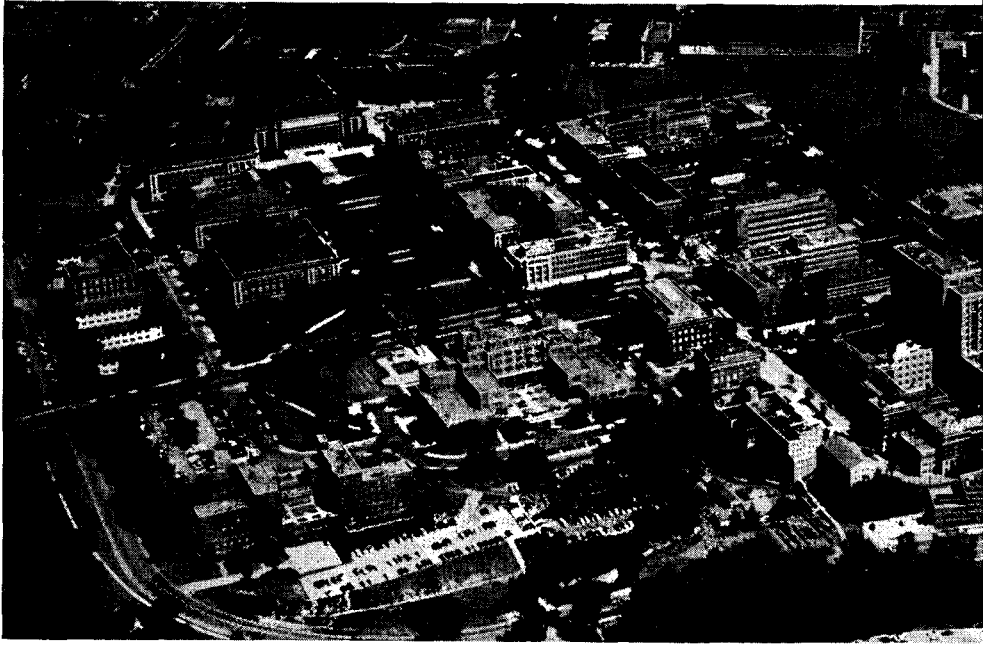


Bulletin of the

UNIVERSITY OF MINNESOTA



Evening and Special Classes

Twin Cities Area, 1955-1956

General Extension Division

UNIVERSITY OF MINNESOTA

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GENERAL EXTENSION DIVISION OFFICES

University Campus: Southeast entrance, Nicholson Hall, University of Minnesota, Minneapolis 14, Lincoln 8791 (after Dec. 1, 1955, Federal 8-8791)

Minneapolis: 690 Northwestern Bank Building, Marquette Avenue and Sixth Street South, Minneapolis 2, Main 0624 (after Dec. 1, 1955, Federal 2-0624)

St. Paul: Second floor, 555 Wabasha Street, St. Paul 1, Capital 2-6175.

Duluth: 110 New Garrick Building, 128 West First Street, Duluth 2, Randolph 2-1745

TWIN CITIES OFFICE HOURS

All Twin Cities offices are open Monday through Friday from 8:00 a.m. to 5:00 p.m., and closed Saturday. The Campus office is open Monday through Thursday until 8:15 p.m., except during the Christmas and summer recesses. Special hours are in effect at all offices during semester registration periods (see Calendar).

GENERAL EXTENSION DEPARTMENT HEADS AND DIRECTORS

Audio-Visual Extension Service, Erwin C. Welke, 230 Northrop Memorial Auditorium
Center for Continuation Study, Fred E. Berger, Center for Continuation Study
Building

Correspondence Study, F. Lloyd Hansen, 251 Nicholson Hall

Evening and Special Classes, Huntington Miller, 54 Nicholson Hall

Municipal Reference Bureau, Clarence C. Ludwig, 15 Library Building

Radio Station KUOM, Burton Paulu, 1 Eddy Hall

State Organization Service, William C. Rogers, 104 Third Temporary, South of Mines

University Program Service, James S. Lombard, 229 Northrop Memorial Auditorium

CALENDAR

1955

September 12	Monday	Fall quarter and semester registration begins. (All offices open Monday through Friday until 8:15 p.m., Saturday from 9:00 a.m. to 1:00 p.m.)
September 24	Saturday	Registration closes, all fees due.
September 26	Monday	Fall quarter and semester classes begin; special fee for late registration in effect. (All offices resume regular hours, listed above.)
November 24	Thursday	Thanksgiving day; holiday.
December 17	Saturday	Fall quarter closes; Christmas recess begins for all classes.
December 19	Monday	Winter quarter registration begins. (No special office hours in effect.)

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January 2	Monday	(Sunday, January 1, New Year's Day); holiday.
January 3	Tuesday	Christmas recess closes; registration closes, all fees due; winter quarter classes begin; fall semester classes resume.
January 4	Wednesday	Special fee for late registration in effect.
January 30	Monday	Spring semester registration begins. (All offices open Monday through Friday until 8:15 p.m., Saturday from 9:00 a.m. to 1:00 p.m.)
February 4	Saturday	Fall semester closes; semester recess begins for semester classes <i>only</i> .
February 11	Saturday	Registration closes, all fees due.
February 13	Monday	Semester recess closes; spring semester classes begin; special fee for late registration in effect. (All offices resume regular hours, listed above.)
February 22	Wednesday	Washington's Birthday; holiday.
March 12	Monday	Spring quarter registration begins. (No special office hours in effect.)
March 17	Saturday	Winter quarter closes; spring recess begins for quarter classes <i>only</i> .
March 26	Monday	Spring recess closes; registration closes, all fees due; spring quarter classes begin.
March 27	Tuesday	Special fee for late registration in effect.
May 30	Wednesday	Memorial Day; holiday.
June 9	Saturday	Spring quarter and semester close; summer recess begins.

Classes meet on all holidays not designated in the calendar, unless instructor advises to the contrary. Opening and closing dates for classes on other than semester or quarter basis are indicated below description of each class. Registration should be made during the two weeks preceding the opening of such classes. See page 16 for registration regulations.

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EVENING AND SPECIAL CLASSES

Twin Cities Area

(An index will be found on pages 102 and 103.)

I. Information

This bulletin is organized in two major sections. In the first section will be general information, registration regulations, special information for veterans, and special services for all evening class students. The second section or main body of the bulletin lists the course offerings under seven headings: Agriculture, Arts and Sciences, Business Administration, Education, Engineering, Aeronautics, Recreation. Faculties, index, and maps will be found at the back of the bulletin.

GENERAL INFORMATION

Admission Requirements

There are no entrance or residence requirements for admission into the General Extension Division. The University of Minnesota's evening classes are open to anyone who can handle them successfully. For registration in specific classes there may be prerequisite courses or experience. See Prerequisites, page 13. Service veterans may register under Public Laws 16, 346, 550, and 894. See Special Information for Veterans, page 18.

University Degree Programs

It is possible through evening classes (sometimes in combination with correspondence study) to meet all of the requirements for the following regular University undergraduate degrees:

Degree programs open to beginning students, i.e., students who have had no previous college-level work, include the associate in liberal arts (A.L.A.), the bachelor of arts (B.A.), the bachelor of science in economics (B.S. in Econ.), and the bachelor of business administration (B.B.A.). See below.

Degree programs requiring previous college-level work include the bachelor of business administration (B.B.A.). This degree requires 90 credits of work in the College of Science, Literature, and the Arts, or the Institute of Agriculture, or the Institute of Technology before admission to the business administration curriculum. It is possible to complete all of the prebusiness requirements for the B.B.A. in evening classes by taking the curriculum offered by the College of Science, Literature, and the Arts through evening classes.

In addition to the above degrees, which may be taken in their entirety through the General Extension Division, courses are offered in other programs as well, approaching total requirements in varying measure in the professional and preprofessional areas: dentistry, education, engineering, law, medicine, nursing, pharmacy, etc. The major portion of the requirements for the master

of science in engineering degree (Plan A) may be earned through evening classes. For further information concerning this program, consult the Office of the Assistant Dean. (See box on page 82.) (See also Graduate paragraph under Credits, page 13.)

A student who wishes to become a candidate for a University degree must meet the admission requirements of the University and the entrance and degree requirements of the college in which the degree is sought. The Extension Committee on Student Scholastic Standing will assist the student to determine his status with regard to these requirements and will provide him with the forms necessary to initiate admission action. As soon as a student has decided that he wishes to pursue a degree program, he should apply to an evening class adviser for procedure to follow. The student will be expected, with such adviser's assistance, to arrange an interview, *during the daytime hours*, with an adviser in the college of the University where the degree is sought.

