor
Harold C. Deutsch, Ph.D., Assistant Professor
Faith Thompson, Ph.D., Assistant Professor
Alice Felt Tyler, Ph.D., Assistant Professor
Philip J. Green, Ph.D., Lecturer, University of North Dakota
Charles E. Payne, M.A., Lecturer, Grinnell College
Tom B. Jones, Ph.D., Instructor

JOURNALISM

Thomas F. Barnhart, B.A., Associate Professor
Ralph O. Nafziger, Ph.D., Associate Professor
Edwin H. Ford, M.A., M.S., Assistant Professor

MATHEMATICS

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Dunham Jackson, Ph.D., Professor
Elizabeth Carlson, Ph.D., Assistant Professor
Gladys Gibbens, Ph.D., Assistant Professor
Edwin Oberg, Ph.D., Instructor
Kenneth W. Wegner, Ph.D., Instructor
Roy B. Saunders, B.A., Teaching Assistant

MUSIC

Donald Ferguson, M.A., Professor
Earle G. Killeen, M.Mus., Professor
Carlyle Scott, Mus.D., Professor
William Lindsay, Associate Professor
Blanche Kendall, Assistant Professor
Abe Pepinsky, M.A., Assistant Professor
J. Rudolph Peterson, Instructor
Karl Scheurer, Instructor
Agnes Rast Snyder, Instructor

PHILOSOPHY

Alburey Castell, Ph.D., Assistant Professor
 Millard S. Everett, Ph.D., Assistant Professor

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Henry A. Erikson, Ph.D., Professor
 Louallen F. Miller, Ph.D., Professor
 J. William Buchta, Ph.D., Associate Professor
 Joseph Valasek, Ph.D., Associate Professor

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 Lloyd M. Short, Ph.D., Professor
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 Joseph R. Starr, Ph.D., Assistant Professor
 Asher N. Christensen, B.A., Instructor
 Evron M. Kirkpatrick, M.A., Instructor
 Charles H. McLaughlin, M.A., LL.B., Instructor
 Mulford Q. Sibley, M.A., Instructor

PSYCHOLOGY

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 Miles A. Tinker, Ph.D., Associate Professor
 Walter V. Bingham, Ph.D., Professorial Lecturer, Director of Personnel
 Research Federation, New York City, Lecturer, Stevens Institute
 Kenneth H. Baker, Ph.D., Instructor
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 B. Frederic Skinner, Ph.D., Instructor
 Eleroy L. Stromberg, M.A., Instructor

ROMANCE LANGUAGES

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 Gertrude Vaile, M.A., Associate Professor
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 Hyman S. Lippman, M.D., Ph.D., Assistant Professor
 Elio D. Monachesi, Ph.D., Assistant Professor
 Calvin F. Schmid, Ph.D., Assistant Professor
 Elsa Castendyck, B.A., Lecturer

FACULTY

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Monica K. Doyle, M.A., Lecturer
May L. Brocker, B.A., Instructor
Jessica Lowry, B.A., Instructor
Joseph Schneider, Ph.D., Instructor
William H. Sewell, M.A., Instructor
Wayne G. Althaus, B.A., LL.B., Teaching Assistant
Orville Quackenbush, B.A., B.S., Teaching Assistant

SPEECH

Joseph Smith, M.A., Professor, University of Utah
Bryng Bryngelson, Ph.D., Assistant Professor
Howard Gilkinson, Ph.D., Assistant Professor
Franklin Knower, Ph.D., Assistant Professor
Albert Lovejoy, M.A., Visiting Director of University Theatre
George Eglund, B.A., Instructor
Melba F. Hurd, M.A., Instructor
Elmer Ziebarth, Ph.M., Instructor
Joseph Batcheller, B.A., Assistant
DeLisle Crawford, B.A., Technician

ZOOLOGY

Jerry E. Wodsedalek, Ph.D., Professor
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Clarence P. Oliver, Ph.D., Assistant Professor

INSTITUTE OF TECHNOLOGY

Samuel C. Lind, Ph.D., Dean

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Lorenz G. Straub, Ph.D., C.E., Administrative Assistant

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Albert R. Poole, Ph.D., Instructor
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E. Neil Shawhan, Ph.D., Instructor
Carl E. Swanson, B.S.(E.E.), Instructor

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Lee I. Smith, Ph.D., Administrative Assistant

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J. Lewis Maynard, M.S.(Chem.), Instructor
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John A. Anthes, B.Ch.E., Assistant
Paul R. Johnson, B.A., Assistant

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Lyle G. Overholser, B.S., Assistant

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Henry J. Richter, B.S., Assistant

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Ralph E. Montonna, Ph.D., Professor
Cornelius S. Grove, M.S., Instructor
Burrell F. Ruth, Ph.D., Instructor

COLLEGE OF AGRICULTURE, FORESTRY, AND
HOME ECONOMICS

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Edward H. Freeman, Ph.D., Dean of the College of Agriculture,
Forestry, and Home Economics

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Charles F. Rogers, M.S., Instructor

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Edwin C. Johnson, Ph.D., Associate Professor

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Clarence H. Christopherson, M.A., Instructor
J. Grant Dent, Instructor

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Forrest R. Immer, Ph.D., Associate Professor
Harold K. Wilson, Ph.D., Associate Professor
Will M. Myers, Ph.D., Instructor

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Willes B. Combs, M.A., Professor
Harold Macy, Ph.D., Professor
William E. Petersen, Ph.D., Associate Professor
Samuel T. Coulter, Ph.D., Assistant Professor
Thor W. Gullickson, Ph.D., Assistant Professor

ENTOMOLOGY AND ECONOMIC ZOOLOGY

William A. Riley, Ph.D., D.Sc., Professor
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Maurice C. Tanquary, Ph.D., Professor
Alexander A. Granovsky, Ph.D., Associate Professor

Clarence E. Mickel, Ph.D., Associate Professor
Harold H. Shepard, Ph.D., Assistant Professor
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Mykola H. Haydak, Ph.D., Instructor
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Ralph T. King, M.S., Instructor

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Ralph W. Lorenz, B.S., Instructor

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Clara M. Brown, M.A., Associate Professor
Harriet Goldstein, Associate Professor
Ethel Phelps, M.S., Assistant Professor
Lucy A. Studley, M.A., Assistant Professor
Gudrun Carlson, M.S., Instructor and Leader of Scandinavia Tour
Marion Fish, Ph.D., Instructor
Vetta Goldstein, Instructor
Anna M. Krost, B.S., Instructor
Gladys Vail, M.S., Instructor

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Troy M. Currence, Ph.D., Assistant Professor
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Ernest Angelo, Ph.D., Instructor
Arthur E. Hutchins, Ph.D., Instructor

PLANT PATHOLOGY AND BOTANY

Elvin C. Stakman, Ph.D., Professor
Rodney B. Harvey, Ph.D., Professor
Jonas J. Christensen, Ph.D., Associate Professor
Julian G. Leach, Ph.D., Associate Professor
Clyde Christensen, M.S., Instructor
Louise T. Dosdall, Ph.D., Instructor

FORESTRY AND BIOLOGICAL STATION

William A. Riley, Ph.D., D.Sc., Professor
Alexander A. Granovsky, Ph.D., Associate Professor
Samuel Eddy, Ph.D., Assistant Professor

Ned L. Huff, M.A., Assistant Professor
 Rexford Daubenmire, Ph.D., Assistant Professor, University of Idaho,
 Lecturer
 Murry F. Buell, Ph.D., Instructor, University of North Carolina, Lecturer
 Clyde Christensen, M.S., Instructor
 Ralph T. King, M.S., Instructor
 John P. Turner, Ph.D., Instructor

MEDICAL SCHOOL

Harold S. Diehl, M.A., M.D., D.Sc., Dean of Medical Sciences
 C. Donald Creevy, M.D., Ph.D., Assistant Dean

ANATOMY

Clarence M. Jackson, M.S., M.D., LL.D., Professor
 Edward A. Boyden, Ph.D., Professor
 Hal Downey, Ph.D., Professor
 Andrew T. Rasmussen, Ph.D., Professor
 Shirley P. Miller, Ph.D., Assistant Professor
 Raymond F. Blount, Ph.D., Assistant Professor
 Oliver P. Jones, Ph.D., Instructor

BACTERIOLOGY

Winford P. Larson, M.D., Professor
 Arthur T. Henrici, M.D., Professor
 Erling J. Ordal, M.S., Teaching Fellow
 George Savage, B.S., Teaching Fellow

MEDICINE

J. Charnley McKinley, M.D., Ph.D., Professor
 Moses Barron, M.D., Professor
 George E. Fahr, M.D., Professor
 Henry E. Michelson, M.D., Professor
 J. Arthur Myers, Ph.D., M.D., F.A.C.P., Professor
 Samuel E. Sweitzer, M.D., Professor
 Joseph C. Michael, M.D., Associate Professor
 Morris Nathanson, M.D., Associate Clinical Professor
 Cecil J. Watson, M.D., Ph.D., Associate Professor
 Richard S. Ahrens, M.D., Assistant Professor
 Royal C. Gray, M.D., Ph.D., Assistant Professor
 Arthur C. Kerkhof, M.D., Ph.D., Assistant Professor
 Francis W. Lynch, M.D., M.S., Assistant Professor
 John F. Madden, M.D., M.S., Assistant Professor
 Ernest S. Mariette, M.D., Assistant Professor
 Macnider Wetherby, M.D., Assistant Professor
 George H. Freeman, M.D., St. Peter Hospital, Lecturer
 William L. Patterson, M.D., Fergus Falls, Lecturer

Nathan J. Berkwitz, M.D., Ph.D., Instructor
 Richard M. Johnson, B.A., M.D., Instructor
 Carl W. Laymon, M.D., Ph.D., Instructor
 Elmer M. Rusten, B.A., M.D., Instructor
 Dale D. Turnacliﬀ, M.D., Instructor
 Louis Winer, M.D., Instructor

OBSTETRICS AND GYNECOLOGY

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 Library

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Bulletin of
University of Minnesota

Industrial Education
in the
Summer of 1937



Two Terms or a Full Quarter
June 14 to July 24
July 24 to August 28

Vol. XL

No. 18

March 1 1937

Entered at the post office in Minneapolis as second-class matter, Minneapolis, Minn. Accepted for mailing at special rate of postage provided for in Section 1103, Act of October 3, 1917, authorized July 12, 1918.

INDUSTRIAL EDUCATION

DEPARTMENTAL PURPOSES

The program in Industrial Education at the University of Minnesota is a part or phase of the service of the College of Education. It has the following major aims or purposes:

To carry high school graduates through a special four-year curriculum to award of the bachelor of science degree and to consequent certification as teachers of industrial arts in the schools of the state.

To provide additional work for those who transfer from other institutions and desire a degree in this field.

To help experienced craftsmen to understand the philosophy, practice, and teaching methods of strictly vocational (Smith-Hughes) instruction and to make possible their certification for service in vocational schools and classes.

To offer superintendents, principals, and teachers of more general subjects an opportunity to broaden their preparation and to strengthen their co-operation with their colleagues who work in this specialty.

To serve teachers in service by means of off-campus extension courses at centers convenient to them.

To help the staffs of factories and other places of industrial work, with their instructional problems.

To provide graduate instruction for those who seek improvement in their teaching situations, who desire to be prepared for administrative or supervisory positions in industrial education, or who wish to identify themselves with the preparation of industrial teachers.

GRADUATE WORK

Those interested in graduate work are invited to tell us about their backgrounds and desires and to ask us about our rulings and procedures. Advanced programs

BULLETINS AVAILABLE

Industrial Education at the University of Minnesota. A description of the department. Contains the four-year curriculum. Revised in 1936. Supplied upon request to Professor Homer J. Smith, 222 Burton Hall, University of Minnesota, Minneapolis, Minnesota.

Summer Session Announcement of Courses, 1937. Address requests to the registrar, University of Minnesota.

College of Education Announcement of Courses for the Years 1936-1938. Address requests to the registrar, University of Minnesota.

The Graduate School Announcement for the Years 1936-1938. Address requests to the registrar, University of Minnesota.

CORRESPONDENCE INVITED

Questions concerning specific courses should be addressed to the instructor in charge, in care of the administration office of the department concerned. Industrial Education inquiries should go to Professor Smith. Those writing to him about matters of curriculum, summer program, credit evaluation, graduate status, etc. will hear promptly from him or from some other member of the staff to whom the question has been referred for better handling. All matters that can be attended to before the busy days of enrolment will be more certain to get careful attention. Oftentimes enrolment must be delayed or tentatively made, pending completion of processes that should have been initiated much earlier.

In addition to courses available in mechanical engineering, agricultural engineering, architecture, art education, etc., it is possible for students to take courses at the William Hood Dunwoody Industrial Institute, an endowed school in Minneapolis. A co-operative agreement permits work done at Dunwoody to count for college credit, by arrangements made and fees paid at the University.

The offering in shopwork and drawing is exceptionally broad as to types of subjects and peculiarly elastic in that the needs of students determine in large measure the content and procedure of the courses.

LECTURE COURSES

Several courses of the lecture and classroom type will be offered. They have been selected to represent both the Industrial Arts and the Vocational Training phases of the work. In general these courses have been scheduled in the morning hours. Some of them will have sessions only four days in the middle of the week. Attempt is thus made to permit longer periods for manipulative work which might demand change of clothing. In some cases, and particularly at Dunwoody, it may be convenient for a student to arrange a full day on Monday in shop and drawing courses. There are no Saturday classes in Industrial Education at the University during the Summer Session.

The men who will present the lecture courses in Industrial Education are here named:

HAROLD T. WIDDOWSON, State Supervisor of Trade and Industrial Education

RALPH T. CRAIGO, Associate Director of the William Hood Dunwoody Industrial Institute

HOMER J. SMITH, Professor of Industrial Education

HAL GILKER, Instructor and Graduate Student

are made as nearly individual for the several candidates as is possible under rather flexible regulations.

Of special interest are the two routes to award of the master of arts degree. Under *Plan A* the candidate completes 27 quarter credits of class work and presents an acceptable thesis. Under *Plan B* the thesis is omitted and the requirement of credits is 45, nine of which must be upon the basis of term papers or other evidence of ability to do independent work. Both plans require final examinations. Those who choose *Plan A* think in terms of a *major* and a *minor* field. Those who choose *Plan B* are concerned about a *field of concentration*, and, beyond that, have wide freedom of selection.