Bulletins of the various colleges are available in 100 Administration Building or 57 Nicholson Hall.

Extension Certificate Programs

The General Extension Division awards certificates for the satisfactory completion of approved programs of study. The work may be done in evening classes, correspondence study courses (see page 15), or both. Day school or Summer Session credits from the University of Minnesota are approved where applicable. A student may also transfer credits from other accredited institutions provided a minimum of 25 per cent of the credits required for the certificate is earned at the University of Minnesota. For advice or information on programs of study leading to certificates, including *transfer of credits*, consult the Committee on Student Scholastic Standing.

Certificates are awarded to students who complete with a C average any of the following programs of study, upon the application of the student and the recommendation of the Committee on Student Scholastic Standing. In any of the certificate programs, the "core requirement" must be fulfilled by all applicants. These courses need not, however, be taken in order, except as prerequisites make it necessary.

Students expecting to receive certificates at the conclusion of any evening class term must so notify the Committee on Student Scholastic Standing on a Certificate Application form available from any Extension office at the *beginning* of such term. Ninety-credit certificates are awarded at regular University commencement exercises three times during the academic year. All certificates are dated as of a University commencement date.

Liberal Arts Certificate

English requirement (9 credits):

Comp. 4-5-6 or Comm. 1a-2a-3a or exemption

Spread requirement (18 credits): at least 6 credits in each of the following fields:

Humanities: English composition (beyond Comp. 4-5-6) or literature, fine arts, foreign languages, humanities, philosophy, speech

Sciences: astronomy, botany, chemistry, geology, mathematics, physics, psychology, zoology

Social Sciences: anthropology, economics, geography, history, political science, sociology

Concentration requirement: at least 12 credits in one subject, or in approved related liberal arts subjects, in addition to the credits earned in that subject under the spread and English requirements above.

Electives: additional liberal arts courses approved by the Committee on Student Scholastic Standing to make a minimum of 45 credits for the certificate.

Public Administration Certificate

Core requirement:

- Pol. 1-2, American Government and Politics
- Pol. 60, Introduction to Public Administration
- Pol. 62, Public Personnel Administration
- Pol. 63, Public Financial Administration

Spread requirement: at least 15 credits in the following courses:

- Pol. 58, Governmental Accounting
- Pol. 61, Municipal Law and Administration
- Pol. 64, Employee Training Techniques
- Pol. 66, Problems in Public Administration
- Pol. 67, Administrative Analysis
- Pol. 68, Administrative Communication
- Pol. 69, Problems of Tax Administration
- Pol. 73, City and County Planning
- Pol. 76, Business and Government
- Pol. 77, Administrative Regulation
- Jour. 78, Public Relations
- Econ. 5, Elements of Statistics

Concentration requirement: at least 15 credits in one of the following fields** or in any approved combination thereof to make a minimum of 45 credits for the certificate:

- | | |
|-----------------------|----------------------------|
| Accounting | Political Science |
| Child Welfare | Psychology |
| Economics and Finance | Recreation |
| Engineering | Social Work |
| Industrial Relations | Sociology |
| Insurance | Traffic and Transportation |
| Nursing Education | |

Secretarial Certificate

The Secretarial Certificate is awarded to those who, in addition to the necessary skills and experience in typewriting and shorthand, have completed a selection of courses appropriate to a background in business administration, such as needed for qualifying for Certified Professional Secretary examinations. Candidates for the certificate must take a test in transcription under the supervision of the secretarial faculty in the School of Business Administration.

Core requirement:

- Review of Business English and Business Correspondence; or Comp. 58, Business Reports and Letters
- Econ. 6-7, Principles of Economics
- Econ. 24-25, Principles of Accounting
- Econ. 36, Office Procedures
- Econ. 40-41, Secretarial Procedures
- B.A. 51, 53, Business Law
- ††B.A. 86, Survey of Office Management
- Psy. 1-2, General Psychology

** Other subject matter fields are not necessarily excluded, but may be approved upon petition to the Committee on Student Scholastic Standing.

†† Offered by correspondence study.

Electives: additional courses selected from the following or other approved courses to make a minimum of 45 credits.

Communication in Management
 Econ. 3, Elements of Money and Banking
 Econ. 5, Elements of Statistics
 Econ. 26, Principles of Accounting
 Econ. 50, Insurance Principles
 B.A. 52, 56, Business Law

Business Administration Certificates

Junior Certificate

Core requirement:

Review of Business English or Business Correspondence or Comp. 4 or Comm. 1a or exemption
 Econ. 5, Elements of Statistics
 Econ. 6-7, Principles of Economics
 Econ. 24-25-26, Principles of Accounting
 B.A. 51, Business Law

Spread requirement (9 credits): at least one 3-credit course in three of the following five fields, in addition to credits earned under core requirement:

1. Industrial Management
2. Distribution: Advertising, Marketing and Merchandising, Traffic and Transportation
3. Economics and Finance
4. Industrial Relations
5. Business Law

Concentration requirement: at least 9 credits in one of the following fields, in addition to credits earned under core and spread requirements:

Accounting	Insurance
Advertising	Marketing and Merchandising
Economics and Finance	Real Estate
Industrial Management	Traffic and Transportation
Industrial Relations	

Electives: additional courses approved by the Committee on Student Scholastic Standing to make a minimum of 45 credits for the certificate.

Senior Certificate

Core requirement:

Business English (6 credits) or Comp. 4-5-6 or Comm. 1a-2a-3a or exemption
 Econ. 3, Elements of Money and Banking
 Econ. 5, Elements of Statistics
 Econ. 6-7, Principles of Economics
 Econ. 24-25-26, Principles of Accounting
 B.A. 51, Business Law

Spread requirement: at least 12 credits from the following courses:

B.A. 52 or 53, Business Law (not both)
 B.A. 58, Elements of Public Finance
 B.A. 71, Transportation: Services and Charges I
 Econ. 73, Manpower Economics and Labor Problems
 Econ. 75, Corporation Finance
 B.A. 77, Survey in Marketing
 Econ. 80-81, Intermediate Economic Analysis
 Econ. 85, Government Regulation of Business
 B.A. 86, Survey of Office Management
 or
 B.A. 89, Production Management

Concentration requirement: at least 18 additional credits in one or two of the following fields, in addition to credits earned under core and spread requirement:

Accounting	Insurance
Advertising	Marketing and Merchandising
Economics and Finance	Real Estate
Industrial Management	Traffic and Transportation
Industrial Relations	

Electives: additional courses approved by the Committee on Student Scholastic Standing to make a minimum of 90 credits for the certificate. Some courses in the liberal arts fields are recommended as electives.

Industrial Relations Certificate

Core requirement:

Econ. 6-7, Principles of Economics
 Econ. 73, Manpower Economics and Labor Problems
 Econ. 162, Labor Movements
 Econ. 164, Labor Legislation: Collective Bargaining
 B.A. 167, Introduction to Industrial Relations
 Survey of Current Problems in Industrial Relations
 Psy. 1-2, General Psychology
 Psy. 4-5, Introductory Laboratory Psychology
 Psy. 122-123, Vocational and Personnel Psychology

Electives: additional courses selected from the following or other approved courses to make a minimum of 45 credits.

Econ. 166, Settlement of Industrial Disputes
 Econ. 169, Labor Legislation: Economic Security
 **B.A. 86, Survey of Office Management
 B.A. 89, Production Management
 B.A. 180D, Senior Topics in Industrial Relations
 Psy. 119, Psychology of Personality
 Psy. 125-126, Psychology of Individual Differences
 Psy. 144-145, Abnormal Psychology
 Soc. 120, Social Psychology
 Soc. 146, Industrial and Occupational Sociology
 Supervision I
 Supervision II
 Supervision III
 Elements of Work Simplification
 Work Measurement and Production Standards
 Industrial Plant Layout
 Problems of Union Administration
 Personnel Methods
 Human Relations in Industry
 Manpower Development I, II

Special requirement: to qualify for the certificate award, upon completion of the core and elective requirements, a student must pass an Industrial Relations Classification and Placement Test administered by the Industrial Relations Center.

General Engineering Certificates

Junior Certificate

Core requirement:

Review of Business English or Engineering Engl. 85 or Comp. 4 or Comm. 1a
 I.T.M. 11, College Algebra and Trigonometry I
 I.T.M. 12, College Algebra and Trigonometry II

** Offered by correspondence study

I.T.M. 13, Analytic Geometry
 I.T.M. 24, Calculus I: Differential
 I.T.M. 25, Calculus II: Integral
 Draw. 1-2, Engineering Drawing

Electives: additional courses from engineering or the physical sciences approved by the Committee on Student Scholastic Standing to make a minimum of 45 credits for the certificate.

Senior Certificate

Core requirement:

Review of Business English and Business Correspondence; or Engineering Engl. 85-86
 or Comp. 4-5-6 or Comm. 1a-2a-3a or exemption
 I.T.M. 11, College Algebra and Trigonometry I
 I.T.M. 12, College Algebra and Trigonometry II
 I.T.M. 13, Analytic Geometry
 I.T.M. 24, Calculus I: Differential
 I.T.M. 25, Calculus II: Integral
 M.&M. 26, Engineering Statics
 M.&M. 127, Engineering Dynamics
 or
 M.&M. 128, Engineering Solid Mechanics
 Draw. 1-2, Engineering Drawing

Concentration requirement: at least 30 additional credits in one of the following fields, or approved combination thereof:

Aeronautical Engineering	Electrical Engineering
Agricultural Engineering	Mathematics
Chemical Engineering	Mechanical Engineering
Chemistry	Mining Engineering
Civil Engineering	Physics

Electives: additional courses approved by the Committee on Student Scholastic Standing to make a minimum of 90 credits for the certificate. Courses in liberal arts and business administration are recommended.

Industrial Engineering Certificates

Junior Certificate

Core requirement:

Review of Business English or Engineering Engl. 85 or Comp. 4 or Comm. 1a
 I.T.M. 11, College Algebra and Trigonometry I
 I.T.M. 12, College Algebra and Trigonometry II
 Draw. 1-2, Engineering Drawing
 Machine Tool Operation I
 Econ. 6-7, Principles of Economics
 Elements of Industrial Engineering and Management
 or
 B.A. 89, Production Management
 Elements of Work Simplification
 Work Measurement and Production Standards

Electives: additional courses to be selected from the list of requirements or recommended electives for the senior certificate to make a minimum of 45 credits for the certificate.

Senior Certificate

Core requirement:

Review of Business English and Business Correspondence; or Engineering Engl. 85-86
 or Comp. 4-5-6 or Comm. 1a-2a-3a or exemption
 I.T.M. 11, College Algebra and Trigonometry I
 I.T.M. 12, College Algebra and Trigonometry II

I.T.M. 13, Analytic Geometry
 Draw. 1-2, Engineering Drawing
 Draw. 3, Descriptive Geometry
 Machine Tool Operation I
 Econ. 5, Elements of Statistics or Basic Industrial Statistics I
 Econ. 6-7, Principles of Economics
 Econ. 73, Manpower Economics and Labor Problems
 Elements of Industrial Engineering and Management
 or
 B.A. 89, Production Management
 B.A. 167, Introduction to Industrial Relations
 Production Planning and Control
 Elements of Work Simplification
 Work Measurement and Production Standards
 Industrial Plant Layout
 Elements of Quality Control
 Manufacturing Cost Analysis or approved substitute

Electives: additional courses approved by the Committee on Student Scholastic Standing to make a minimum of 90 credits for the certificate. The following courses are recommended:

Psy. 1-2, General Psychology
 Soc. 146, Industrial and Occupational Sociology
 B.A. 133, Standard Cost Accounting
 Draw. 52, Alignment Charts
 Supervision I, II, III
 Industrial Safety and Hygiene
 Advanced Work Simplification
 Advanced Topics in Quality Control
 Methods-Time Measurement
 Beginning Practical Speech Making
 Basic Salesmanship
 Motion Picture Photography

Credits

Validity—The credits listed in the class description are quarter credits, notwithstanding the fact that most regular evening class terms are organized as semesters rather than as quarters. Unless these credits are called Extension credits, they are understood to be valid toward a degree in the college under which the class concerned is organized; Extension credits count only toward Extension certificates, not toward degrees. Note that classes in certain subjects carry less University credit in evening classes than do the corresponding day school classes owing to the limited number of class hours and extent of course content of the evening class (e.g., Econ. 6-7 carries 6 credits in Extension against 10 credits in the College of Science, Literature, and the Arts and the School of Business Administration). The successful completion of these subjects in Extension, however, does meet the prerequisite requirements of advanced subjects in both Extension and day school.

Transfer—Credits may sometimes be transferred from one college to another, or from another accredited institution to this University, but requests for such transfer are always ruled on individually and according to their merits; consult the Committee on Student Scholastic Standing of the General Extension Division.

Established by Special Examination—A student who, by independent study or by experience, has gained knowledge which is equivalent to that covered by a particular evening class may establish credit for such class by passing a special examination on the subject matter covered by the class. The fee for such special examination is \$5. In the same way, a student may establish credit

for work done at an unaccredited institution. Arrangements for special examinations are made through the Committee on Student Scholastic Standing.

Residence—Credits earned in undergraduate evening classes in Minneapolis, St. Paul, and Duluth are “residence” credits.

3. Graduate—A graduate student may, upon the approval of his graduate adviser, petition the dean of the Graduate School to have transferred to his graduate record not more than 6 quarter credits under Plan A or 9 quarter credits under Plan B in courses numbered 100 and above offered by the Extension Division of the University of Minnesota in the Twin Cities and Duluth areas, and taught by regularly approved members of the graduate faculty (for this information, consult the chairman of the Committee on Student Scholastic Standing). Petition to transfer is limited to credits earned in evening classes since September, 1943. Such transfer of credits will not give graduate residence credit. (See box on page 82 for information on advanced engineering degree.)

For special adjustments which are possible regarding graduate credit in the School of Social Work, consult the School of Social Work.

Prerequisites

Prerequisites are stated for information, not as obstacles. Some advanced evening classes are of such a nature that they cannot be carried through without certain previous study. Prerequisites, therefore, are listed for these classes. It is necessary that those students taking classes for University credit meet any prerequisite listed. A prerequisite may not usually be taken for credit after the advanced course has been satisfactorily completed. Students who have had a reasonable equivalent of study, training, or experience related to the course desired may be exempted from prerequisites upon consultation with the instructor at or before the first class session. If you are in doubt as to your qualifications for a course, you should consult the class instructor or an evening classes adviser before registering. If this is not possible, we recommend that you register anyway, to avoid payment of late registration fee, and consult the instructor at the first class session. If the instructor decides that you are not qualified, or that the course does not meet your needs, a note from him to this effect, submitted with your notice of cancellation (see Cancellations and Refunds, page 17) will bring you a full refund or you may transfer to another class.

See paragraph on Admission Requirements on page 17 for special refund or transfer privileges in such cases.

Continuation Classes

Unless otherwise indicated (see, for instance, special notes under History and Art headings) units of classes which run for two semesters should be taken in sequence and the first unit of the course should be considered as prerequisite to the second unit even though the two units are listed together with “no prerequisite” indicated (see Fren. 1-2, or Machine Design I-II). Students who believe they have the equivalent of the first unit in work done elsewhere, or in practical experience, should consult the instructor either before registering or at the first class session to be sure they have the necessary background to qualify for the advanced unit.

The units of classes followed by the dagger symbol (†) must be taken in sequence and credit cannot be received for the first unit until the second is completed.

Grades

Passing grades—The grades A, B, C, and D indicate work of varying degree of merit, A being the highest, D being the lowest passing grade. Any of these enables the course credit to be counted toward a degree or Extension certificate, though in most curricula a C average must be maintained.

Failing grades—The grade F is given for work which in the opinion of the instructor does not deserve college credit. A grade of Z is given for failing work, when the student has canceled or dropped the course after mid-term.

Explanatory grades—Some symbols are used simply to describe the student's registration status without implying either success or failure. V indicates auditor. W means that the student officially canceled either prior to mid-term or after mid-term with a passing grade. Y indicates that a student, officially registered, either never attended, stopped attending before mid-term without canceling, or stopped attending after mid-term without canceling and was passing. A student expecting to apply evening class work to a degree program is warned that Y's may be changed to Z's upon transfer of credit to the degree record.

Temporary grade—I, meaning incomplete, is a temporary grade indicating that a student has a satisfactory record in work done but for reasons satisfactory to the instructor in charge was unable to complete the course in time. Incomplete work may be completed in any way the instructor directs and should have the student's earliest attention. If this is not done within a year, the I becomes a W. In such a case, a student may ask that the W be set aside and that he be permitted to make up the incomplete. If his request is approved by the Committee on Student Scholastic Standing, the special examination fee of \$5 is charged.