SUMMER OFFERING

Because of the breadth of the four-year curriculum and of the broadening concept of graduate work, all colleges and divisions of the University may be said to stand ready to participate in the preparation of industrial teachers. Persons interested should procure bulletins and should correspond or confer with advisers. The Summer Session Bulletin gives details concerning all courses offered, in all departments and colleges, for both terms. It affords, also, the usual statements concerning admission, registration, fees, credits, recreation, services to students, etc.

SHOPWORK AND DRAWING

The number and variety of courses in shopwork, drawing, and art cannot be particularized here. The University, on the Main campus and the Farm campus, has several departments wherein work of this classification may be done. There are numerous competent instructors eager to serve students and the advisers in Industrial Education are prepared to aid in the construction of programs.

BULLETIN OF THE
UNIVERSITY OF MINNESOTA

Program
Twenty-fourth Annual
Schoolmen's Week

Under the Auspices
of the
College of Education
University of Minnesota
at
University of Minnesota
March 23 to March 25, 1937



Vol. XL

No. 19

March 2 1937

Entered at the post office in Minneapolis as second-class matter, Minneapolis, Minnesota.

Accepted for mailing at special rate of postage provided for in section 1103, Act of October 3, 1917, authorized July 12, 1918.

SUPERINTENDENTS, PRINCIPALS, AND OTHERS TO WHOM THIS BULLETIN IS SENT ARE ASKED TO BRING THE PROGRAMS TO THE ATTENTION OF HIGH SCHOOL TEACHERS AND SUPERVISORS. ADDITIONAL COPIES OF THIS BULLETIN MAY BE SECURED ON REQUEST FROM THE OFFICE OF THE DEAN, COLLEGE OF EDUCATION, UNIVERSITY OF MINNESOTA.

See Index, page 3.

See Calendar of Meetings, pages 25-26.

INDEX OF PROGRAM ANNOUNCEMENTS

See also Calendar of Meetings, pages 25-26.

The dates for the Twenty-fourth Annual Schoolmen's Week will be March 23 to March 25, 1937. During this week the following programs, described on pages indicated, will be available:

Short Course for Superintendents and Principals, pages 11-12

Conference on Problems of Business Education in Secondary Schools, pages 11-12.

Conference on Proposed Federal Legislation Affecting Education, pages 12-13.

Minnesota Society for the Study of Education, pages 13-14.

Minnesota Association of Secondary School Principals, page 14.

Twentieth Annual High School Conference, Sectional Meetings, pages 14-18.

Minnesota Deans of Women, page 19.

Institute in Adult Education, page 19.

Minnesota Council of School Executives, pages 20-22.

Minnesota College Teachers of Education and Educational Psychology, pages 22-23.

Luncheons and Dinners, page 24.

A GREETING AND AN INVITATION

It is almost a quarter of a century since the first Schoolmen's Week was held on the campus of the University of Minnesota. This spring we meet for the twenty-fourth successive time. One cannot look back over this long period of years without appreciating how vast are the changes that have occurred since these meetings were begun. The development and application of science in every realm of life have transformed the world since the opening of the century. The economic, social, and political changes through which most of us have lived are perhaps greater than those experienced by any other generation of men in human history. As citizens we are aware of these; we are also, as schoolmen, aware that changes of a fundamental nature in society in general sooner or later affect the schools and programs that are carried on through them.

Schoolmen's Week gives the schoolmen of Minnesota the opportunity of hearing addresses by acknowledged students and leaders in many fields of modern life. Whether these speakers discuss the significant trends of modern life or confine their attention to problems in the field of education, the meetings are of vital interest to the educational forces of the state, for, it

must be remembered, school or education is the most unusual social agency society has created for its preservation and advancement. The danger persists that the schools will lag behind the needs of the times. Alert and intelligent consideration and evaluation of the services of education will be required by the schoolmen of the state if the schools are to meet the needs of a rapidly changing society. Schoolmen's Week may not answer all the questions, nor solve all the problems that we face, but it furnishes us with the unique opportunity of taking stock together and of forming our own judgments as to the changes that should be made in the educational system of the country.

I sincerely hope that many from this state will be present to participate in the sessions this year. Therefore, in extending this greeting, I also include a most cordial invitation to come to the campus of the University of Minnesota for the Twenty-fourth Schoolmen's Week. Your welcome will be most hearty.

Cordially yours,

A handwritten signature in cursive script, appearing to read "L. D. C. Auman".

President

SCHOOLMEN'S WEEK

The Twenty-fourth Annual Schoolmen's Week at the University of Minnesota is marked by a change in the professorship in educational administration in the College of Education, an event of interest and importance to education in Minnesota. Dr. Fred Engelhardt, who has held this position since 1924, has resigned to become president of the University of New Hampshire. For thirteen years Dr. Engelhardt has taught courses in educational administration at Minnesota. He has written important books in the field and has constantly contributed to educational journals. He has studied the educational problems of Minnesota, has written about them and in many other ways has exercised effective leadership. His colleagues at the University, his former students, the schoolmen of the state will all regret Dr. Engelhardt's departure. With deep appreciation for his services while at the University of Minnesota, they will wish him well in the position to which he has chosen to go.

The vacancy on the staff of the College of Education created by Dr. Engelhardt's resignation has been filled by the appointment of Dr. Mervin Gordon Neale, president of the University of Idaho. Dr. Neale is well remembered in Minnesota for his services here in the years 1921 to 1923. He returns to the position that he resigned in 1923 to become dean of the College of Education at the University of Missouri. After serving that institution for six years, he became president of the University of Idaho in 1929. Despite the fact that the years of his presidency coincided with the financial depression, the University of Idaho has grown markedly under his leadership. It has approximately doubled its enrolment and in its efforts to meet the crisis of the depression it has made educational adjustments that will long outlive the period of his services to that institution. It is the good fortune of the University of Minnesota that he is now will-

ing to return to the position which he formerly held.

The interest aroused by the going of Dr. Engelhardt and the coming of Dr. Neale is an effective reminder of the fact that the importance of a university is determined by the individuals who are connected with it. It is the quality of a staff and the quality of students that make effective university work possible. In both of these respects the College of Education has had an enviable history in the past twenty years. Men and women who have taught here, and those who have studied here, have gone out from the University of Minnesota to most of the important universities of America. They hold positions of conspicuous leadership from one coast to the other. Those who go leave behind them a heritage of intellectual endeavor, of courage, and of educational vision that is a precious asset for those who remain and for others who come to work here.

M. E. HAGGERTY, *Dean*

Attention is called to the several dinners and luncheons scheduled in the program. Inasmuch as the meetings this year occur during the vacation period of the University, the dining facilities of the Minnesota Union will be limited. In order to assure satisfactory arrangements for the several luncheons and dinners, it is urged that those who plan to attend any of these functions should make their reservations well in advance. The freedom of attendance that has been exercised in previous years when the Union cafeteria and dining rooms were running for students will not be possible during the meetings of the current year.

SPEAKERS

LEO J. BRUECKNER, Ph.D.

Professor Brueckner came to the University of Minnesota in 1923. Prior to that time he had been a public school superintendent and an assistant dean of the Detroit State Teachers College. Dr. Brueckner's professional activities in the field of elementary education are widely known both in Minnesota and throughout the country. He was chairman of the committee that prepared the year-book on "Educational Diagnosis" of the National Society for the Study of Education. During the past two years he has had part-time leave from his university duties to act as the director of the study of elementary education of the Regents' Inquiry into the Character and Cost of Public Education in the State of New York.

IRA C. DAVIS, M.A.

Mr. Davis is assistant professor in the teaching of science at the University of Wisconsin and head of the Science Department, University High School. He is president of the Department of Science Instruction of the National Education Association and chairman of the Research Committee in Science, Wisconsin Education Association.

WILLARD EARL GIVENS, M.A.

Mr. Givens is executive secretary of the National Education Association. He came to this post from his position as superintendent of schools at Oakland, California. As successor to former Secretary Crabtree, he has brought to his position a fine record of service as a rural and then a high school teacher, as principal of high schools, and as a superintendent of schools. This will be Mr. Givens' first visit to the University of Minnesota since he took up his present duties in Washington. Since the National Education Association is committed to the furtherance of the Harrison-Fletcher bill for federal aid to public education, it is especially fortunate that Mr. Givens will visit Minnesota at this time.

EDGAR W. KNIGHT, Ph.D.

Mr. Knight has been, since 1919, professor of education at the University of North Carolina, and since 1934, director of their summer session. In 1917-18 he served as assistant educational director of the War Department Committee on Education and Special Training and is at present consultant in general education of the War Plans Division. In 1930-31 Mr. Knight was a member of the staff of the Laymen's Foreign Missions Inquiry on Education in China; in 1932 he was a member of the Educational Inquiry Commission to Iraq. He has served on numerous research committees in his own state and has written widely in the field of public education in the South. In 1935-36 he was president of the National Society of College Teachers of Education.

LEVERETT SAMUEL LYON, LL.B., Ph.D.

Mr. Lyon is at the present time the executive vice-president and director of educational activities of the Brookings Institution. His training lay in the field of law and that of economics. In 1923-25 he was dean of the School of Commerce and Finance of Washington University. He left that post to become professor of economics in the Robert Brookings Graduate School of Economics and Government. In 1934 he was the assistant administrator of the National Recovery Administration. Shortly before he was a delegate to International Congresses on Commercial Education, at Amsterdam in 1929, and at London in 1932. He has written extensively in the fields of business, commerce, and government, and has for more than fifteen years been a close student of commercial education in the public high schools in the United States. He is the editor of a series of textbooks in the social studies. At the present time he is engaged in preparing a report on the basis and objectives of business education for a committee working under the auspices of the American Council on Education.

ARTHUR ERNEST MORGAN, hon. D.Sc.

Mr. Morgan has been chairman of the Board of Directors of the Tennessee Valley Authority since

its inauguration in 1933. He went to that position from the presidency of Antioch College where he had developed a new type of college program that combined academic training with practical business and vocational experience. Mr. Morgan is, by profession, an engineer. For five years he lived in St. Cloud, Minnesota, where he practiced his chosen work. He has had long experience in public service in connection with large-scale engineering projects. He was supervising engineer of United States Drainage Investigations, 1907 to 1909. He was chief engineer for the Miami Conservancy District and designed the plans to prevent a recurrence of the Dayton flood. He drafted the revised drainage code adopted by the Minnesota legislature in 1905, and similar codes for the states of Arkansas, Mississippi, Ohio, Colorado, and New Mexico. Mr. Morgan's career has been marked by pioneering projects in his special field of engineering, in higher education, and in government service. While he has rendered conspicuous leadership to the Tennessee Valley Authority, he has continued to write penetrating discussions about education and the problems of social evolution.

JOHN G. ROCKWELL, Ph.D.

Dr. Rockwell is commissioner of education for the state of Minnesota. Prior to his entering upon this work he was on the faculty of the College of Education of the University of Minnesota.

PAUL C. STETSON, M.A.

Mr. Stetson, superintendent of schools at Indianapolis, Indiana, since 1930, has had long experience as a public school administrator. Before going to Indiana he served in the schools of Michigan and Ohio. He was a staff member on the survey of the New York City schools in 1924, and on the West Virginia School Survey in 1928. He has been a member of the Committee on Reorganization of Curriculum of the Department of Superintendence since 1922, and in 1933 served as president of the Department of Superintendence.

PROGRAM OF THE SHORT COURSE FOR
SUPERINTENDENTS AND PRINCIPALS

TUESDAY, MARCH 23, 9:45 A.M.

BURTON HALL AUDITORIUM

DEAN M. E. HAGGERTY, College of Education,
University of Minnesota, presiding

An Economic Plan versus Economic Planning in
the Tennessee Valley Authority—HONORABLE
ARTHUR E. MORGAN, Chairman of the Board of
Directors of the Tennessee Valley Authority

The Place of Business Education in the Secondary
Curriculum—LEVERETT S. LYON, Executive
Vice-President, The Brookings Institution

CONFERENCE ON PROBLEMS OF BUSINESS
EDUCATION IN SECONDARY SCHOOLS

TUESDAY, MARCH 23, 2:00 P.M.

BURTON HALL AUDITORIUM

Leader: DR. LEVERETT S. LYON

Because of the presence of Dr. Lyon a special conference and panel discussion on the problems of business education in secondary schools has been arranged. In addition to Dr. Lyon, who will have general direction of this conference, there will be presentation of the following topics by members of the staff of the School of Business Administration:

Reactions to an Experimental Course in Consumer Economics—HELEN C. CANOYER, University of Minnesota

Business Vocational Education for Distributive Occupations—A. H. CHUTE, University of Minnesota

WEDNESDAY, MARCH 24, 9:30 A.M.

BURTON HALL AUDITORIUM

DEAN A. C. EURICH, Professor and Assistant Dean,
College of Education, University of Minnesota,
presiding

Leadership in Educational Administration—FRED
ENGELHARDT, Professor of Educational Admin-
istration, University of Minnesota

Address—JOHN G. ROCKWELL, Commissioner of
Education for the State of Minnesota

Education and Depressions—EDGAR W. KNIGHT,
Professor of Education, University of North
Carolina

THURSDAY, MARCH 25, 9:30 A.M.

BURTON HALL AUDITORIUM

DEAN MALCOLM M. WILLEY, Assistant to the
President, University of Minnesota, presiding

The New Secondary School Curriculum—PAUL C.
STETSON, Superintendent of Schools, Indian-
apolis, Indiana

Federal Aid in Support of Education—WILLARD E.
GIVENS, Executive Secretary, National Education
Association

Some Implications for Minnesota of the Regents'
Inquiry into the Character and Cost of Public
Education in the State of New York—L. J.
BRUECKNER, Professor of Elementary Educa-
tion, University of Minnesota

CONFERENCE ON PROPOSED FEDERAL
LEGISLATION AFFECTING EDUCATION

THURSDAY, MARCH 25, 2:00 P.M.