Reports of students' grades are sent them by the Extension clerk in the University Office of Admissions and Records and cannot be furnished by the Extension offices. Students are asked to allow a month's time from the close of a term for the record office to get grades to them. The assistant dean's office will check reports if necessary and will obtain transcripts of students' records upon request.

Honor Points

For Extension certificates honor points are used usually only to ascertain whether a student has the required C average; they are not used to reduce the number of credits required for a certificate except upon special action of the Committee on Student Scholastic Standing. Students in evening classes who are seeking degrees should consult the bulletin of the college in which the degree is sought regarding the status of honor points in that college.

Probation

Students taking classes for credit, *including all veteran students*, who consistently fail to maintain a C average, may be placed upon probation. This

means that their registrations and work loads come under the surveillance of the Committee on Student Scholastic Standing.

Auditors

A student who does not expect to do all the required work of a class may register as an *auditor* by writing "Aud." in the credit column of the registration form, or by asking his instructor to record him as an auditor not later than the *ninth* week of a semester class or the *sixth* week of a quarter class, provided he is doing passing work at the time of the request. Auditor's status carries no credit. One may not later take for credit a course which has been audited; exceptions to this ruling may be allowed upon consultation with an adviser in the college or school concerned. Auditors pay the same fee as other students. *No veteran* may audit any class under Public Laws 16, 346, 550, and 894. These regulations apply to all classes listed in this bulletin.

Committee on Student Scholastic Standing

There is a Scholastic Committee in each college and school of the University and in the General Extension Division. It is a committee of the faculty, chaired by an administrative officer. Its purpose is to interpret and enforce regulations and to make exception to those regulations when they may do an educational disservice to the student. An Extension student working on a degree program should consult the Scholastic Committee of the college from which he intends to get his degree. All other Extension students should bring their problems to the Extension Scholastic Committee, 54 Nicholson Hall.

Special Classes and Short Courses

In addition to the regularly scheduled classes found in this bulletin, the department offers a wide variety of special classes and short courses. They may be organized at any time of the year and may be of any duration.

The special classes are usually designed for a specific group of professional people who want certain educational information at a specific time and are not interested in credit. Short courses may be either semiprofessional in nature, or cultural—such as lecture series of general interest to the educated public. If you would like further information or wish to be put on a mailing list for the cultural short courses, please telephone the campus office of the division.

Correspondence Study Courses

A large selection of correspondence study courses is available. Much of the work required for Extension certificates and for some University degrees may be earned through correspondence study. Bulletins are available from any Extension office or from Director, Correspondence Study Department, 254 Nicholson Hall, University of Minnesota, Minneapolis 14.

REGISTRATION REGULATIONS AND FEES

The following regulations apply to veteran as well as nonveteran students, unless otherwise indicated. In addition, all service veterans should read the Special Information for Veterans section starting on page 18.

Registration dates, offices, and office hours are indicated on pages 3 and 4; registration may also be made by mail *except by veterans*. Registration forms will be sent to nonveterans upon request to any Extension office.

How to Use This Bulletin for Registering

The listing of each class in this bulletin should in most cases give you all the information you need for filling out your registration forms. Most classes appear under their appropriate department or subject heading; where several classifications are possible, cross references will usually be given. There is an index at the back of the bulletin for your convenience.

The first line or two of the listing gives the class number, if any, the title, the number of credits, and the tuition per term (semester, quarter, or special), plus special fees, if any. All arabic-numbered listings are University credit classes and are the same as those of corresponding day classes or have been approved for evening class use by the department concerned. Other classes are indicated as for "Extension credit"; any of these classes may be applicable toward an appropriate Extension certificate (see Extension Certificates, page 7). A few class listings are daggered (+), others are continuation classes; for special information concerning registration in these classes see paragraph on Continuation Classes (page 13).

The description of the course content follows. Such regulations as prerequisites, class size limitations, number of meetings, etc., will be found in the parenthetical statement following the course description. (See Prerequisites, page 13.)

The final items in the listing give the term in which it is to be offered, the day of the week and opening and closing times, the location, and the instructor, if assigned. Where there is more than one section additional schedules are given.

Classes listed in this bulletin may be canceled because of insufficient enrollment.

Classes not listed in this bulletin will, when possible, be organized on petition from a sufficient number of persons.

Registration Periods

All registrations should be made during the two weeks *preceding* the opening of a term (semester, quarter, or special). Registration will be permitted through the first two weeks of a semester and the first week of a quarter or special term, subject to certain regulations and fees as indicated. No registrations will be accepted thereafter without special permission of the instructor and the Committee on Student Scholastic Standing. Such registrations are accepted only in unusual circumstances and are usually not permitted.

Present or Former University Day-School Students

A student who is regularly registered for day class work in any unit of the University may register for Extension classes only with the permission of the college office where he is basically enrolled.

A student who has been dropped from any unit of the University or placed on probation may not register for Extension work without written permission from the dean or head of that unit.

Maximum Work Load

The maximum amount of Extension work, including both evening classes and correspondence study courses, to be carried by persons employed full time is 10 credit hours. Permission to exceed this maximum load must be received from the Committee on Student Scholastic Standing.

Limited Classes

Some evening classes are limited to a specific number of persons. Registration in all limited classes *must be made in person*.

Additions and Transfers

Classes may be added to an initial registration and transfers will be permitted without penalty through the first two weeks of a semester or the first week of a quarter. After that time, additions or transfers will be permitted only in unusual circumstances and upon presentation of a Special Registration Permit endorsed by the instructor of the class which the student wishes to enter *and* approved by the Committee on Student Scholastic Standing. A privilege fee of \$2 will be required (veterans included) to complete all additions or transfers made after the first two weeks into a semester class or after the first week into a quarter or special term class.

Fees

The full amount of the tuition and other special fees is payable at the time of registration. No arrangements for partial payment can be made. Checks or money orders must be drawn for the exact amount due and made payable to the University of Minnesota. The fee for each class is designated in the listing of the class in this bulletin. See Extension Student Loan Fund, page 22.

Late Registrations

All *initial* registrations received on or after the opening of a class term will be considered "late registrations" and will be subject to a privilege fee of \$2 through the first week of classes and \$3 thereafter. The time of registration by mail will be determined by the postmark. These special fees are not included in the privileges of Public Laws 16, 346, 550, and 894 and must be paid by the veteran personally. *There are no exceptions to payment of late fees.*

Cancellations and Refunds

Cancellation of registrations may be made in writing or in person at any Extension office. No cancellations will be accepted by telephone. *No instructor is authorized to accept cancellation of any registration.* The effective date of cancellation will be that on which the form is completed, regardless of the date of last attendance. No refunds will be approved unless a fee receipt is submitted with the cancellation.

Registration fee of \$3 for all registrations with a tuition fee of \$15 or more and of 20 per cent of the tuition fees when such tuition fees are less than \$15

will be retained by the General Extension Division unless a full refund of tuition is authorized as follows:

Full refunds of all fees collected will be made only when class offerings are canceled, or the hour, day, or location is changed by the General Extension Division; or when the student presents a *written statement* from his instructor stating that the student has not the necessary prerequisites, background, or interests to qualify for the course.

Pro-rata refunds of tuition, laboratory, material, and special instruction fees will be made as follows:

Semester classes—After the first and/or second class session, 80 per cent; third, 70 per cent; fourth, 60 per cent; fifth, 50 per cent; sixth, 40 per cent; seventh, 30 per cent; eighth, 20 per cent; after the ninth class session there will be no refund.

Quarter classes—After the first and/or second class session, 80 per cent; third, 70 per cent; fourth, 60 per cent; fifth, 50 per cent; sixth, 40 per cent; after the seventh class session there will be no refund.

Special term classes of 10 weeks or less—In accordance with the scale of refunds available for inspection at any General Extension Division office.

Veterans cannot cancel classes without permission of the Extension Veterans Office. Please refer to the Special Information for Veterans section.

SPECIAL INFORMATION FOR VETERANS

Regulations and information applicable to veteran enrollment and educational training is published below. In addition, all veterans are urged to familiarize themselves with the General Information and Registration Regulations and Fees sections of this bulletin. University regulations and procedures apply to both veteran and nonveteran students unless stated to the contrary.

World War II Veterans

Veterans Administration regulations state that all World War II veterans taking educational training under the G.I. Bill, Public Law 346, must be in continuous training during the regular school year (normal summer vacation periods excepted).

All veterans previously enrolled in spring 1955 evening classes must register for and complete at least one class during fall 1955 and spring 1956 or lose their educational benefits.

Educational benefits will be terminated for most World War II veterans on July 25, 1956. The only exceptions are those veterans who enlisted or reenlisted between the dates of October 6, 1945, and October 5, 1946. Educational benefits for these veterans will be terminated nine years from the end of their first period of enlistment or reenlistment.

The Veterans Office, 56 Nicholson Hall, Minneapolis Campus, Lincoln 8791, should be consulted on all problems related to Veterans Administration authorizations for educational training, transfers, interruptions, or cancellations, as well as Extension Division registration procedures. Extension veterans are warned that advice or information given by any other source may not satisfy Veterans Administration and University regulations which are peculiar to educational training requirements of the General Extension Division. Do not

hesitate to use the services of the Veterans Office, General Extension Division, whenever your educational training benefits are involved.

The United States Veterans Administration makes the regulations which govern the conditions under which veterans may be authorized to pursue educational or vocational training. The University of Minnesota accepts only those Extension registrations which, in the opinion of the Veterans Office, have been properly authorized by the United States Veterans Administration. However, because of differences in interpretation of the regulations and procedures affecting education and training entitlement, Extension registrations have occasionally been ruled invalid and reimbursement for the costs billed subsequently refused by the United States Veterans Administration. Therefore, in the event the United States Veterans Administration rules a veteran Extension registration invalid, the General Extension Division has no recourse other than to bill the veteran personally for such tuition, fee, book, supply, and equipment costs as may have been incurred.

Korean War Veterans

Public Law 550 states that the Korean veteran must actually commence the active pursuit of an approved program of education or training not later than his delimiting date. The delimiting date for a Korean veteran is the date three years after release from active military service. Public Law 550 further states that a program of education and training once initiated must be resumed within a period of twelve months from the expiration date of the last completed enrollment period even if this twelve-month period of suspension is partly before and partly after the veteran's delimiting date.

For all practical purposes the foregoing provisions of Public Law 550 mean that (1) a Korean veteran who has not yet initiated a program of education and training must do so during fall semester 1955 if his delimiting date falls on or before February 12, 1956; (2) a Korean veteran who has previously initiated a program of education and training must resume active pursuit of his program during fall semester 1955 if the expiration date of his last completed enrollment period was on February 4, 1955; or (3) a Korean veteran who was enrolled in a program of education and training during spring semester or quarter 1955 has the option of re-entering fall semester or quarter 1955 or of suspending his training for a period not to exceed twelve months from the date of completion of the last semester or quarter in which he was enrolled.

Registration

All registrations by Korean veterans must be made in person at the Veterans Office, 56 Nicholson Hall, Minneapolis Campus, Lincoln 8791.

It is urgent that registration be made during the normal two-week registration period prior to the opening date of the semester, quarter, or term involved. Late fees will not be refunded.

Application for Educational Training

A Korean veteran who has not applied previously for educational training under Public Law 550 is urged to use the facilities of the Veterans Office of the General Extension Division in completing his application for training (VA Form 7-1990) because (1) his Certificate for Education and Training

(VA Form 7-1993) must designate an educational, professional, or vocational objective or goal; (2) his registration will be accepted in only those evening classes which are in keeping with this objective or goal; and (3) only one change may be made in his objective or goal.

A Korean veteran who has applied previously for a Certificate for Education and Training (VA Form 7-1993) must present this certificate at the time of initial registration for evening classes or submit evidence that such application has been made.

A Certificate for Education and Training filed with the General Extension Division can be used by the veteran until his educational objective has been reached or his entitlement exhausted, provided he does not attend any other educational institution.

Educational Requirements

A Korean veteran must be a high school graduate or equivalent thereto and must furnish an official transcript of all college credits previously earned at the initial time of registration for evening classes. These materials will be included in a personal file. They will be returned upon request at termination of training in the General Extension Division, University of Minnesota. A non-high school graduate who is a mature person may be accepted provided a professional educational objective can be established.

Tuition and Fees

A Korean veteran must pay personally at the time of registration the full amount of the tuition and other special fees for evening classes. This money will be refunded to the veteran by the Veterans Administration if the enrollment is for less than ½-time work load. If the enrollment is for more than a ½-time work load an educational allowance will be paid to the veteran. (See following chart, also Monthly Certifications section.)

Books, Supplies, and Equipment

All books, supplies, and required equipment must be purchased personally by the Korean veteran at a bookstore of his own choosing. The Veterans Administration will not refund the cost of these materials.

Credit Work Load

The credit work load for which the Korean veteran is enrolled will determine the amount of money the Veterans Administration will pay for educational training. The Veterans Administration classifies all credit work loads in terms of quarter-length classes. Most evening classes are a semester in length. For this reason misinformation, confusion, and misunderstanding have resulted in determining the credit work load of the Korean veteran registered

	Semester Classes (Minimum Credits)	Quarter Classes (Minimum Credits)	Educational Allowance		
			Single	One De- pendent	Two De- pendents
Full Work Load	21	14	\$110	\$135	\$160
¾ Work Load	15	10	80	100	120
½ Work Load	10½	7	50	60	80

for evening classes. The preceding chart shows how payments are determined by the Veterans Administration.

When the credit work load is less than 10½ credits in semester length classes or 7 credits of quarter-length classes no educational allowance is paid the Korean veteran. However, he will be refunded the tuition and fees paid, or the fraction of a full load being carried times \$110, whichever is the lesser. (Few evening students are able to carry 10½ credits. Most Korean veterans, therefore, will not receive anything more than a refund from the Veterans Administration of the tuition and fees paid for their evening classes.)

Satisfactory Completion of Classes

A Korean veteran must complete all classes in which he is enrolled and maintain a minimum grade average of C. Any veteran who receives a grade of Y (see explanation of grades, General Information section) will have his registration in the class concerned canceled retroactively to the date of last attendance. If he has signed monthly certifications (VA Form 7-1996a) subsequent to that date without notifying the Veterans Office of the General Extension Division of his interruption of the class, he will be required to make reimbursement for such overpayment of tuition refund or educational allowance as may be determined by the Veterans Administration.

Monthly Certifications

All refunds of tuition and fees and/or payments of educational allowances are paid monthly by the Veterans Administration directly to the veteran. These payments are made on the basis of joint monthly certification made by the veteran and the Veterans Office of the General Extension Division. Any veteran who fails to sign such certifications for two consecutive months will have his registration terminated by the Veterans Administration. Full details regarding these certifications will be given at the time of registration.

A Korean veteran who drops out of any class, or fails to take the final examination in any class, must officially cancel his registration as of the date of last attendance and must indicate this date on the appropriate monthly certification (VA Form 7-1996a). Failure to do so may result in permanent termination of all educational benefits under Public Law 550. This rule does not apply to a Korean veteran who receives a grade of Incomplete.

Cancellations, Transfers, and Additions

Cancellation of any class, or transfer from or addition to an initial registration must be made in person on official forms at the Veterans Office, 56 Nicholson Hall. Such changes must be approved by the Veterans Office of the General Extension Division.

Counseling

The Veterans Office, 56 Nicholson Hall, Minneapolis Campus, Lincoln 8791, should be consulted on all problems related to Veterans Administration authorizations for educational training, transfers, interruptions, or cancellations, as well as Extension Division registration procedures. Extension veterans are warned that advice or information given by any other source may not satisfy Veterans Administration and University regulations which are peculiar to edu-

ational training requirements of the General Extension Division. Do not hesitate to use the services of the Veterans Office, General Extension Division, whenever your educational training benefits are involved.

SPECIAL SERVICES FOR STUDENTS

Program Advising and Personal Counseling

Members of the evening class staff are available at all offices *by appointment* throughout the year for general advisory services on the selection of classes, programs of study, certificate and degree requirements, etc. The Committee on Student Scholastic Standing in the campus office assists students in arranging programs of study leading to University degrees, and handles evaluations of transcripts for advanced standing, satisfaction of prerequisites, special examinations, and other academic matters. Appointments for the testing and counseling services of the University Student Counseling Bureau may also be arranged through the Committee on Student Scholastic Standing. The Counseling Bureau's fee for regularly enrolled evening students is \$4.