BURTON HALL AUDITORIUM

A number of bills are pending in Congress that,
if passed, will affect public education. In view of
Secretary Givens' familiarity with these proposals

it has been deemed desirable to arrange a conference at which all proposals may be discussed. This conference will take place on Thursday afternoon in the auditorium of Burton Hall and will be led by Secretary Givens. Others with particular interests in proposed bills are invited to participate. Among these are the following named persons:

JOHN E. ANDERSON, Director, Institute of Child Welfare, University of Minnesota

CLARA M. BROWN, Associate Professor of Home Economics and Member of the President's Committee on Vocational Education

H. E. FLYNN, State Department of Education

ALVIN H. HANSEN, Professor of Economics, University of Minnesota

General Discussion

MINNESOTA SOCIETY FOR THE STUDY OF EDUCATION

Dinner Meeting

TUESDAY, 6:00 P.M.—201 MINNESOTA UNION

R. J. MAYO, Hopkins, presiding

The Relative Effect of Manuscript and Cursive Writing on Reading Ability in Grades 1 and 2—MISS GERTRUDE DROHAN, Cleveland School, Minneapolis

The Rate at Which Children Learn To Add and Subtract Fractions—MRS. GENEVIEVE STONE, Whittier School, Minneapolis

Knowledge of Contemporary Personalities and Social Problems Possessed by College of Education Seniors—HOWARD JONES, Sheridan School, Minneapolis

The Emphasis Being Placed on Extra-curricular Activities in Minnesota Schools—FLOYD R. ADAMS, Marshall

The Hygiene of Illumination in Reading—M. A. TINKER, University of Minnesota

WEDNESDAY, 2:00 P.M.—221 BURTON HALL

R. J. MAYO, Hopkins, presiding

The Learning by Pupils of Subnormal Ability in Segregated and Heterogeneous Classes—A. I.

HEGGERSTON, Board of Education, Minneapolis

Relationship of Achievements and Personality Traits of Minnesota Children—THEODORE BERNING, State Department of Education, St. Paul

Research in Curriculum, Personnel, and Examinations in the General College—M. S. MACLEAN, University of Minnesota

MINNESOTA ASSOCIATION OF SECONDARY SCHOOL PRINCIPALS

TUESDAY, 12:00 M.—202 MINNESOTA UNION

M. W. VAN PUTTEN, presiding

Luncheon—Business Meeting

TUESDAY, 2:00 P.M.—MUSIC AUDITORIUM

M. W. VAN PUTTEN, presiding

Trends in the Reorganization of the Curriculum in Mathematics—L. B. KINNEY, University of Minnesota

Trends in the Reorganization of the Curriculum in the Social Studies—A. C. KREY, University of Minnesota

Discussion

TWENTIETH ANNUAL HIGH SCHOOL CONFERENCE

COMMERCIAL SECTION

TUESDAY, 10:30 A.M.—BURTON AUDITORIUM

General session of interest to commercial teachers

The Place of Business Education in the Secondary Schools—LEVERETT S. LYON

TUESDAY, 12:00 M.—MINNESOTA UNION

Luncheon

ENGLISH SECTION

TUESDAY, 2:00 P.M.—204B UNIVERSITY HIGH
SCHOOL BUILDING

MISS CATHERINE BULLARD, University High
School, presiding

Creative Writing in High School—MISS ABIGAIL
O'LEARY, Central High School, Minneapolis

Adapting Reading Material to Various Ability
Levels—MISS GEORGIA MILLER, Supervisor of
English, Chisholm

Training for Critical Reading—C. G. WRENN,
University of Minnesota

FOREIGN LANGUAGES SECTION

TUESDAY, 2:00 P.M.—211 BURTON HALL

MISS LUCY WILL, University High School,
presiding

Rome, the Eternal City—Illustrated Lecture—M. B.
OGLE, University of Minnesota

The Place of Languages in the Curriculum—MISS
PRUDENCE CUTRIGHT, Assistant Superintendent
of Schools, Minneapolis

Round Table Discussion

TUESDAY, 4:00 P.M.—SECTIONAL MEETINGS

American Association of Teachers of French—211
Burton Hall

Latin Section—111 University High School Build-
ing

German Section—112 University High School
Building

HOME ECONOMICS SECTION

MONDAY, 9:15 A.M.—HOME ECONOMICS BUILDING, University Farm, St. Paul

MISS ELLA ROSE, Division of Home Economics, presiding

Important Values in Family Living—MISS FLORA THURSTON, Chairman, Division of the Family and Its Relationships, American Home Economics Association

The Contribution of Home Economics to the Community—L. C. MURRAY, Aitkin Public Schools

12:15 P.M.—Party Dining Room

Luncheon—Fifty cents. (Make reservation with MISS HEDDA KAFKA, University Farm before March 20)

Speaker—HAROLD BENJAMIN, Director, Center for Continuation Study, University of Minnesota

MONDAY, 2:00 P.M.—HOME ECONOMICS BUILDING, University Farm, St. Paul

MISS ANNA KROST, Division of Home Economics, presiding

Problems in Supervising Home Projects—MISS AURA KEEVER, State Supervisor of Home Economics

Modern Crafts and Their Uses—MRS. EDNA MATHIESON, Division of Home Economics

INDUSTRIAL EDUCATION SECTION

WEDNESDAY, 2:00 P.M.—106 PATTEE HALL

RUSSELL FAWVER, Cambridge, presiding

Panel Discussion—Our Most Immediate Problem. Leader, GUY TOLLERUDE, Austin; ROBERT BRYAN, Faribault; DAVID N. LING, Mankato; W. A. MACHULA, Minneapolis; R. H. NORDBY, Rochester; RAYMOND SMITH, Rochester; EARL E. WELCH, Austin

Panel Discussion—New Movements in Industrial Education. Leader, HOMER J. SMITH, University of Minnesota; RALPH T. CRAIGO, Dunwoody Institute, Minneapolis; M. REED BASS, Dunwoody Institute, Minneapolis; DEAN SCHWEICKHARD, Minneapolis; H. T. WIDDOWSON, State Department of Education; JOHN F. ROBOHN, JR., Minneapolis; H. W. TEICHROEW, Minneapolis

MATHEMATICS SECTION

WEDNESDAY, 2:00 P.M.—211 BURTON HALL

L. B. KINNEY, University High School, presiding

Panel Discussion—Issues Arising in the Reorganization of the Mathematics Program in the Secondary Schools in Minnesota. W. B. GUNDLACH, Rochester; C. O. BEMIS, St. Cloud Teachers College; MISS ELEANOR BIEBL, Marshall; H. J. BURTON, Brainerd; A. B. CALDWELL, Deputy Commissioner of Education, St. Paul; D. F. DICKERSON, Superintendent of Schools, Winona; HARL R. DOUGLASS, University of Minnesota; ARTHUR GILLETTE, Superintendent of Schools, Eveleth; F. J. HERDA, High School Principal, Alexandria; DUNHAM JACKSON, University of Minnesota; L. B. KINNEY, University of Minnesota; WALTER ROCK, Assistant Principal, Humboldt High School, St. Paul; MISS F. M. TALLMADGE, Austin; H. G. TIEDEMAN, Mountain Iron.

MUSIC SECTION

The North Central Music Educators' Conference will meet in Minneapolis April 4-9. Because of the size and importance of this conference no meeting of the Music Section will be held in connection with Schoolmen's Week.

Features of the North Central Conference will be a large choral festival, choral and instrumental competitions, music programs in the public schools in

St. Paul and Minneapolis, and many sectional meetings of vital importance to music in our schools. The Minnesota State Bandmasters' Association will also hold its meetings during the period of the North Central Conference.

All educators in this section of the country should avail themselves of the opportunity to attend this significant gathering in the interest of music education. For further information address Music Educators' Conference, 64 East Jackson Boulevard, Chicago, Illinois.

SCIENCE SECTION

WEDNESDAY, 2:00 P.M.—209 Burton Hall

PALMER O. JOHNSON, University of Minnesota, presiding

Teaching a Science Vocabulary—SHAILER A. PETERSON, University High School

Some Observations of Secondary School Science Teaching in European Schools—PALMER O. JOHNSON, University of Minnesota

The Wisconsin Program Directed at the Improvement of Science Instruction in the High School—IRA G. DAVIS, University of Wisconsin

SOCIAL STUDIES SECTION

WEDNESDAY, 2:00 P.M.—210 Burton Hall

MISS ISABELL DAVIDSON, Waseca, President, Minnesota Council for the Social Studies, presiding

Report on the Work of the Minnesota Experiment in the Social Studies Curriculum—A. C. KREY, University of Minnesota

Some Observations on Social Studies Teaching—HORACE MORSE, University of Minnesota

The Professional Growth of the Social Studies Teacher in Service—LYDIA GLASER, Rochester

Discussion

Business Meeting, Minnesota Council for the Social Studies

MINNESOTA DEANS OF WOMEN

THURSDAY—SHEVLIN HALL

MRS. BETH PORTER GARVEY, Dean of Women,
St. Cloud Teachers College, presiding

Theme: Student Personnel

MORNING SESSIONS

- 9:00 Business Meeting
- 10:00 Reports of the New Orleans Convention of the National Association of Deans of Women, Vocational Guidance Association, and the American College Personnel Association
- 11:00 The Rural Girl—FLORENCE RICHARDS, Winona State Teachers College
- 12:30 Luncheon in Shevlin Hall. Speaker to be announced

AFTERNOON SESSIONS

- 2:30 High School Group: Successful Girl Club Programs—LEILA ATCHERSON, Fairmont
- 3:30 College Group: Coordinating Personnel Work—C. GILBERT WRENN, University of Minnesota

INSTITUTE IN ADULT EDUCATION

An Institute in Adult Education will be held at the new Center for Continuation Study March 23, 24, and 25, 1937, in conjunction with a Regional Conference on Adult Education sponsored by the Minnesota Council for Adult Education and the American Association for Adult Education. The general theme of the meeting will be Planning and Operating an Adult Education Program.

Any person interested in adult education is eligible for this institute. The tuition charge will be \$5. All applications or requests for information should be addressed to Harold Benjamin, director, Center for Continuation Study, University of Minnesota.

MINNESOTA COUNCIL OF SCHOOL
EXECUTIVES

TUESDAY, MARCH 23, 2:30-4:30 P.M.

TOPIC NO. 1: 2:30-3:30 P.M.

106 PATTEE HALL

Visual Education—Its Function and Scope in the
Schools

Chairman—E. A. DURBAHN, Hastings

Discussion by H. C. BAUER, Lakefield, and R. A.
KISSACK, University of Minnesota

Open forum

TOPIC NO. 2: 3:30-4:30 P.M.

106 PATTEE HALL

Supervisory Techniques

Chairman—W. A. ANDREWS, Lake City

Discussion by L. M. WIKRE, Crookston, and E. B.
ANDERSON, Cloquet

Open forum

TOPIC NO. 3: 2:30-4:30 P.M.

210 BURTON HALL

Directed Study in the High School

Chairman—C. W. CROSS, Faribault

Discussion by T. J. BERNING, State Department
of Education, H. H. EELKEMA, Duluth, and
T. R. MCCONNELL, University of Minnesota

Open forum

TOPIC NO. 4: 2:30-3:30 P.M.

209 BURTON HALL

Character Education

Chairman—D. F. DICKERSON, Winona

Discussion by G. D. SMITH, Stillwater
Open forum

TOPIC NO. 5: 3:30-4:30 P.M.

209 BURTON HALL

Extra-Curricular Activities

Chairman—E. J. COOPER, Robbinsdale

Discussion by PAUL S. WILSON, Glencoe, J. H.
WICKMAN, Northfield, and CARL NORDLY,
University of Minnesota

Open forum

WEDNESDAY, MARCH 24, 2:30-4:30 P.M.

BURTON HALL AUDITORIUM

Educational Legislation 15 min.

SUPERINTENDENT A. J. JEDLICKA, Chairman of
Legislative Committee, presenting

SENATOR A. L. ALMEN 10 min.

REPRESENTATIVE A. C. THOMPSON 10 min.

Greetings from Minnesota Parent-Teacher
Association 8 min.

MRS. AUSTIN LATHERS, State President

Modern Trends in Speech 15 min.

MR. F. H. KNOWER, Department of Speech,
University of Minnesota

Discussion 10 min.

Greetings from Minnesota School Board
Association 8 min.

MR. J. F. SIEWERT, State President

Greetings from Minnesota Educational Asso-
ciation 8 min.

MRS. MYRTLE HOOPER DAHL, State President

Educational Trends in Minnesota with
Special Emphasis on Curricular and
Administrative Problems 20 min.

THEODORE UTNE, State Department of
Education

THURSDAY, MARCH 25, 1:30-3:30 P.M.

TOPIC NO. 6

210 BURTON HALL

Counseling in the Junior-Senior High School

Chairman—H. E. ANDERSON, Arlington

Discussion by I. T. SIMLEY, St. Paul and DR.
HARL DOUGLASS, University of Minnesota

Open forum

TOPIC NO. 7

211 BURTON HALL

The Educational Significance of Modern Economic
and Social Trends

Chairman—A. GILLETT, Eveleth

Discussion by J. J. HALVORSON, Excelsior and
PAUL C. STETSON, Indianapolis

Open forum

TOPIC NO. 8

209 BURTON HALL

Desirability of Eliminating Failures from a Child's
School Experience

Chairman—M. E. SMITH, Canby

Discussion by B. A. GIMMESTAD, Dawson, and
I. W. ROSA, Owatonna

Open forum

MINNESOTA COLLEGE TEACHERS OF
EDUCATION AND EDUCATIONAL
PSYCHOLOGY

WEDNESDAY, MARCH 24, 2:00 P.M.

104 MINNESOTA UNION

Theme—Pending Legislation Affecting the Prep-
aration and Certification of Teachers

Leader—PRESIDENT FRANK M. MCELROY, Mankato State Teachers College

DEAN MALCOLM WILLEY, University Dean and Assistant to the President, University of Minnesota

PRESIDENT L. W. BOE, St. Olaf College

DEAN FLOYD B. MOE, Junior College, Virginia Public Schools

Informal discussion of other matters pending legislation

THURSDAY, MARCH 25, 2:00 P.M.

104 MINNESOTA UNION

Theme—Review and Implications of Recent Investigations Bearing on the Education of Teachers

(Time limit: 15 minutes each)

Trends of Teacher Supply and Demand in Minnesota—I. T. BERNING, State Department of Education

Relative Success of Transfer and Native Students in the College of Education—D. O. PATTERSON, University of Minnesota

The Evaluation of Prescribed Courses in a Curriculum—PALMER JOHNSON, University of Minnesota

The Success, in Various Departments, of Students in the Lowest Ten Per Cent of Ability According to the Miller Analogies Test—L. A. LOVEGREN, University of Minnesota

The Research Program of the University Boards of Admissions—HARL R. DOUGLASS, University of Minnesota

A Tabulation of Problems in the Education of Teachers Needing Research—W. E. PEIK, University of Minnesota

LUNCHEONS AND DINNERS

MONDAY

- 12:15 p.m. Home Economics Section, Party Dining Room, Home Economics Building, University Farm
- 6:00 p.m. The Board of Directors of the Minnesota Council of School Executives will meet in the Minnesota Union.

TUESDAY

- 12:00 m. Secondary School Principals, 202 Minnesota Union
- 12:00 m. Commercial Section, Minnesota Union
- 12:15 p.m. Minnesota Council of School Executives, Minnesota Union Ballroom, (45 cents per plate)
- 6:00 p.m. Minnesota Society for the Study of Education. (65 cents per plate). 201 Minnesota Union. Make reservations with DR. L. J. BRUECKNER, 220 Burton Hall

WEDNESDAY

- 12:15 p.m. Minnesota Council of School Executives, Minnesota Union Ballroom (45 cents per plate)
- 6:00 p.m. Annual Schoolmen's Dinner, Minnesota Union Ballroom (\$1.00 per plate)

THURSDAY

- 12:30 p.m. Minnesota Deans of Women, Shevlin Hall

CALENDAR OF MEETINGS

MONDAY

- 9:15 a.m. Home Economics Section. See page 16.
2:00 p.m. Home Economics Section. See page 16.

TUESDAY

- 9:45 a.m. Short Course. MORGAN, LYON. See page 11.
10:30 a.m. Commercial Section. See pages 14-15.
12:15 p.m. Minnesota Council of School Executives' Luncheon and Business Meeting. See page 24.
2:00 p.m. Minnesota Association of Secondary School Principals. See page 14.
2:00 p.m. Conference on Problems of Business Education in Secondary Schools. See page 11.
2:00 p.m. English Section. See page 15.
2:00 p.m. Foreign Languages Section. See page 15.
2:30 p.m. Minnesota Council of School Executives' Group Meetings. See page 20.
4:00 p.m. American Association of Teachers of French. See page 15.
4:00 p.m. Latin Section. See page 15.
4:00 p.m. German Section. See page 15.

WEDNESDAY

- 9:30 a.m. Short Course. ENGLEHARDT, ROCKWELL, KNIGHT. See page 12.
12:15 p.m. Minnesota Council of School Executives' Luncheon and Business Meeting. See page 24.

- 2:00 p.m. Minnesota Society for the Study of Education. See page 14.
- 2:00 p.m. Industrial Education Section. See page 16.
- 2:00 p.m. Mathematics Section. See page 17.
- 2:00 p.m. Science Section. See page 18.
- 2:00 p.m. Social Studies Section. See page 18.
- 2:00 p.m. Minnesota College Teachers of Education and Educational Psychology. See pages 22-23.
- 2:30 p.m. Minnesota Council of School Executives. See page 21.

THURSDAY

- 9:00 a.m. Minnesota Deans of Women. See page 19.
- 9:30 a.m. Short Course. STETSON, GIVENS, BRUECKNER. See page 12.
- 1:30 p.m. Minnesota Council of School Executives' Group Meetings. See page 22.
- 2:00 p.m. Conference on Proposed Federal Legislation Affecting Education. See pages 12-13.
- 2:00 p.m. Minnesota College Teachers of Education and Educational Psychology. See page 23.
- 2:30 p.m. Minnesota Deans of Women. See page 19.

Bulletin of
UNIVERSITY OF MINNESOTA

Courses for

Teachers of the Social Studies

Given at

University of Minnesota
Summer Session, 1937

First Term June 14-July 24
Second Term July 24-August 27

Vol. XL

No. 20

March 3 1937

Entered at the post office in Minneapolis as second-class matter, Minneapolis, Minn. Accepted for mailing at special rate of postage provided for in Section 1103, Act of October 3, 1917, authorized July 12, 1918.

COURSES FOR TEACHERS OF THE SOCIAL STUDIES

Courses for elementary and secondary teachers; for graduates and undergraduates; for supervisors and principals.

FACULTY OF THE SOCIAL STUDIES

A. C. KREY, chairman of the Commission on the Social Studies of the American Historical Association, who offers a graduate seminar in the problems of the social studies curriculum during the first term, is professor of history and education. Professor Krey and a group of graduate students have just completed an experimental curriculum for the schools of this area. Teachers will have the rare opportunity to profit from these extensive researches and experiments.

EDGAR B. WESLEY, who offers courses in high school methods of teaching the social studies and in supervision, is an associate professor of education and head of the social studies department of the University High School. He is a past president of the National Council for the Social Studies; he participated in the New York Survey of Elementary Education; he is the author of numerous articles in both history and education. His *Teaching the Social Studies* (1937) will be used as a basic reference.

ALMA M. JENSEN, who gives courses for elementary teachers, has taught several years in teachers colleges in North and South Dakota and Colorado. She spent several months in Europe studying the methods and curricula of rural and folk schools. Her understanding of the problems of the elementary teacher gives assurance that this important area will not be neglected.

JEAN ALEXANDER, instructor in education, offers courses in the history of education. She is well known among Minnesota graduates for her instruction in this field.

First Term

- Ed.C.I.102su. Contents and Activities of the Social Studies in the Elementary Grades. Miss Jensen.
- Ed.C.I.154su. Supervision of the Social Studies. Mr. Wesley.
- Ed.C.I.201su. Advanced Course in the Methods of Teaching History and the Social Studies. Mr. Krey.
- Ed.T.64su. Teaching of Geography and History in the Elementary Schools. Miss Jensen.
- Ed.T.69Am,Bmsu. Methods of Teaching History and Social Studies. Mr. Wesley.
- Ed.101su. Historical Foundations of Modern Education. Miss Alexander.
- Ed.103su. History of Modern Elementary Education. Miss Alexander.

Second Term

- Ed.101su. Historical Foundations of Modern Education. Mr. Wesley.
- Ed.C.I.168su. Current Developments in the Social Studies. Mr. Wesley.

COURSES IN EDUCATION

In addition to courses in the social sciences and in the teaching of the social studies, many other courses in education are available. The social studies teacher will thus have an opportunity to secure courses in tests and measurement, in educational psychology, in supervision, or in any one of a score of fields. The general bulletin that lists and describes all courses may be obtained by sending a request to the Associate Director of the Summer Session, University of Minnesota.

COURSES IN THE SOCIAL SCIENCES

In addition to the courses in education the social studies teachers will find a wealth of offerings in the social sciences. The following lists indicate the range. Fuller details about these courses may be found in the Summer Session Bulletin.

In history, the courses offered during the first term are Modern World, American History, Ancient History, the Renaissance, Europe in the Nineteenth Century, Europe since 1914, Minnesota and the Northwest,

Latin American History, American Diplomatic History, American Political Parties, Readings in British Foreign Policy, Readings in American History, Seminar in Medieval History, Seminar in American History, and Seminar in European History. Many of these are also repeated during the second term.

In political science, the courses offered during the first term are American Government, World Politics, Recent Social Legislation, Municipal Function, Municipal Administration, Public Administration, American Political Parties, European Dictatorships, Chinese Government and Politics, International Organization, Seminar in American Government, and Seminar in International Law. Several of these courses are repeated during the second term.

In economics, the courses offered include Elements of Money and Banking, Principles of Economics, Elements of Public Finance, Business Organization and Management, Advanced General Economics, Business Cycles, Economics of Public Utilities, Economics of Marketing, and Economic Reform. Extensive offerings are also available during the second term.

In sociology, the courses offered are Introduction to Sociology, Social Interaction, Rural Sociology, Social Pathology, Principles of Sociology, Social Field Work, Rural Social Institutions, Principles of Social Case Work, and a general seminar. Extensive offerings are also available during the second term.

In geography, two courses, Human Geography and Geography of Commercial Production, are offered during the first term, and one course, Geography of Commercial Production, is offered during the second term.

Additional information concerning the requirements for degrees or programs of courses may be obtained by writing to the office of the dean, College of Education, University of Minnesota.

The Bulletin
of the University of
Minnesota

University Aids for Student Expenses
for the Year
1937-1938



Vol. XL

No. 21

March 20 1937

Entered at the post office in Minneapolis as second-class matter
Minneapolis, Minnesota

Accepted for mailing at special rate of postage provided for in section 1103,
Act of October 3, 1917, authorized July 12, 1918

UNIVERSITY AIDS FOR STUDENT EXPENSES

Each year since 1929 increasing numbers of high school graduates as well as students already enrolled in colleges and universities have been forced to defer further education for financial reasons. For others it has become more and more necessary to watch carefully college expenses and to use better and more careful judgment as to means of meeting these expenses without giving up too much in time and effort spent on study.

The purpose of this announcement is to state as clearly as possible the expenses that the new student must expect at the University of Minnesota and the opportunities offered by the University to help in meeting these expenses.

The following table estimates the expenses of the average first year. The different columns give estimates for the different colleges. These estimates do not include expenses for clothing, railroad fare, vacations, and amusements.

ESTIMATED EXPENSES OF THE ORDINARY STUDENT DURING HIS
FIRST YEAR IN COLLEGE

	Academ., Agric., For., H.É., Educ., General, Graduate	Bus. Adm.	Law	Inst. of Tech.	Dent.	Dent. Hygiene	Med.	Phar- macy
Incidental fee	\$18.00	\$18.00	\$18.00	\$19.20	\$18.00	\$18.00	\$18.00	\$18.00
Matriculation fee	15.00§	15.00	15.00	15.00	15.00	5.00	15.00	15.00
Course and lab. fees	6.00	6.00	6.00	6.00	3.00	9.00	6.00	6.00
Laundry	36.00	36.00	36.00	36.00	36.00	36.00	36.00	36.00
Room rent	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
Board	225.00	225.00	225.00	225.00	225.00	225.00	225.00	225.00
Tuition	60.00	90.00	120.00	90.00	180.00	75.00	225.00	105.00
Books, instruments	35.00	35.00	45.00	35.00	200.00*	38.00†	140.00‡	35.00
Total	\$485.00	\$515.00	\$555.00	\$516.20	\$767.00	\$496.00	\$755.00	\$530.00

* Of this amount \$160 is for instruments.

† Of this amount \$25 is for instruments.

‡ Of this amount \$100 is for a microscope.

§ Matriculation deposit for the Graduate School is \$3.

For women the matriculation fee is \$5 in place of \$15. For non-resident tuition fees see the Bulletin of General Information, page 49. There is a difference of from \$5 to \$25 (\$50 in the Medical School) between resident and nonresident tuition fees.

Tuition, incidental, and course fees are payable quarterly in advance and must be paid promptly to avoid late fees. These payments are due in September, December, and March—the final dates for payment will be found in the university calendar published in the Bulletin of General Information, pages 46-48.

The matriculation deposit fee is payable on first registration. Additional deposits may be required at any time that the balance is deemed insufficient. The balance will be refunded on graduation or when the student leaves the institution.

By obtaining cheaper board and room many students will be able to live for less than the amount estimated in the above table. Likewise, other students will pay more for board, room, and incidentals, and will not be able to live for the amounts estimated. To live within the minimum amount a student must forego all luxuries and economize in every way possible. For students living at home several items in the above table will have to be modified.

I. LIVING EXPENSES

The following is specific information for women and for men.

BOARD AND ROOM GENERAL REGULATIONS

1. It is understood that a room is engaged for a complete quarter, unless otherwise arranged with the householder. Only when a student withdraws from the University is such student released from payment.

2. It is understood that a room is automatically released at the conclusion of each quarter, but ten days' notice must be given.

3. A deposit of \$5 is to be made to a householder when a room is engaged.

4. It is advisable to make separate arrangements for board and room.

5. Students are advised—when possible—to board where they room.

6. No rebate in room rent is allowed for absence.

7. Rebate in charges for board is made only if absence exceeds a week, or if arrangements have been made in advance with the householder. This rule applies to absence during vacations as well as to all other absences.

8. A special charge is made for meals served to guests, or for extra services to guests.

WOMEN

Sanford Hall.—Sanford Hall, the dormitory residence for women students, is situated at 1100 University Avenue S.E., three blocks from the main entrance to the campus. Two hundred twenty-five students may be accommodated. The building is fireproof and modern in every way and is comfortable and homelike.

Board and room may be obtained for as low as \$90 per quarter or approximately \$30 a month. These are double rooms in the basement.

Single rooms in the basement with board are \$100 per quarter or approximately \$33 per month. All rooms in the basement are light and pleasant.

For occupants of the double rooms on the first, second, and third floors the charge is \$105 per quarter with board, or approximately \$35 per month.

Single rooms on the first, second, and third floors are \$115 per quarter with board, or approximately \$38 per month.

Fourth floor rooms are \$5 less per quarter, or approximately \$33 per month per student for double rooms and approximately \$36.50 per month for single rooms.

Rooms are furnished with a bed, dresser, study table, rugs, chair, clothes closet, and one pair of blankets for each resident. Bed linen is also furnished and laundered.

A tennis court, ping-pong room, and library with late books, magazines, and daily papers provide recreational opportunities.

Students are permitted to pay their fees as follows: \$45 the first month in advance, \$35 the second month, and the balance the first day of the last month of the quarter.

All applications for residence must be made for the entire school year. It is best to apply as early as possible. Applications will be considered in the order in which they are received.

Communications requesting residence or further information should be addressed to the house director, Sanford Hall.

Co-operative cottages.—Eight co-operative cottages, each in charge of a chaperon, offer comfortable homes for about one hundred women. By assisting with the work of the houses, the students are able to keep expenses under \$25 a month. In assigning students to these cottages preference is given to women earning a part of their expenses. It is understood that students engage rooms for the school year and will not be released until their places can be filled. Application should be made to the manager of university cottages, Shevlin Hall.

College Girls' Dormitory, University Farm.—A dormitory residence for girls in the College of Agriculture, Forestry, and Home Economics is located on the University Farm campus. About fifty students may be accommodated. The dormitory is closed during vacations.

The charge per quarter is \$30 for a single room and \$24 per student for a double room. The number of single rooms is limited. Meals are not served at the dormitory, but can be obtained at the University Farm cafeteria at reasonable rates.

Necessary bedding is provided and the bed linen laundered. Girls should provide their own couch covers.

Applications for rooms should be made early. A deposit of \$10, to be paid by August 1, is necessary to secure a reservation. The balance is due the first week of the quarter. Communications regarding reservations or further information should be addressed to the cashier, University Farm, St. Paul, Minnesota.

Rooming houses.—Attention is called to the ruling of the Board of Regents that women students are not allowed to reside in any house which is not on the approved list except by special arrangement with the dean of women. About seventy-five houses are approved by the University as residences for women. Women students do not reside in any house where men are taken as roomers. All women students should bring at least three sheets, two pillowcases, and towels, all to be marked with the full name of the owner. No electric light stronger than fifty watt is required in a student's room. No electric appliances are to be used except by permission of the householder. Room rent varies from \$10 to \$15 a month for each student; board at the present time is from \$5 to \$6 a week for two meals per day.