During the special registration periods before the fall and spring semesters, advisers will be on duty from 1:00 p.m. to 5:30 p.m. and from 6:30 p.m. to 8:15 p.m., Monday through Friday, and from 9:00 a.m. to 1:00 p.m. on Saturday in all Extension offices. Program advisers from the College of Science, Literature, and the Arts, the College of Education, the School of Business Administration, and the Institute of Technology will be scheduled at the campus office for specific evening and Saturday morning hours during these special registration periods. A student wishing to see such an adviser should telephone for information as to the schedule and *make an appointment*.

Extension Student Loan Fund

Extension students who are able to demonstrate that attendance at the University would be very difficult without financial assistance are eligible for loans limited to \$25 a term or \$50 for the year from the Staff and Employees Extension Student Loan Fund. Applications for loans must be made not later than *one week preceding* the beginning of the term in which the student desires to enroll. Inquiries concerning applications, eligibility, as well as attendant financial problems, may be made at any Extension office.

University Library

Evening students attending classes in Minneapolis or St. Paul are entitled to draw books from the University Library to be used in connection with their classes but are subject to all library regulations including those in regard to return upon demand and to fines on overdue books. These regulations and hours are set forth in the *Library Handbook*, copies of which may be had at the Library circulation desk.

Coffman Memorial Union

The facilities of the student union building are open to evening class students. The cafeteria on the ground floor is usually open in the evenings; hours are posted outside the door.

Convocations

University convocations are open to the public. They are usually held on Thursday mornings at 11:30 in Northrop Memorial Auditorium. The convocation schedule is printed in *The Interpreter*, quarterly publication of the General Extension Division sent to all evening class students.

University Theatre, Artists Course, and Special Lectures

Events of an educational and cultural nature are constantly being offered on the University campuses. Many of them are open to the student body and to the public without charge; for others there are admission charges. Schedules of many of these events appear in *The Interpreter*, sent to all evening students. For more detailed information, telephone the University and ask for the Theatre office, the Artists Course office, or the Department of Concerts and Lectures.

Minneapolis Symphony Orchestra

Special rates for season tickets to the regular concert season are available to students registered for at least 5 credits in evening classes.

Athletic Facilities and Season Tickets

Recreational activities for men and women are listed in this bulletin. In addition, certain recreational facilities of the University may be used by Extension students on terms available on request from the evening class department or the departments concerned: men and women may use the golf course, the ice-skating rink, and the tennis courts; men may use the gymnasium and swimming pool.

Any student enrolled for at least 5 credits of evening classes, with a minimum fee of \$30, may purchase one student athletic season ticket book at \$10. Married students may purchase a second book, for use by *spouse only*, at \$13. All ticket books are nontransferable. Books may be bought at the special student athletic ticket sale headquarters on campus the week before classes begin. The ticket sale schedule will be as follows:

9:00 a.m.-4:30 p.m.—Williams Arena Lobby

Wednesday, September 21

Monday, September 26

Tuesday, September 27

9:00 a.m.-9:00 p.m.—Williams Arena Lobby

Thursday, September 22

Friday, September 23

Ticket books will be issued in Cooke Hall Lobby on Thursday, September 29, from 9:00 a.m. to 4:30 p.m. Regulations governing purchase, transfer, and cancellation of these books are available on request to the Athletic Ticket office.

II. Course Offerings

AGRICULTURE

Students who travel by bus can reach the agriculture buildings on the St. Paul Campus by taking the intercampus buses that leave the Minneapolis Campus at 5:50 and 6:10 p.m.

Animal Husbandry (An.Hu.)

7. Principles of Livestock Production. 3 credits. \$18 plus \$2 laboratory fee.

An introduction to the livestock industry including the study of the basic principles involved in selection, feeding, breeding, management, and marketing of beef cattle, sheep, swine, and poultry. Practice in judging and evaluating breeding animals and the classification and grading of the various kinds of slaughter farm animals. (No prerequisite)

Fall Semester

T 7:00-8:40, Livestock Pavilion, St. Paul Campus, Jordan

10. Selection and Utilization of Meats. 3 credits. \$18 plus \$2 laboratory fee.

A course dealing with the major phases of meat and meat products which includes the sources, buying and selling, grading and classification, the identification, nutritive value, cutting, and cooking of meats. This course also deals with the preservation and storage of meats including the aging, curing, smoking, and freezing of meats. (No prerequisite)

Fall Semester

M 8:05-9:45, Meat Shop, St. Paul Campus, Aunan

Dairy Husbandry (Dy.Hu.)

12. Dairy Stock Feeding and Management. 3 credits. \$18.

Principles of nutrition applied to practical feeding. Study of feeds, rations, and feeding problems. Consideration of types of dairy barns and management problems. (No prerequisite)

Spring Semester

Th 6:20-8:00, Haecker 9, St. Paul Campus, Gullickson

Horticulture (Hort.)

10. Home Floriculture and Gardening. 3 credits. \$18.

A practical course in the science of house plant growing, propagation and care of plants; and special emphasis on autumn gardening activities; growing bulbs in the garden and in pots for the home in winter. Student projects in growing plants from cuttings; and growing and forcing bulbs for winter house plants. Although this course is especially designed for beginning gardeners, it is comprehensive enough to interest the advanced amateurs as well as professional gardeners. An opportunity for gardeners to participate actively in plant culture throughout the year. (No prerequisite)

Fall Semester

T 6:20-8:00, Horticulture 102, St. Paul Campus, Phillips

24. Home Landscaping Planning. 3 credits. \$18.

An opportunity for the home owner to learn the principles of planning the home grounds and how to apply them to his own problem of landscaping his home grounds. This course is also designed to meet the needs of the nurseryman, the landscape gardener, and the student who expects to make his living by landscaping. Anyone planning a new home will find this course especially helpful in accomplishing his ideal, which is a well-planned house and well-planned and planted grounds and gardens. (No prerequisite)

Fall Semester

Th 6:20-8:00, Horticulture 102, St. Paul Campus, Phillips

25. Home Landscape Planting and Construction. 3 credits. \$18.

More or less a continuation of the course in Home Landscape Planning; however, a beginning student may take this course without being handicapped. Special emphasis is placed upon the recognition and use of plant materials in securing artistic landscape compositions and the planning and planting of ornamental gardens; also construction of lawns, gardens, walks, walls, fences, terraces, pools, etc. An art course in landscaping and gardening presented in a practical way for the home owner, the landscape gardener, the student of art and nature.

Spring Semester

Th 6:20-8:00, Horticulture 102, St. Paul Campus, Phillips

51. Garden Flowers and Home Gardening. 3 credits. \$18.

A complete, practical course in home gardening for the experienced gardener as well as the beginner. All the practical horticultural aspects of plant growing and garden and home grounds care are covered in lecture, demonstrations, and illustrations; student projects in propagating plants in greenhouses, hot beds, and home facilities. Special emphasis on pruning, fertilizing; weed, insect, and disease control. Also a survey of all the plants recommended for Minnesota gardens and yards. (No prerequisite)

Spring Semester

T 6:20-8:00, Horticulture 102, St. Paul Campus, Phillips

Garden Soils. 3 Extension credits. \$18.

A practical course in the use and management of garden soils. It offers complete discussion of soil properties such as texture, structure, drainage, organic matter content, and fertility as they relate to management practices such as use of lime, tillage, fertilizer use, and erosion control. Soil and fertility requirements of many garden plants will be discussed. The course is designed so that the beginner can understand the material, and so that the experienced gardener will obtain information that will be helpful to him. Soil properties will be observed in the laboratory by the individual students. (No prerequisite)

Fall Quarter

M 7:00-9:30, Soils 204, Arneman

February 13-April 23

M 7:00-9:30, Soils 204, Arneman

ARTS AND SCIENCES**Anthropology (Anth.)****1A. Introduction to Anthropology: Prehistoric Man and Culture. 3 credits. \$18.**

The origins of man and the development of modern races. The growth of differentiation of the cultures of man from the Dawn Stone Age of early glacial times through the Old and New Stone Ages to the dawn of civilization in the Bronze and Iron Ages. (Formerly Anth. 2; students who have taken Anth. 2 may not receive credit for 1A; students who have taken Anth. 1 may continue with 1A. Anth. 2A will be offered in 1956-57. No prerequisite)

Fall Semester

W 8:05-9:45, Ford 160, Johnson

165. Culture and Personality. 3 credits. \$18.

A study of the role of culture in the formation of personality. Problems of individual adjustments to the demands of culture. The psychological approach to culture.