For further information and lists of addresses, application may be made to the director of housing, Shevlin Hall.

Shevlin cafeteria.—Breakfast, and luncheon on the cafeteria plan, are served at Shevlin Hall daily, with the exception of Saturday and Sunday. Fountain service is available throughout the entire day.

Nurses' Hall.—Students admitted to the School of Nursing provide their own maintenance during the first quarter in the school. So far as space permits they may be housed in the Nurses' Hall where the fees are similar to those at Sanford Hall. Nursing students desiring residence in the Nurses' Hall should communicate with the house director, Nurses' Hall.

MEN

Pioneer Hall.—The residence hall for men at the University of Minnesota was erected for the purpose of providing comfortable and attractive individual living quarters for men students. It is ideally located overlooking the Mississippi River on the East River Drive, one block east of the medical buildings. This fine building is four stories high, covers an entire city block, and houses 536 residents. It is quadrangular in form and is divided into sixteen houses, each house having a separate entrance. Approximately thirty-four students are accommodated in each house. Most of the rooms are arranged in three-room suites for two students—separate bedrooms and a common study. Single and double rooms are also provided for students who prefer this arrangement. Rooms are furnished with a combination wardrobe and dresser, bed, chair, study table, arm chair, rug, wastebasket, curtains, bed linen, and bed cover. Students are expected to furnish blankets, study lamps, towels, and other personal necessities.

Recreation rooms and private dining rooms are also provided for the accommodation of the students. The dining halls will provide the residents of the houses three meals per day.

Rates are as follows:

Double rooms (11 only) with board, per student.....	\$102.00 per quarter (\$34.00 per month)
Double rooms (large) with board, per student.....	\$115.00 per quarter (\$38.33 per month)
Fourth floor three-room suites (three men) with board, per student.....	\$115.00 per quarter (\$38.33 per month)
Single rooms with board.....	\$125.00 per quarter (\$41.67 per month)
Three-room suites for two men (two bedrooms and a common study) with board, per student.....	\$125.00 per quarter (\$41.67 per month)
Bay window three-room suites with board, per student.....	\$130.00 per quarter (\$43.35 per month)

Students are permitted to pay their fees as follows: \$50 the first month in advance, \$40 the second month, and the balance the first day of the last month of the quarter.

Students interested in residence in the hall should write to the director of Pioneer Hall, University of Minnesota, for a copy of the special bulletin and an application form. Assignments will be made in the order of application.

Approved boarding and rooming houses.—A list of approved boarding and rooming houses may be secured at the Housing Bureau. Good double rooms for two men can be obtained within easy walking distance of the campus for from \$20 to \$25 per month. Good single rooms rent for from \$12 to \$15 per month. Board at the present time varies from \$5 to \$6 per week for two meals per day.

Minnesota Union.—At the Minnesota Union, the men's clubhouse on the campus, breakfast and luncheon are served daily on the cafeteria plan. Several private dining rooms accommodating both small and large groups are available for luncheons and banquets.

II. AIDS FOR STUDENTS

The University offers some opportunities to those who need assistance in meeting the expense of their education and who have shown through good scholarship in the University that such aid is warranted.

The various types of aids are classified as fellowships, scholarships, prizes, and loan funds, and the Employment Bureau.

A. FOR UNDERGRADUATES

Undergraduate scholarships, prizes, and loan funds are classified as (a) general, for students in all colleges of the University, (b) those for women students only, and (c) those open only to students registered in a certain college. These aids are all granted on the supposition that funds are available. The University has no scholarships to offer new freshman students. Information may be obtained from the dean of the college in which the student is registered, the head of the department particularly concerned, the registrar, or the dean of women. In general, all applications for loans should be made to the dean of student affairs and all applications for scholarships for women should be made to the dean of women. No student is eligible to borrow from any university loan fund until he has completed two quarters' work at the University of Minnesota.

1. SCHOLARSHIPS

A. GENERAL

Board of Regents' tuition exemption for blind students.—In February, 1926, the Board of Regents voted to authorize the admission without tuition of blind students to the University for instruction in courses which they are qualified to receive.

Johnson Foundation scholarships.—The recipient must be in the third or fourth year of work beyond high school and must have been in residence in the University of Minnesota at least one year. The student's scholastic record, success in other activities, interests, and personal qualities will be taken into account in making awards. The awards will be made by the Board of Regents upon recommenda-

tion of a committee of the faculty appointed by the president. Nominations should be sent to the dean of the college in which the student is enrolled.

LaVerne Noyes scholarships.—Under the will of Mr. LaVerne Noyes there was established a number of scholarships for ex-service men or their direct dependents to assist them in obtaining a college education. The funds for these scholarships were placed in the hands of a board of trustees. Beginning with the year 1928-29, five of these scholarships were granted to Minnesota. The scholarship covers the tuition fee in the college in which the appointee is registered. Application should be made to the dean of student affairs.

Re-education of persons injured in industry.—Certain funds are available for the rehabilitation of disabled persons through the State Department of Education, Division of Re-Education. Application for aid should be submitted to Mr. Oscar Sullivan, director, Division of Re-Education, State Capitol Building, St. Paul, Minnesota.

Tuition exemption for blind students.—“Any resident of the state graduated from the school for the blind, upon compliance with all other requirements, shall be entitled to pursue any course of study in the state university, without expense for tuition: and the board of regents shall receive him into any department thereof.” (Minnesota Revised Laws 1905, sec. 1935). Application should be filed with the registrar.

“Any blind person who is, and for five years immediately preceding the making of his application for aid under this act has been a resident of this state, and who is a regularly enrolled student pursuing any course of study, profession, art, or science in any university, college, or conservatory of music approved by the board of directors of the Minnesota School for the Blind and in the discretion and under the direction of said board, may receive a sum or sums of money not exceeding \$300 in any one year for the purpose of defraying his necessary expenses, including those of a reader, while in attendance upon such university, college, or conservatory, such expenditures to be made from the appropriations for the current expenses of the Minnesota School for the Blind, provided that not more than ten such blind persons shall receive such aid in any one year.” (Laws 1915, ch. 307, sec. 1 as amended Laws 1929, ch. 367, sec. 1). Application should be filed with the director of the Minnesota School for the Blind.

B. FOR WOMEN STUDENTS

The scholarships listed below are open to women students who have been registered in the University of Minnesota at least one year, and are awarded on the basis of scholarship, character, and need. Unless otherwise indicated, applications should be made to the dean of women before May 1.

American Legion Auxiliary Scholarship of \$100 is awarded to some woman student majoring in sociology with special service among the foreign born.

Faculty Women's Club Scholarship of \$150 is offered annually by the Student Section of the Faculty Women's Club.

Mu Phi Epsilon Scholarship of \$50 is offered by the Phi Beta Chapter of Mu Phi Epsilon for the establishment of an annual scholarship for junior or senior women music students.

Nina Morais Cohen Scholarship, given by the Council of Jewish Women, is awarded annually to a woman student of Jewish descent.

P. E. O. Scholarship of \$100 is given annually to some woman student of high scholarship and fine character.

St. Paul College Club scholarships are given annually to several women students. Applications may be made to the secretary of the club before May 1.

Sigma Theta Pi Scholarship is awarded on the basis of scholarship, character, and need to a Jewish woman student.

Women's Self-Government Association scholarships of \$100 are offered annually to several women, preferably of the junior or senior class.

C. DEPARTMENTAL SCHOLARSHIPS

AGRICULTURE, FORESTRY, AND HOME ECONOMICS

Agricultural Faculty Women's Club scholarships consist of two scholarships of \$50 each which are available to students of the Division of Home Economics. In awarding these, the character, scholarship, and the need of the applicant will be considered. Preference will be given to students in the junior and senior classes. Applications may be made to the chief of the Division of Home Economics.

Alpha Zeta Scholarship of \$50 is offered by the active chapter of Alpha Zeta. Award is made, without application, to that male student of good moral character, who shall have attained the highest average scholastic record while a student in the freshman class in the College of Agriculture, Forestry, and Home Economics. Scholarship is granted with the understanding that the recipient will continue to pursue work in agriculture or forestry in this college. Awards will be made through the regular channels provided by the faculty.

Caleb Dorr college scholarships and medals, donated by the late Caleb Dorr of Minneapolis, are awarded to students in the College of Agriculture, Forestry, and Home Economics for the highest scholastic records—freshman (\$50), sophomore (\$100), and junior (\$100) scholarships, and senior gold medals: in each class one for men and one for women. The Board of Regents, November 14, 1936, voted to approve the recommendation for the distribution of the \$1,500 allotment for the Caleb Dorr Fund scholarships and prizes.

Caleb Dorr special scholarships are awarded to students of the college who have maintained a creditable scholastic record in college and who have made a significant achievement in necessary self-support. Amounts and distribution are determined by a special faculty committee.

Henry Webb Brewster scholarships consist of two scholarships of \$125 each donated by Mrs. Florence A. Brewster in honor of her husband, the late Henry Webb Brewster, formerly principal of the Central School of Agriculture. These are open to students in the College of Agriculture, Forestry, and Home Economics under the following conditions as stated by the donor:

The beneficiaries must be young men or young women who are and must continue of exemplary moral character and of temperate and industrious habits. They must be such as by trial and examination shall evince and maintain a habit and aptitude for study and improvement. Any student who shall fail to come or cease to be within the above conditions shall forfeit all claims to the benefits of these scholarships. It is my preference that such scholarships be awarded to needy students who would otherwise be unable to gain educational advantages.

Home Economics Association Scholarship of \$50 is offered by the Home Economics Association of the College of Agriculture, Forestry, and Home Economics to students in the Division of Home Economics. Any student in the division is eligible. The scholarship is awarded on the following basis: spirit of service, financial need, professional attitude, character, and an honor point ratio of 1.5 or above, and ideals and standards consistent with those set up by the Division of

Home Economics. The award is in the hands of a faculty committee from the Division of Home Economics. Applications may be made to the chief of the Division of Home Economics.

Mary L. Bull Scholarship Fund is a gift of \$500 from the Alpha Alumnae Chapter of Phi Upsilon Omicron. The income may be used for scholarships, or grants, for needy and worthy students enrolled in courses in home economics.

Minnesota Home Economics Association Freshman Scholarship is a \$100 scholarship for freshman girls in the Division of Home Economics. The award is to be made by the faculty of the College of Agriculture, Forestry, and Home Economics, on the basis of character, scholarship, achievement, need of financial help, and especially upon promise of leadership.

Phi Upsilon Omicron Scholarship in Home Economics of \$50 is offered by the Twin City Chapter of Phi Upsilon Omicron and is available to students in the Division of Home Economics. Any student in the division will be eligible but preference will be given to freshmen and sophomores. The award will be in the hands of a faculty committee. Applications may be made to the chief of the Division of Home Economics.

Samuel B. Green Scholarship, established by Mrs. Samuel B. Green, provides that the income from \$1,000 be available annually for a scholarship to be awarded to the senior in forestry having the highest scholastic record.

BAND

Appreciation Day band scholarships were approved by the Board of Regents in 1932. They voted:

1. That there be three scholarships for the band. That these scholarships be called service scholarships, the awards to be made from the Appreciation Day Band Fund interest.

2. By action of the Board of Regents October 6, 1934, redistribution of the Appreciation Day Band Scholarships is to be paid quarterly. These are to be distributed as follows—manager, who will receive \$100 a year, library custodian and uniform custodian, who each will receive \$60 a year.

3. That recommendations to the president for these scholarships be made by a committee consisting of the bandmaster, head of the Music Department, and dean of student affairs. All recommendations to this committee are to be made through the bandmaster.

4. That scholarship and ability shall be the deciding factors, and that no man may be appointed to one of these scholarships or assistants' scholarships with a scholastic average under C.

BUSINESS ADMINISTRATION

Board of Associated Business Students' Scholarship.—On March 6, 1936, the Board of Regents accepted a gift of two scholarship awards of \$50 each annually, one in the fall quarter and one in the winter quarter to a student in the School of Business Administration who has completed his or her junior year. The award is to be made on the basis of scholarship, leadership, and promise of future worth. To receive the award the student must be regularly registered in the School of Business Administration for at least two quarters previously and must have earned at least 135 credits towards his B.B.A. degree.

Minneapolis Women's Advertising Club Scholarship.—The Minneapolis Women's Advertising Club awards an annual scholarship of \$50 to a senior woman student in the School of Business Administration, the award being based upon her scholarship standing throughout her junior year and two quarters of her senior year in the school.

PHARMACY

Minnesota State Pharmaceutical Association Scholarship of \$105 is awarded annually to the student, a citizen of the United States, who has earned the highest

general rating in the work of the first two years of technical pharmaceutical training in the College of Pharmacy. If such student should discontinue attendance at the college, the said sum is to be awarded to the student next highest in standing who also meets the other requirements.

SCIENCE, LITERATURE, AND THE ARTS

American Legion Auxiliary Scholarship (see page 7).

Captain DeWitt Jennings Payne Memorial scholarships are provided under the will of the late Olive Payne Stover, of Chicago. The income from securities amounting to \$15,615.24 is to be used for scholarships in the Department of English.

Gisle Bothne scholarships of the Delta Sigma Psi of \$25 each are offered annually by Delta Sigma Psi, honorary Norwegian culture fraternity. The applicants must have at least 25 university credits or their equivalent in Norse and promise to continue the study of Norse so as to earn 9 additional credits after applying for the scholarship. Applications must be made to the secretary not later than May 1.

Horton Art Scholarship and Loan Fund, donated by Edith Lee Horton as a memorial to her father, Dr. William Dixon Horton, provides that the annual income from \$1,000 be available for scholarships to junior and senior students in art classes.

Moses Marston Scholarship in English of \$75 is to be used to further English study, and is awarded by the English Department as a recognition of special capacity for literary and linguistic studies.

Mu Psi Epsilon Scholarship (see page 7).

Northwest Daily Press Association Journalism Scholarship is a gift of \$100 from the Northwest Daily Press Association, to be awarded annually, as a scholarship award to some student in the Department of Journalism in accordance with rules and regulations that may be formulated by a committee especially appointed for that purpose.

2. PRIZES

A. GENERAL

Alumni Weekly Medal is awarded annually on the recommendation of the faculty members of the Senate Committee on Debate and Oratory to that member of the graduating class who has made the best record in public speaking during his college course. In the absence of a suitable candidate, the committee may withhold the award.

Class of 1911 Memorial Trust Fund Prize.—A prize of \$40 has been provided by the alumni of the Class of 1911 for an annual contest to encourage original dramatic writing. Plays must be submitted by March 1.

Conference Medal is awarded each year by the Intercollegiate Conference Athletic Association to the man, graduating in the senior class of each conference university, who, through a course of four scholastic years' residence in the same university, has the highest degree of achievement in his athletic as well as in his scholastic work.

Forensic Medal.—Awarded to members of the senior class who have participated in intercollegiate debate and have a scholastic average of B.

Frank H. Peavey Prize of \$100 is divided equally among the three members of the team winning the annual freshman-sophomore debate.

Frank O. Lowden prizes.—The annual income from \$3,000 is given as two prizes of \$100 and \$50 to the winners of first and second places in the contest of the Northern Oratorical League. The members of this league are the University of Michigan, Northwestern University, University of Wisconsin, University of Iowa, Western Reserve University, and University of Minnesota.

John S. Pillsbury prizes.—Three prizes of \$100, \$50, and \$25, respectively, are awarded annually to the winners of the first three places in the Pillsbury Oratorical Contest. The winner of the first prize becomes the representative of the University in the annual contest of the Northern Oratorical League.

Ludden prizes.—Three prizes of \$50, \$30, and \$20 to winners of the first three places in the freshman-sophomore oratorical contests.

Minnesota Book Store prizes.—Awarded to university undergraduates for the best editorials or articles on current affairs.

Thomas F. Andrews undergraduate research prizes, gift of stocks and cash from the Minnesota Chapter of Sigma Xi for prizes to undergraduate students who have completed pieces of work of outstanding character.

University of Minnesota Press Student Library Contest prizes consist of four prizes of \$50, \$25, \$15, and \$10, in books to be awarded to four students submitting the best libraries.

Zeta Phi Eta prizes.—The local chapter of Zeta Phi Eta, national honorary speech sorority, offers as prizes to the winners of first and second places in an annual verse reading contest, volumes of poetry to be selected by a committee made up of two members of the staff of the Department of Speech, and one member of the sorority.

B. FOR WOMEN STUDENTS

Chi Omega Prize (see page 13).

W. S. G. A. Award.—The W. S. G. A. scholarship tablet is inscribed annually with the names of those young women who have attained a straight A average during their first college year.

C. DEPARTMENTAL PRIZES

AGRICULTURE, FORESTRY, AND HOME ECONOMICS

A. D. Wilson Prize of the income from a fund of \$322.30 contributed by friends of A. D. Wilson is awarded to the student in the College of Agriculture, Forestry, and Home Economics who submits the best essay on co-operation in agriculture.

Caleb Dorr prizes.—Special prizes selected by a faculty scholarship committee and awarded to students of all classes for outstanding scholarship. See also Caleb Dorr college senior gold medals, page 8.

Central Co-operative Association, co-operative livestock marketing, organization in South St. Paul, offers a medal in the form of a watch fob to each student standing highest in judging beef cattle, horses, swine, and sheep.

Charles Lathrop Pack Foundation Forestry prizes.—Gift of \$2,000 from Charles Lathrop Pack of which the income is to be used for three prizes, one of \$50, one of \$30, and one of \$20 for the best essays or other evidence of accomplished work in the interests of public co-operation and public appreciation of forestry. Open to all undergraduates specializing in forestry.

Dean E. M. Freeman Medal for Student Leadership is awarded annually to the senior student who has made the greatest contribution to student life on the

University Farm campus. Given by forestry students' organizations in the College of Agriculture, Forestry, and Home Economics.

Tomhave Medal provided by W. H. Tomhave, alumnus of the College of Agriculture, Forestry, and Home Economics (Class of 1907). Awarded to the student who proves himself the most proficient in judging all classes of livestock. For conditions of competition see the head of the Division of Animal and Poultry Husbandry.

BUSINESS ADMINISTRATION

Delta Sigma Pi Gold Key.—Awarded annually in the spring quarter to a male senior in the School of Business Administration having the highest scholastic average for work done in the School of Business Administration.

DENTAL HYGIENE

Alpha Kappa Gamma Prize in Dental Hygiene.—The active chapter of Alpha Kappa Gamma sorority offers an annual prize of \$10 to the girl graduating from the School for Dental Hygienists who presents the highest scholarship average, having completed her entire course at the University of Minnesota.

MEDICINE

Charles Lyman Greene Prize in Physiology is a certificate of merit and a prize of \$100 from the Minnesota Society of Internal Medicine. It is offered to an undergraduate medical student for the most meritorious thesis upon a subject in physiology which is closely related to clinical medicine.

Rollin E. Cutts Prize in Surgery.—The income from \$500 is awarded in the form of a gold medal and a small cash prize to that member of the senior class of the Medical School who presents the best thesis showing original work upon a surgical subject.

Southern Minnesota Society prizes.—This society offers an annual prize of \$100 and a gold medal to the most representative student of the Medical School. The second choice of the committee receives a certificate of merit. The determination is made on the basis of scholarship, extra-curricular activity, character, and general excellence.

NURSING

Alpha Tau Delta Scholarship in honor of Esther M. Thompson is a \$50 scholarship to be awarded annually to a senior member of Alpha Tau Delta who ranks high in theoretical and practical work. The scholarship must be used for postgraduate study within two years of graduation.

Louise M. Powell Prize is a gift of \$50 given annually by the Alumnae Association of the School of Nursing for the establishment of the Louise M. Powell Prize for two prizes of \$25 each to the two graduating students in the School of Nursing who have attained the highest degree of efficiency in practical work.

Maintenance scholarships.—A limited number of the maintenance scholarships for the first quarter are available to qualified college graduates.

PHARMACY

Lehn and Fink Gold Medal is awarded annually by Messrs. Lehn and Fink of New York City, to that student in the College of Pharmacy who graduates with the highest general average rating.

Wulling Club Key is awarded by the Wulling Club to that senior in the College of Pharmacy who is a candidate for graduation and has earned, up to ten days before Cap and Gown Day, the second highest general average in the senior class.

SCIENCE, LITERATURE, AND THE ARTS

Chi Omega Prize of \$25 is awarded annually to the woman student who has excelled in social work in the Department of Sociology. All senior women following the training course for social and civic work or one of the sequences of applied sociology are eligible for consideration. The award is made on the basis of academic standing plus personality, judged not only by instructors in the courses, but by the supervisors in social agencies who direct the practical work.

Class of '89 Memorial Prize in History of \$100 is offered biennially (odd years) for the best thesis in history, written from the sources. It is open to undergraduate and graduate students.

Helen Dwan Prize established by Mrs. Helen R. Dwan with the understanding that the income from \$2,100 be used as a prize to be awarded each year to a student, junior or senior, in the Department of Music, and with the further understanding that the principal and income, either or both, may be used as a loan fund in the Department of Music.

Lambda Alpha Psi prizes are offered by Lambda Alpha Psi, the honorary language society, in order to encourage independent work in languages and literature. There are two annual prizes of \$50 and \$25 given for the best essays in the field.

Undergraduate Scholarship in Philosophy.—A group of individuals who desire to remain anonymous has given \$90 to the University to use for an undergraduate scholarship in philosophy for the year 1936-37 or the following year. The award is made upon the basis of excellence in philosophical studies and academic rank generally. The award is to be made to a senior to be recommended by the Department of Philosophy.

William Jennings Bryan Prize of \$25 is awarded annually to the undergraduate who writes the best essay upon some topic in political science. The essay, limited to ten thousand words, must be handed in duplicate to the chairman of the Department of Political Science before April 15.

TECHNOLOGY

Alpha Alpha Gamma Prize in Architecture of \$15 in books is an annual prize provided by the Alpha Alpha Gamma sorority, to be awarded to the author of the design placing first in a designated competition consisting of one of the regular long problems in the sophomore course in design in the School of Architecture.

Alpha Chi Sigma Prize in Chemistry is an annual prize of books to the value of \$10 offered by the Twin City Alumni Association of Alpha Chi Sigma fraternity to that male sophomore in the School of Chemistry having the highest scholastic average at the end of the winter quarter.

Alpha Rho Chi Medal in Architecture was established by the national architectural fraternity, Alpha Rho Chi, as an annual award of a medal to be given to that graduating senior in the School of Architecture, who is selected by the faculty as having shown an ability for leadership, performed willing service for his school and department, and who gives promise of real professional merit through his attitude and personality.

American Institute of Architects' Medal is awarded annually to the senior in each of the leading architectural colleges of the United States who has the highest scholastic standing throughout his course.

American Society of Civil Engineers, Northwestern Section, offers two annual prizes of \$28 and \$18 on the basis of scholarship, to seniors who are members of the student chapter.

American Society of Mechanical Engineers, Twin City Section, offers annually three prizes aggregating \$75 to seniors in mechanical engineering who are members of the student branch of the society on the basis of technical papers presented in one of the regular senior courses. The prize is offered by the Twin City Section of the American Society of Mechanical Engineers.

Architecture faculty prizes.—The faculty of the School of Architecture awards annual prizes of books to the value of \$35 and \$15, respectively, to the students attaining the first and second highest general averages in the sophomore year of the courses in architecture and architectural engineering.

Chi Epsilon Prize in Civil Engineering.—The Minnesota Chapter of Chi Epsilon, honorary civil engineering fraternity, provides an annual prize consisting of a civil engineer's handbook or its equivalent to the regular sophomore in civil engineering who has the highest scholastic average for the first five quarters of his course in the Institute of Technology.

Eta Kappa Nu Prize in Electrical Engineering.—The Omicron Chapter of Eta Kappa Nu, honorary electrical engineering fraternity awards an annual prize consisting of an electrical engineering handbook or its equivalent to the regular sophomore in electrical engineering who has maintained the highest scholastic standing during his first five quarters in residence in the Institute of Technology.

Faculty Prize in the School of Chemistry is awarded annually by the faculty of the School of Chemistry to the senior who, while registered in the School of Chemistry, has attained the highest scholastic average in the work of the sophomore and junior years and the first two quarters of the senior year. It consists of scientific books or journals to the value of \$25.

Gargoyle Club prizes in Architecture consist of two annual prizes of \$25 in books, for a special design competition in the School of Architecture.

Magney and Tusler Prize in Architecture.—The Magney and Tusler Company of Minneapolis, on July 21, 1920, established two prizes of \$20 and \$10, respectively, to be awarded annually for the best drawings on a designated subject submitted by a junior or senior in the School of Architecture.

Minnesota Chapter, American Institute of Architects contributes annually two prizes of books to the value of \$50 and \$25 to the students attaining the two highest general averages in the work of the junior year of the course in architecture.

Northern States Power Company prizes in Interior Architecture consist of two prizes of \$25 and \$15, respectively, to be awarded each year to students in interior architecture for the best solutions of problems involving special concealed or built-in lighting features.

Phi Lambda Upsilon Prize in Chemistry is an annual prize of \$15 offered to that male sophomore student registered in the School of Chemistry or specializing in agricultural biochemistry, who shall have the highest scholastic standing up to the beginning of the spring quarter.

Pi Tau Sigma Prize in Mechanical Engineering.—The Minnesota Gamma Chapter of Pi Tau Sigma, honorary mechanical engineering fraternity, presents each year a mechanical engineer's handbook to the regular sophomore in mechanical engineering who earned the highest scholastic average in his class during his first five quarters in residence in the Institute of Technology.

Scarab Medal in Architecture is a silver medal offered annually by the Scarab fraternity to the student winning first place in a designated design competition in the regular work of the junior year in the course in architecture.

School of Architecture Alumni Medal.—A gift of \$174.05 was received from

an alumni organization in architecture on October 20, 1936. This money is to be used for the cost of a medal for an annual award on the basis of excellence in architectural design.

Tau Beta Pi Prize is awarded annually by the Minnesota Chapter of Tau Beta Pi. The prize consists of a medal and a handbook and is given to a freshman in the Institute of Technology on the basis of high scholarship and merit.

3. LOAN FUNDS

A. GENERAL

Anna R. Goldberg Loan Fund, Mothers and Wives Club, Sigma Alpha Mu, established as a loan fund for students of Sigma Alpha Mu, a Jewish fraternity. If at any time there is a balance unused and uncalled for, it may be used for other Jewish students.

Argosy Club Loan Fund, gift of \$225 from the Argosy Club of Minneapolis. Both the interest and the principal may be used for loan purposes.

Child Psychology Study Circle Loan Fund, St. Paul, gift of \$200 from the Child Psychology Study Circle of St. Paul, all of which is to be used for loans to students from St. Paul, preference to be given to students majoring in child psychology.

Class of 1901 Loan Fund, gift for the establishment of a loan fund for worthy students.

Class of 1902 Loan Fund, gift for the establishment of a loan fund for worthy students, preferably those in the junior and senior classes.

Cosmopolitan Club Loan Fund, gift from the Cosmopolitan Club of the University to be loaned to foreign students at the University, residing outside the territorial limits of the United States.

Dad's Day Loan Fund, established through the generosity and interest in the University of Minnesota on the part of the dads attending the annual Dad's Day dinners. Money was collected and donated to the University to be used as a loan fund for needy students.

First National Bank of St. Paul Loan Fund, to be used as a loan for needy students.

General Student Loan Fund consists of small contributions from alumni who have been benefited in their student days and have taken this means of building up a loan fund to show their appreciation.

Gilfillan Trust Fund, established by Judge John B. Gilfillan of Minneapolis. The annual income from this fund of \$50,000 is available as a loan to worthy students of the University who are residents of Minnesota.

Israel W. Crosley Bequest, established to help individuals in obtaining an education in the higher institutions of learning and especially in the University, preference to be given at all times to needy young men and women of African descent.

John Lind Loan Fund, established by John Lind. The income is to be used for loans to deserving crippled students.

Julia Hess Loan Fund, gift received from the St. Paul Section of the National Council of Jewish Women for the establishment of a loan fund, the principal and interest to be used for loans to undergraduate Jewish students.

Ludden Estate Loan Fund, established by the will of the late John D. Ludden of St. Paul. The annual income from this fund of approximately \$15,000 is available for loans to any student of the University of Minnesota.

Ludden Real Estate Loan Fund, derived from real estate willed to the University by the late John D. Ludden of St. Paul. An annual income is available for loans to any student of the University of Minnesota.

Minnesota Book Store Emergency Loan.—A gift of \$200 was accepted by the Board of Regents on November 11, 1936, to be used for small short-time loans to students who are ineligible for loans from the general loan funds.

Minnesota Book Store Student Loan Fund, gift of \$200 from the Minnesota Book Store for a loan fund to be handled and administered under the general rules governing loans to worthy students.