Spring Semester

W 8:05-9:45, Ford 160, Johnson

Art (Art)

All studio drawing and painting classes will meet for a 2½-hour period. Those who wish to receive University credit in these courses will be expected to do some work outside of class—consult instructor. Students may register for any unit number of these sequences in any semester, provided units are satisfactorily completed in the order listed or instructor's consent is obtained for registration in an advanced unit on the basis of background and ability. Advanced standing credit will be granted in special cases for work done elsewhere—consult chairman of Art Department.

1. Introduction to Art. 3 credits. \$18.

An illustrated lecture course designed to give the student an understanding of art, including painting, sculpture, architecture, and the industrial arts. This understanding is based on the study of the principles involved in their creation, and recognition of the place of art in its social setting. Particular emphasis will be given to original works of art in the Walker Art Center and the Minneapolis Institute of Arts. (No prerequisite. Ten weekly meetings)

Fall Quarter

T 7:30-9:45, Walker Art Center, Eitner

****20-21-22. First Year Drawing and Painting.** 2 credits each semester. \$18 plus \$2 laboratory fee.

Introduction to materials and techniques; still life, figures, and landscape. (No prerequisite. Each section limited to 30 students)

Fall Semester

T 7:00-9:30, Jones 200, Young

T 7:00-9:30, Walker Art Center, Anderson

Th 7:00-9:30, Jones 200, Young

Spring Semester

T 7:00-9:30, Jones 200, Young

T 7:00-9:30, Walker Art Center, Anderson

Th 7:00-9:30, Jones 200, Young

30-31-32. Commercial Drawing. 2 credits each semester. \$18 plus \$1 laboratory fee.

Elementary and advanced commercial art: design, lettering, layouts, posters in pen and ink, pencil, color, or other media. Solutions of practical problems stressed. Special attention to fashion drawing and design. (No prerequisite)

Fall Semester

M 7:00-9:30, Jones 104, Shobakken

Spring Semester

M 7:00-9:30, Jones 104, Shobakken

****45-94-95. Ceramics.** 2 credits each semester. \$18 plus \$5 laboratory fee.

Introduction to materials, forming methods, and production processes. Model making by hand and machine methods. Problems in product design, such as dinnerware. Experience in industrial methods of forming, such as slip casting, jiggering, and pressing. Fundamentals of pottery including handbuilding and wheel throwing. (No prerequisite. Class limited to 20 students)

Fall Semester

M 6:20-8:45, 2035 University Ave. S.E.,
MacKenzie

Spring Semester

M 6:20-8:45, 2035 University Ave. S.E.,
MacKenzie

** Registration must be made in person.

49-49A. General Crafts. 3 credits each semester. \$18 plus \$5 laboratory fee.

An introductory survey of particular craft techniques such as leather work, simple metal work, bowl making, and plaster construction. Problems of the course involve typical craft projects for each material. Emphasis is placed upon original design. (No prerequisite)

Fall Semester

T 7:00-9:30, 2035 University Ave. S.E., Gates

Spring Semester

T 7:00-9:30, 2035 University Ave. S.E., Gates

60-61-62. Second Year Drawing and Painting. 2 credits each semester. \$18 plus \$2 laboratory fee.

Still life and figure problems to be carried out in charcoal, chalk, water color, and oil. Study of problems related to drawing and painting through experiments designed to suit the needs and purposes of the individual student. (Prerequisite: First Year Drawing and Painting or equivalent with consent of instructor)

Fall Semester

W 7:00-9:30, Walker Art Center, Arnest

Spring Semester

W 7:00-9:30, Walker Art Center, Arnest

67. Great Masters of Modern Painting. 3 credits. \$18.

A survey of the main movements in Nineteenth Century art, from Romanticism to Neo-Impressionism, with stress on the work of Courbet, Manet, the Impressionist Painters of landscape, Renoir, Degas, Toulouse-Lautrec, and Cezanne. (Prerequisite: Art 1 or 50 or consent of instructor. Ten weekly meetings)

Note—Properly qualified students may register for graduate credit. Consult chairman of Art Department.

Spring Quarter

W 7:00-9:30, Walker Art Center, Eitner

83. Interior Design I. 3 credits. \$18 plus 50 cents laboratory fee.

A study of traditional and modern furniture used today and of how to combine various styles. Additional subjects include room composition, color, floor coverings, wall treatments, window treatments. Some general discussions of new ideas and materials in home building. Interesting optional field trips. Drawing not emphasized. Slides and practical demonstrations are used in the regular class procedure. (No prerequisite. Each section limited to 50 students, accepted in order of registration. Repeated spring semester)

Fall Semester

T 6:20-8:00, Nicholson 209, Lewis

W 6:20-8:00, Nicholson 209, Lewis

Th 8:05-9:45, Nicholson 209, Lewis

Spring Semester

T 6:20-8:00, Nicholson 209, Lewis

Th 6:20-8:00, Nicholson 209, Lewis

84. Interior Design II. 3 credits. \$18 plus 50 cents laboratory fee.

Trends in decorative fabrics and floor coverings including new fiber combinations in curtain, drapery, upholstery fabrics are studied. How to estimate is explained. Major accessories such as picture selection, ceramics, and use of metals in interiors are important. Planning room color schemes and window treatments are considered throughout the course. Talks by buyers from loop stores and an optional field trip add interest. (Prerequisite: Art 83)

Spring Semester

W 6:20-8:00, Nicholson 209, Lewis

T 8:05-9:45, Nicholson 209, Lewis

103. Seminar in Interior Design. 3 credits. \$18 plus 50 cents laboratory fee.

A further expansion of subjects studied in Art 83-84. Students will work on individual projects under supervision. (Prerequisite: Art 84. Class limited to 20 students. No auditors)

Fall Semester

T 8:05-9:45, Nicholson 209, Lewis

138. Twentieth-Century Art in the United States. 3 credits. \$18.

The Armory Show and development of modern realism, expressionism, and abstraction. Frank Lloyd Wright and modern American architecture. (Ten weekly meetings)

Note—Properly qualified students may register for graduate credit. Consult chairman of Art Department.

Spring Quarter

T 7:30-9:45, Walker Art Center, Torbert

148. Architecture of the Nineteenth and Twentieth Centuries. 3 credits. \$18.

This course will trace the stylistic developments of the nineteenth century through the use of examples chosen largely from Minneapolis and St. Paul; the development of modern architecture through the work of Sullivan, Wright, Gropius, Mies van der Rohe, le Corbusier and the architects they have influenced. (Prerequisite: Art 1 or consent of instructor. Ten weekly meetings)

Fall Quarter

T 7:30-9:45, Walker Art Center, Torbert

Note—Properly qualified students may register for graduate credit. Consult chairman of Art Department.

Contemporary Jewelry Design I-II-III. 3 Extension credits each semester. \$18 plus \$7.50 material fee.

Note—The material fee is used to cover supplies which are purchased by the Art Department at cost for the personal needs of each student.

In the development of contemporary jewelry, the student learns the basic processes of soldering, forming, forging, engraving, chasing, and repoussé. (Prerequisite: consent of instructor. Class limited to 20 students)

Fall Semester

W 6:20-8:45, Jones 11, Morton

Spring Semester

W 6:20-8:45, Jones 11, Morton

Art Education. See page 80.

Production Illustration. See page 84.

Gardening and Landscaping. See page 24.

Modern Home Planning. See page 44.

Photography. See page 50.

Engineering Drawing. See page 83.

Courses at Minneapolis School of Art

Registrations for University credit for these courses will be taken only at one of the Extension offices. Students may register for Part A or Part B in either semester.

15A-B. Lettering. 2 credits each semester. \$18.

The study and practice of free and constructed lettering. Special emphasis is placed upon the relationship of lettering to all other visual elements which make up a total composition or layout. (No prerequisite)

Fall Semester

Th 7:00-9:30, Mpls. School of Art 111, Pynn

Spring Semester

Th 7:00-9:30, Mpls. School of Art 111, Pynn

20A-B. Basic Drawing. 4 credits each semester. \$36.

Emphasis is placed on the basic principles of perspective drawing and composition. Some life drawing included. Wide variety of mediums used. (No prerequisite)

Fall Semester

MW 7:00-9:30, Mpls. School of Art 206,
Ratner
TTh 7:00-9:30, Mpls. School of Art 206,
Erickson

Spring Semester

MW 7:00-9:30, Mpls. School of Art 206,
Ratner
TTh 7:00-9:30, Mpls. School of Art 206,
Erickson

21A-B. Life Drawing. 2 credits each semester. \$18.