Minnesota Union Loan Fund, gift from the Minnesota Union of \$1,000, all of which is to be used for loans to undergraduate men students of the University and such graduate men students as may have taken their undergraduate work in the University.

Special Student Fund.—Upon recommendation of the Senate Committee on Intercollegiate Athletics, \$20,000 was appropriated from athletic funds, to be used as loans to graduate and undergraduate students.

Staff and Employees Extension Student Loan Fund.—\$2,500 received as result of salary deductions made from salaries paid from other than state funds, all of which may be used for loans to students in the General Extension Division. There may be loaned in any academic year to any student not to exceed \$25 a semester, or \$50 for the year. Loans will be made upon recommendation of the director of the General Extension Division.

Staff and Employees Loan Fund.—\$10,000 received as result of salary deductions made from salaries paid from other than state funds, all of which may be used for loans to employees and staff members. These loans will be limited to \$200, for emergency purposes only, and upon recommendation of the department head, dean or administrative officer, and the comptroller.

Staff and Employees Student Loan Fund.—\$15,000 received as result of salary deductions made from salaries paid from other than state funds, all of which may be used for loans to undergraduate and graduate college students.

Students' Student Loan Fund consists of gifts from various classes, student organizations, and friends of the University to be used as a loan fund for worthy and needy students.

William Arthur Lawhead Scholarship Loan Fund, income from a gift of \$2,000 from the estate of Lillian Lawhead Rinderer for a loan fund for needy students.

B. FOR WOMEN STUDENTS

Unless indicated otherwise, applications should be made to the dean of women before May 1.

Bertha Weiskopf Loan Fund.—A gift of \$250 available for loans to Jewish students only. Applications made through the office of the dean of student affairs.

Daughters of the American Revolution Loan Scholarship.—A loan of \$800 has been made available to the women students. Interest is at the rate of 4 per cent, beginning at the time of the student's leaving school. The applications are passed on by a committee from the state organization, juniors and seniors being given preference.

Edward M. and Effie R. Johnson Foundation Loan Fund for Girls, a gift from this foundation, the income from which is used as a loan fund for girls.

Eighth Ward Women's Christian Temperance Union Loan Fund.—The money is to be repaid by the borrowers within two years after graduation.

Faculty Women's Club Loan Fund was established by Mrs. George Edgar Vincent and is periodically increased by contributions from the Faculty Women's Club. Small loans from this fund are available for women students of high scholarship and fine character. Applications may be made at any time.

Jessie M. Ladd Loan Fund was established by the Minneapolis Alumnae Club to be used for assisting women students. It is to be used as an emergency loan fund for short time loans to women students.

Minneapolis College Women's Club Loan Fund was established as an emergency loan fund for short time loans to women students.

Minneapolis Colony of New England Women Loan Scholarship of \$100 is available annually for a woman student of New England birth or ancestry, who is a member of the junior or senior class. Applications should be accompanied by testimonials.

Minneapolis Pathfinders' Club Loan Fund was established as an emergency loan fund for short time loans to women students.

Minnesota Federation of Women's Clubs loan scholarships consist of three loan scholarships which provide money to be loaned to young women who are residents of Minnesota, the sum borrowed not to exceed \$250. Application should be made to club headquarters in the Curtis Hotel. These loan scholarships are as follows:

1. The Lydia Phillips Williams Memorial Scholarship, to be loaned to a woman student in any department of any college of the state.
2. The Professor Maria Sanford Scholarship, to be loaned to a woman student in some college of the University of Minnesota.
3. The Annabelle Collins Coe Scholarship, to be loaned to a woman student at the University of Minnesota or in any college of the state.

Panhellenic Loan Fund was established by the Panhellenic Council to be used as a loan fund for women of the University of Minnesota. Loans will be in the following order of preference: (1) upper class women who are members of Panhellenic fraternities; (2) upper class women of the University. Application may be made to the scholarship chairman of Panhellenic Council.

Professional Sorority Council Loan Fund is to be used for loans to needy women students, preference given to senior girls. An advisory committee consisting of one member from each sorority together with a faculty adviser recommends the candidates for the loan.

St. Paul Alumnae Loan Fund was established by the alumnae of St. Paul as an emergency loan fund for short time loans to women students.

Twin City Panhellenic Loan Fund, gift of \$50 from the Twin City Panhellenic group, which is to be loaned to women students.

Women's Self-Government Association Loan Fund.—The Women's Self-Government Association of the University has placed in the hands of the dean of women the sum of \$500 to be used as a part of the regular loan fund for women students. Applications may be made at any time.

C. DEPARTMENTAL LOAN FUNDS

AGRICULTURE, FORESTRY, AND HOME ECONOMICS

Agricultural Faculty Women's Club loan funds.—One for the use of undergraduate and graduate students in the home economics course, and one for the use of all undergraduate students in the College of Agriculture, Forestry, and Home Economics.

Caleb Dorr Loan Fund, open to students in the College of Agriculture, Forestry, and Home Economics. The amount is variable.

Dr. Nellie Welch Nelson Home Economics Student Loan Fund consists of gifts from the Fourth District of the Minnesota Federation of Women's Clubs. The principal and interest are available for loans to girls in the Division of Home Economics.

Dorothy M. Winter Memorial Fund of \$500 is to be used as a revolving loan fund in the College of Agriculture, Forestry, and Home Economics for the benefit of daughters or sisters of World War veterans, pursuing work in home economics, or any other course within that college leading to a degree from the College of Agriculture, Forestry, and Home Economics.

Gopher 4-H Club Loan Fund was established in June, 1933, and is available to any 4-H Club member in the University.

Home Economics Self-Government Association Loan Fund of \$250 is available for small emergency loans to women in the Division of Home Economics whose character and scholarship recommend them for assistance. Applications may be made to the dean of women at any time.

Juniata Shepperd Loan Fund of \$208.74, the principal and income to be used for loans to women students needing financial aid in the School and College of Agriculture and to graduates in the Division of Home Economics.

Mary Dwight Akers Loan Fund for Forestry Students was established by Emily Speechley Whitacre, of St. Paul, Minnesota, in "recognition of the interest and work of the Fourth District, Minnesota Federation of Women's Clubs, in conservation and reforestation, and especially of the effective work of Mrs. C. N. Akers, chairman of the Outdoor Life Committee of that organization, and with a hearty appreciation of the work which the students and faculty of the Forestry Department of the University of Minnesota are doing in the cause of forestry and conservation," and "to assist worthy and needy students in the study of Forestry and establish a permanent memorial to the great work of the Outdoor Life Committee, Fourth District, Minnesota Federation of Women's Clubs."

Minnesota Home Economics Association Loan Fund is available to students in Home Economics.

Phi Upsilon Omicron Loan Fund consists of a gift of \$500 from the Alumnae Association of Phi Upsilon Omicron to be used as a loan fund, available to home economics students, either graduate or undergraduate.

Pullman Company scholarship loans are awarded to institutions on the basis of prizes taken by stock at the International Show held annually in Chicago. The scholarship loans are awarded to students in the form of loans, which are repaid to the Pullman Company. For information consult the head of the Division of Animal and Poultry Husbandry.

St. Anthony Park Women's Association Loan Fund for needy women students in the College of Agriculture, Forestry, and Home Economics.

St. Paul Housewives League Loan Fund was established in 1931 as a loan fund for worthy students in the College of Agriculture, Forestry, and Home Economics.

Twin City Nurserymen's Loan Fund for the use of students in horticulture in the College of Agriculture, Forestry, and Home Economics.

BUSINESS ADMINISTRATION

American Banker's Association Loan Scholarship.—The American Banker's Association has allocated two loan scholarships of \$250 each to the University

of Minnesota. These are available to students majoring in banking and finance. Applications are made to a committee on which there is representation from the Banker's Association.

F. D. Lindquist Loan Fund is available as a loan to students in the School of Business Administration in need of financial assistance.

Minneapolis Women's Advertising Club Scholarship-Loan Fund is a gift from the Minneapolis Women's Advertising Club and the Business Women's Club of the University of Minnesota. It is available for senior women students in the School of Business Administration. These loans are awarded in the spring of the junior year to cover expense of the senior year.

Wayne E. Butterbaugh Scholarship Memorial Loan Fund consists of contributions from various individuals and organizations. It is available to students who have indicated a special interest in the field of traffic management.

DENTISTRY

Delta Sigma Delta Loan Fund to assist eligible and deserving dental students, preference being given to the needs of members of Delta Sigma Delta dental fraternity.

Minneapolis District Dental Society, Women's Auxiliary, Loan Fund to assist needy and worthy students who are registered in the School of Dentistry and who are American citizens and residents of Minnesota.

LAW

Law Alumni Loan Fund is provided by the alumni of the Law School for loans to law students. Loans may not exceed \$200 in one year. Preference is given to students on the Editorial Board of the *Minnesota Law Review*. Application may be made to the dean of the Law School. Notes are noninterest bearing the first two years.

MEDICINE

Ramsey County Medical Auxiliary Loan Fund is available for needy and worthy students in the Medical School.

Women's Auxiliary of the Hennepin County Medical Society Loan Fund is available for medical students.

NURSING

Minnesota League of Nursing Education Loan Fund.—A gift of \$500 was accepted by the Board of Regents on September 29, 1936, to make available loans to qualified members of the Minnesota Nurses' Association who have had one year of successful nursing experience.

Minnesota State Organization for Public Health Nursing Loan Fund is available for loan fund purposes for deserving and needy students in Public Health Nursing.

Richard Olding Beard Loan Fund has been made available through the endowment fund raised by the alumnae of the school. This fund may be used as a loan to qualified alumnae for further academic study. The recipient must have had one year of successful nursing experience following graduation.

PHARMACY

Women's Auxiliary of the Minneapolis Association of Retail Druggists Loan Fund, gift of \$100, all of which is to be used for loans to students in the College of Pharmacy.

SCIENCE, LITERATURE, AND THE ARTS

Delta Phi Delta Loan Fund of \$100 for students whose major subject is art.
Minnesota Grand Army of the Republic and Women's Relief Corps Scholarship and Loan Fund, established by the Department of Minnesota Women's Relief Corps, Auxiliary to the Grand Army of the Republic, for a \$100 scholarship and loan fund for a student in the College of Science, Literature, and the Arts, preference to be given to a descendant of a member of the Grand Army of the Republic.

TECHNOLOGY

The du Pont Fellowship in Chemistry.—A gift of \$750 from the E. I. du Pont de Nemours and Company was accepted by the Board of Regents on March 6, 1936, to provide for a fellowship for research work in the field of chemistry. For the year 1937-38 the recipient will be exempt from laboratory fees but will pay tuition.

Engineers Book Store Loan Fund primarily for the use of students in the Institute of Technology.

The Engineers' Club of Minneapolis Loan Fund was established in 1936 for the use of students in the Institute of Technology. Application should be made to Mr. Arthur Mellen, secretary, Minneapolis Engineers' Club.

The Elliot Trust Fund annual income from \$5,000, established by the will of the late Mrs. Mary H. Elliot, is loaned without interest to students in the School of Mines and Metallurgy. The financial needs of the applicant, his scholarship, moral character, enthusiasm shown in his work, and promise of usefulness in the profession will be taken into consideration. Application may be made to the administrative assistant of the School of Mines and Metallurgy.

Max Toltz Loan Fund in Engineering.—A gift of \$86.78 from the late Major Max Toltz of St. Paul with the indication that Mrs. Toltz will add to this fund in the future. The loans from this fund will be limited to students in the College of Engineering and Architecture.

D. SELF-SUPPORT

The University maintains an Employment Bureau for the purpose of helping both men and women students who seek work, and of developing in all proper ways opportunities for self-help. This bureau co-operates with the vocational guidance department. Each tries to help students balance both jobs for support and time for classes and study, so that neither education nor work will suffer.

The University, itself, offers a certain amount of opportunity for employment in its several instructional and service departments.

To those who are without support of any kind it may be said that many students, with the aid of the money saved from summer employment, are making all of their college expenses. A few are able to make their expenses during the college year, but this can be done only by students of unusual force and adaptability, or with exceptional opportunities. The majority of self-supporting students must meet stern competition; must live economically; must guard their health while preserving a fair balance between time given to studies and to outside work.

It is not a good policy to begin life in a new community entirely without resources. In addition to tuition fees, prospective students should have at least \$150 or the equivalent; and then it will be necessary for them to live very economically.

While it must be remembered that there are always more applicants than positions, the Twin Cities, nevertheless, offer many opportunities to the self-

supporting student. Students are employed as clerks, stenographers, bookkeepers, cashiers, store clerks, drug store clerks, salesmen, solicitors, telephone and telegraph operators, teachers, tutors, mechanics, musicians, waitresses and waiters, domestic workers, laborers, janitors, and in many other capacities, some of which are highly specialized. However, a student, especially one who is new and unacquainted, may not be able to place himself or get the work he would like best at first.

While every effort is made to secure work for all who need it, the positions that come to the bureau cannot be assigned in the order in which the applications are made. The places open are so varied that it would be impossible to assign them in order, without regard to the ability and qualifications of different applicants. The employer must be given the best person for his particular job. Fitness must be the first consideration.

Applicants should also know that during the opening week of school there are many hundred students who apply to the Employment Bureau for work. It is manifestly impossible to place all of these students as soon as they apply and some students have to wait for days or weeks before they can secure work. The amount of work available varies with employment conditions.

It is usually not advisable for a student to make a sacrifice to come to the city before the opening of the school year in the hope that he can get a position before the other students arrive because much of the work for self-supporting students is created by the presence of the other students on the campus. Therefore, until the other students are here there are very few part-time jobs available.

Those who find themselves without funds at the beginning of the college year can register in some of the evening extension classes and seek employment during the day rather than run the risk of not being able to finance themselves while carrying regular university work. By choosing extension courses for which university credit is allowed, students can make their future university work much easier and give themselves more time for outside work.

The correspondence study courses offered by the General Extension Division are open to all. Students who can meet the usual requirements for college entrance are allowed university credit for most of these courses.

The University Employment Bureau is not equipped to find full-time employment for extension and correspondence study students.

B. FOR GRADUATE STUDENTS

Applications for these fellowships must be made on or before March 1. Blank applications may be obtained from the dean of the Graduate School. Information may be secured from the dean of the college or head of the department in which the fellowship is located.

1. SCHOLARSHIPS OR FELLOWSHIPS

A. GENERAL

Administration fellowships.—The Board of Regents has established four graduate fellowships, one in the office of the comptroller, one in the office of the registrar, one in the office of the dean of women, and one in the office of the dean of student affairs. Each of these fellowships will require one half of the time of the student, one half of his time being given to such other work as may be deemed advisable. The fellowships will cover a period of two academic years, or eighteen continuous months. They carry a stipend of \$1,200 for the two years, \$600 a year. The appointments will be made by the president on the recommenda-

tion of the comptroller, the registrar, the dean of women, and the dean of student affairs, respectively.

Fellowships and assistantships.—The following fellowships and assistantships are open to graduates of any acceptable college or university. They carry stipends ranging from \$225 to \$900 in the Graduate School. Applications may be made through the dean of the Graduate School on or before March 1.

Agriculture and Home Economics	30 assistants
Botany	1 teaching assistant
Chemistry and Chemical Engineering	10 assistants
Economics	42 teaching assistants
Education	6 assistants
Engineering, Electrical	10 assistants
Engineering Experiment Station	3 teaching fellows
English	6 research fellows
Geology and Mineralogy	10 assistants
German	4 assistants
History	4 teaching assistants
Mathematics	8 teaching assistants
*Medicine and Surgery	2 teaching assistants
(1) Medical School	2 assistants
(2) Mayo Foundation	36 teaching fellows
(3) Minneapolis General Hospital	4 assistants
Physics	5 scholarships
Political Science	222 fellows
Psychology	12 fellows
Scandinavian	12 teaching assistants
Sociology	1 teaching assistant
Zoology	3 assistants
	13 teaching assistants
	1 assistant
	1 teaching assistant
	4 assistants
	1 medical social work fellow
	13 teaching assistants
	2 assistants

* Special requirements. Address inquiries to the dean of the Graduate School.

B. FOR WOMEN STUDENTS

Clara Ueland Fellowship consists of the income from \$11,191.67 which is awarded annually to a recent woman graduate of an acceptable college of the University for graduate study of problems of government and citizenship. Recipient is exempt from tuition fees. At the present time the fellowship is \$500 for the academic year.

Minneapolis College Women's Club Scholarship is a biennial scholarship from the Minneapolis College Women's Club available to a graduate woman student. Exemption from tuition shall be at the discretion of the Board of Regents. It is available for 1938-39 and alternate years thereafter.

C. DEPARTMENTAL SCHOLARSHIPS AND FELLOWSHIPS AGRICULTURE, FORESTRY, AND HOME ECONOMICS

American Creosoting Company Research Fellowship was founded by the American Creosoting Company in 1931. Established for the purpose of conducting an investigation to determine the laws governing the movement of liquids in wood

and effects of moisture change upon the wood substance. At least half time required in service. Stipend, \$900 a year. Applications should be filed by May 1 with the Division of Forestry.

American Dry Milk Fellowship was established by the Victor Chemical Works of Chicago to make a study of the properties of wheat flour doughs and yeast leavened bread prepared from such doughs to which varying amounts of dry skim milk have been added.

Caleb Dorr research fellowships were founded by a bequest of the late Caleb Dorr. Their purpose is the encouragement of research in any field of agriculture. No services are required. Whole time during the academic year (9 months) must be given to graduate work. Fellowship amounts to \$500. Awarded on the basis of scholarship and prospect and promise of productive research. There are two such fellowships maintained at the present time.

The Firestone Fellowship.—Established by the Firestone Plantations Company, Akron, Ohio, for the purpose of conducting experiments relating to the propagation, protection, and collection of plantation rubber. At least half time required in service. Stipend, \$900 a year. The investigator is selected by the University of Minnesota on the recommendation of the Division of Plant Pathology and Botany.

Shevlin Fellowship in Agriculture of \$500 is open to graduates of any acceptable college or university.

CHEMISTRY

Dow Chemical Company Fellowship.—A gift of \$300 was accepted by the Board of Regents on September 29, 1936, for the salary of a research fellow for a period of six months beginning August 1, 1936, to study the insecticidal value of methyl bromide.

Shevlin Fellowship in Chemistry of \$500 open to graduates of any acceptable college or university.

EDUCATION

Coffman Educational Research Foundation Scholarship of \$100 offered to a graduate of the College of Education in encouragement of graduate work in education. Application should be made to the dean of the College of Education not later than April 15. The money becomes available at the time the winning candidate is pursuing graduate work, a period of three years being allowed in which advantage of the award may be taken.

MEDICINE

Frank E. Burch Fellowship in Ophthalmology for a period of three years—\$750 first year, \$900 second year, \$1,000 third year. It does not carry exemption from tuition or incidental fees.

Medical Social Work Fund is a gift from the Minnesota District of the American Association of Hospital Social Workers for the assistance of graduate students of medical social work.

Miller Hospital Fellowship.—A gift of \$825 was approved by the Board of Regents on March 6, 1936, to provide for a fellowship in the Miller Hospital.

Minneapolis General Hospital fellowships consist of thirteen fellowships, four in medicine, five in surgery, two in pediatrics, and two in ophthalmology and otolaryngology, and nine instructors.

Shevlin Fellowship in Medicine of \$500 open to graduates of any acceptable college or university.

NURSING

Marion L. Vannier Scholarship of \$100 given annually by the Nurses' Self-Government Association of the University of Minnesota to a graduate of the School of Nursing. The scholarship is to be used for the purpose of higher education only, within two years after recipient's graduation.

PHARMACY

Fairchild Scholarship of \$500 is awarded to that graduate of any of the colleges holding membership in the American Association of Colleges of Pharmacy who has had two years of drug store experience, is a high school graduate, and who passes the best competitive examination to be conducted by, or under the auspices of, a committee made up of members appointed jointly by the American Pharmaceutical Association, the American Association of Colleges of Pharmacy, and the National Association of Boards of Pharmacy and who will use the \$500 for graduate work in pharmacy. Full particulars may be had from the dean of the college.

Minnesota State Pharmaceutical Association Graduate Fellowship of \$500 to foster advanced work and research in the scientific and practical fields of pharmacy and related arts and sciences and to provide opportunities for graduate work toward higher degrees in pharmacy is available to sufficiently qualified graduates of the College of Pharmacy of the University of Minnesota. The appointment is made by the faculty of the College of Pharmacy.

PUBLIC ADMINISTRATION

Pre-service fellowships in public administration.—A limited number of these fellowships, with a stipend of \$650 plus tuition and fees, is offered by the University of Minnesota each year to graduates of recognized universities and colleges who wish to prepare themselves for administrative positions in government service.

In-service fellowships in public administration.—A limited number of these fellowships, with stipends varying from \$1,000 to \$1,500, without exemption from tuition and fees, is offered by the University of Minnesota each year to graduates of recognized universities and colleges who have had not less than three years of experience in government service, and who wish to further prepare themselves for positions of administrative responsibility.

Application blanks and additional information concerning these fellowships may be secured from the secretary of the Committee on Training for Public Administration, 13 University Library.

SCIENCE, LITERATURE, AND THE ARTS

Albert Howard Scholarship of \$240 is awarded to graduates of the College of Science, Literature, and the Arts of the University of Minnesota.

Charles Peter Sigerfoos Fellowship Fund in Zoology consists of gifts of varying amounts from students, friends, and colleagues of Dr. Charles Peter Sigerfoos, all of which are invested and the principal of which is to be kept intact. The income from the investment will be used to provide one or more annual fellowships for graduate students in Zoology at the University of Minnesota to enable them to forward their studies primarily by a period of work at marine or tropical laboratories.

Fellowship for Graduate Students in Social Work of \$150 a quarter, with exemption from tuition, is open to graduate students who are majoring in social work.

Shevlin Fellowship in Science, Literature, and the Arts of \$500 is open to graduates of any acceptable college or university.

2. PRIZES

DEPARTMENTAL PRIZE

SCIENCE, LITERATURE, AND THE ARTS

Class of '89 Memorial Prize in History (see page 13).

3. LOAN FUNDS

A. GENERAL

Lambda Alpha Psi Graduate Loan Fund of \$500 from the honorary language society of Lambda Alpha Psi for the establishment of a loan fund for needy graduate students. Applicants must have completed successfully one quarter's work in the Graduate School of the University of Minnesota. "Successfully" is to be interpreted as meaning an average of B for all work and A in 50 per cent of the major work. Application should be made through the dean of student affairs.

B. FOR WOMEN STUDENTS

Phi Upsilon Omicron Loan Fund (see page 18).

C. DEPARTMENTAL LOAN FUNDS

AGRICULTURE, FORESTRY, AND HOME ECONOMICS

See pages 17-18.

EDUCATION

Pi Lambda Theta Loan Fund from the Epsilon Chapter of Pi Lambda Theta for graduate women in education.

ANNOUNCEMENT BULLETIN
UNIVERSITY OF MINNESOTA

SIXTEENTH ANNUAL

HORTICULTURAL SHORT COURSE



March 23, 24, and 25, 1937

UNIVERSITY FARM, ST. PAUL

Vol. XL

No. 22

March 8, 1937

Entered at the post office in Minneapolis as second-class matter, Minneapolis, Minnesota. Accepted for mailing at special rate of postage provided for in section 1103, Act of October 3, 1917, authorized July 12, 1918.

The 1937 Short Course in Horticulture

The Horticultural Short Course offered at University Farm this year is arranged as a group of five rather distinct meetings, each dealing with a special phase of horticulture. The general subjects of these meetings are as follows:

Tuesday, March 23, morning and afternoon, Vegetable Growing.

Wednesday, March 24, morning and afternoon, Fruit Growing.

Wednesday, March 24, afternoon, Flower Growers' Conference.

Wednesday, March 24, evening, Moving pictures and illustrated lecture.

Thursday, March 25, morning and afternoon, Ornamental Horticulture.

All of these meetings are open to the general public, with *no fees charged*.

The speakers are recognized as authorities on the subjects they are to discuss. Attention is directed particularly to the following lecturers who are coming from neighboring universities:

Dr. R. H. Roberts, Department of Horticulture, University of Wisconsin, is widely known for his studies of the various factors which influence the nutrition and growth of plants; also studies of winter injury.

Prof. E. C. Volz, Department of Horticulture, in charge Section of Floriculture, Iowa State Agricultural College, is author of the book "Home Flower Growing" and is actively engaged in research in flower growing in both greenhouse and garden.

Mr. John B. Wingert, Extension Specialist in Floriculture, Iowa State Agricultural College, has had five years' experience in commercial production of roses. His lecture on the growing of this fascinating flower will be packed with interest and information.

Note: Unless they are otherwise identified, all speakers listed in this program are staff members of the University Department of Agriculture.

HORTICULTURAL SHORT COURSE

Tuesday, March 23, 1937

VEGETABLE GROWING

Room 102, Horticultural Building

- 9:30 Conference on disease and insect control
Control of some major insect pests, A. G. RUGGLES
Plant disease control, seed treatment, and soil sterilization, J. G. LEACH
Vegetable varieties resistant to certain diseases, T. M. CURRENCE
- 11:15 Cultural and environmental effects upon the growth of vegetables and other plants, R. H. ROBERTS, University of Wisconsin
- 12:00 Luncheon meeting, Party Dining Room, Cafeteria
Discussion of policies regarding introduction of horticultural plants originated at the Minnesota Agricultural Experiment Station
- 1:30 Green manures and fertilizers, G. H. NESOM
- 2:15 Results of adding peat to vegetable test plots, A. E. HUTCHINS
- 2:45 The effect of some tillage practices, F. A. KRANTZ
- 3:15 Moving pictures, Seed production and improvement

Wednesday, March 24, 1937

FRUIT GROWING

Room 102, Horticultural Building

- 9:30 Repairing damage from winter injury, W. G. BRIERLEY
- 10:00 Latest developments in codling moth control, A. C. HOBSON
- 10:30 Important small fruit diseases, C. J. EIDE
- 11:00 Relation of fruiting habits to orchard culture, R. H. ROBERTS, University of Wisconsin
- 12:00 Luncheon
- 1:00 Contest—Identification of dormant branches of fruits. Prizes awarded to five highest scores. ERNEST ANGELO in charge.
- 1:40 Comments and suggestions regarding means of identifying specimens in the contest, L. E. LONGLEY
Awarding of prizes
- 2:00 Trends in national fruit production and their bearing upon apple growing in Minnesota, W. H. ALDERMAN
- 2:30 Production and market prospects for the 1937 berry crop, E. C. HARALSON, manager of Excelsior Fruit Growers' Association
- 3:00 Opportunities for orchardists to participate in the Soil Conservation Program, F. J. BROWN
- 3:30 Cost and efficiency of irrigation equipment, J. D. WINTER

Wednesday—Continued

FLOWERS GROWERS' CONFERENCE

Room 8, Horticultural Building

- 1:15 Joint meeting arranged by the Minnesota Gladiolus Society, the Minnesota Dahlia Society, and the Minnesota Peony and Iris Society

MINNESOTA PEONY AND IRIS SOCIETY

T. E. Carpenter, President

Peonies in the garden, MISS MYRTLE GENTRY, editor for Minnesota Peony and Iris Society
Iris for the home garden, JAMES WILKUS, nurseryman, St. Paul

MINNESOTA DAHLIA SOCIETY

Norman A. Borgen, President

Background of dahlia culture, H. W. BARNES, director, Minnesota Dahlia Society
Symposium on dahlia culture, uses, varieties, etc.

MINNESOTA GLADIOLUS SOCIETY

Louis R. Fischer, President

Gladiolus culture, LOUIS R. FISCHER

GENERAL HORTICULTURAL MEETING

Auditorium, Administration Building

- 7:30 Moving pictures—The mysteries of plant growth, pollination, reproduction, and behavior as seen under the microscope and recorded by modern motion picture photography
- 8:15 Growing garden roses (illustrated), JOHN B. WINGERT, Iowa State Agricultural College

Thursday, March 25, 1937

ORNAMENTAL HORTICULTURE

Auditorium, Administration Building

- 9:30 Bulbs for the indoor and outdoor garden (illustrated), L. E. LONGLEY
- 10:30 Flowers for fragrance, MRS. H. B. TILLOTSON, secretary, Peony and Iris Society
- 11:00 Roses for Minnesota gardens, R. S. WILCOX, Webb Publishing Co., St. Paul
- 11:30 Heat-resistant garden flowers, E. C. VOLZ, Iowa State College
- 12:00 Luncheon
- 1:15 Identification of garden plants. Prizes given for the ten highest scores
- 1:45 Special methods of plant propagation, L. SANDO
- 2:45 New flowers for the amateur, MRS. WM. WHITEFORD, president, Minnesota Garden Flower Society
- 3:15 Annuals and perennials for cut flowers (illustrated), E. C. VOLZ, Iowa State College