Drawing and composition from the nude figure. Special emphasis on surface anatomy and shape characteristics of the individual model. (No prerequisite)

Fall Semester

T 7:00-9:30, Mpls. School of Art 202, Havens
W 7:00-9:30, Mpls. School of Art 202, Havens

Spring Semester

T 7:00-9:30, Mpls. School of Art 202, Havens
W 7:00-9:30, Mpls. School of Art 202, Havens

22A-B. Still Life Painting. 2 or 4 credits each semester. \$18 or \$36.

An introductory class in oil painting designed to acquaint the student with the medium and its uses. Emphasis is placed upon craftsmanship and the basic principles of picture making. There are assigned problems in color harmony, tone relationship, and shape organization. (Prerequisite: Art 20A-B)

Fall Semester

M 7:00-9:30, Mpls. School of Art 201, Erickson
W 7:00-9:30, Mpls. School of Art 201, Erickson

Spring Semester

M 7:00-9:30, Mpls. School of Art 201, Erickson
W 7:00-9:30, Mpls. School of Art 201, Erickson

Note—Students may register for 2 or 4 credits. If enrolling for 2 credits, they may elect the evening of their choice; for 4 credits, classes meet two evenings a week.

50A-B. Painting II. 2 or 4 credits each semester. \$18 or \$36.

This class follows the Still Life Painting class. Work in oil composition with continued stress on tone relationship and shape organization. (Prerequisite: Art 22A-B)

Fall Semester

T 7:00-9:30, Mpls. School of Art 201, Bradley
Th 7:00-9:30, Mpls. School of Art 201, Bradley

Spring Semester

T 7:00-9:30, Mpls. School of Art 201, Bradley
Th 7:00-9:30, Mpls. School of Art 201, Bradley

60A-B. Watercolor Painting. 2 credits each semester. \$18.

A broadly designed class in watercolor painting covering a wide range of subject material. (Prerequisite: Art 20A-B or equivalent)

Fall Semester

M 7:00-9:30, Mpls. School of Art 205, Havens

Spring Semester

M 7:00-9:30, Mpls. School of Art 205, Havens

62A-B. Life Painting. 4 credits each semester. \$36.

An oil painting class designed to cause the student to see and use natural forms in pictorial organization. Form and form relationships are shown as they occur in the human figure. (Prerequisite: Art 21 and 22)

Fall Semester

MW 7:00-9:30, Mpls. School of Art 204, Quick

Spring Semester

MW 7:00-9:30, Mpls. School of Art 204, Quick

74A-B. Fashion Illustration. 2 credits each semester. \$18.

Specialized fashion illustrations in black and white from the costumed model. Class is designed for students wishing to enter newspaper and magazine fashion illustration fields. (Prerequisite: Art 21)

Fall Semester

T 7:00-9:30, Mpls. School of Art 105,
Newhouse

Spring Semester

T 7:00-9:30, Mpls. School of Art 105,
Newhouse

75A-B. Commercial Art. 2 credits each semester. \$18.

An introduction to the problems of the commercial art field. The organization and composition of visual elements as used in newspaper, magazine, poster, and brochure presentation are stressed. (Prerequisite: Art 20 or 21 and 15)

Fall Semester

Th 7:00-9:30, Mpls. School of Art 105, Tweton

Spring Semester

Th 7:00-9:30, Mpls. School of Art 105, Tweton

76A-B. Color. 2 credits each semester. \$18.

This class is designed to help each student investigate under direction the interactions of color. These experiences will be of great value in all visual art problems where color is involved. (No prerequisite)

Fall Semester

M 7:00-9:30, Mpls. School of Art 105, Kelly

Spring Semester

M 7:00-9:30, Mpls. School of Art 105, Kelly

Courses at St. Paul Art Gallery

Registrations will be taken only at one of the Extension offices. The facilities of the Gallery will be available to students in certain courses who wish to use them for unsupervised studio work. Consult St. Paul Gallery for arrangements.

20-21-22. First Year Drawing and Painting. 2 credits each semester. \$18 plus \$2 laboratory fee. **Studio workshop**—See note above.

Introduction to materials and techniques; still life, figures, and landscape. (No prerequisite)

Fall Semester

W 7:00-9:30, St. P. Gallery, Kramer

Studio workshop T 7:00-9:30, St. P. Gallery

Spring Semester

W 7:00-9:30, St. P. Gallery, Kramer

Studio workshop T 7:00-9:30, St. P. Gallery

33. Textile Design: Weaving. 2 credits. \$18 plus \$2 laboratory fee.

Basic course in weaving offering explorations in texture, color, and spacing and experience in all the processes involving the two-harness loom, including the designing and weaving of the finished fabric. (No prerequisite)

Fall Semester

T 7:00-9:30, St. P. Gallery, Kolb

Spring Semester

T 7:00-9:30, St. P. Gallery, Kolb

34. Textile Design: Weaving. 2 credits. \$18 plus \$2 laboratory fee.

Continuation of beginning course 33 into four-harness weaving including the designing and weaving of the finished fabric.

Fall Semester

T 7:00-9:30, St. P. Gallery, Kolb

Spring Semester

T 7:00-9:30, St. P. Gallery, Kolb

35. Textile Design: Weaving. 2 credits. \$18 plus \$2 laboratory fee.

Extension of course 34 with emphasis on the designing and weaving of four-harness overshot patterns. (Prerequisite: Art 34 or equivalent)

Fall Semester

T 7:00-9:30, St. P. Gallery, Kolb

Spring Semester

T 7:00-9:30, St. P. Gallery, Kolb

45-94-95. Ceramics. 2 credits each semester. \$18 plus \$5 laboratory fee. **Studio workshop**—See note on page 30.

Introduction to materials, forming methods, and production processes. Fundamentals of pottery including handbuilding, wheel throwing, decorative techniques in slip and glaze, glazing and firing. (No prerequisite)

Fall Semester

W 7:00-9:30, St. P. Gallery, Kolb
Th 7:00-9:30, St. P. Gallery, Kolb
Studio workshop T 7:00-9:30, St. P. Gallery

Spring Semester

W 7:00-9:30, St. P. Gallery, Kolb
Th 7:00-9:30, St. P. Gallery, Kolb
Studio workshop T 7:00-9:30, St. P. Gallery

60-61-62. Second Year Drawing and Painting. 2 credits each semester. \$18 plus \$2 laboratory fee. **Studio workshop**—See note on page 30.

Still life and figure problems to be carried out in charcoal, chalk, water color, and oil. Study of problems related to drawing and painting through experiments designed to suit the needs and purposes of the individual student. (Prerequisite: Art 20-21-22 or equivalent with consent of instructor)

Fall Semester

W 7:00-9:30, St. P. Gallery, Kramer
Studio workshop T 7:00-9:30, St. P. Gallery

Spring Semester

W 7:00-9:30, St. P. Gallery, Kramer
Studio workshop T 7:00-9:30, St. P. Gallery

89. Textile Design: Weaving. 2 credits. \$18 plus \$2 laboratory fee.

Advanced weaving with explorations in areas to be determined by the student in consultation with instructor. (Prerequisite: Art 35 or equivalent)

Fall Semester

T 7:00-9:30, St. P. Gallery, Kolb

Spring Semester

T 7:00-9:30, St. P. Gallery, Kolb

101-102. Ceramics. 2 credits each semester. \$18 plus \$5 laboratory fee.

Continuation of basic courses with advanced problems in same areas.

Fall Semester

W 7:00-9:30, St. P. Gallery, Kolb
Th 7:00-9:30, St. P. Gallery, Kolb

Spring Semester

W 7:00-9:30, St. P. Gallery, Kolb
Th 7:00-9:30, St. P. Gallery, Kolb

Astronomy (Ast.)

Students who wish to use astronomy to meet the natural science requirement for either the A.L.A. or B.A. degree in the College of Science, Literature, and the Arts may do so by completing Ast. 11 and 13 and other physical sciences or mathematics courses (above Math. 1) to a minimum of 10 credits. The combination must be approved by the S.L.A. Committee on Student Scholastic Standing.

11. Descriptive Astronomy. 3 credits. \$18.

The general principles and fundamental facts of astronomy; illustrated by lantern slides, simple problems, and naked-eye and telescopic observation. The Spitz Projection Planetarium will be used extensively to provide superior demonstration opportunities regardless of weather conditions. Higher mathematics not necessary.

Fall Semester

W 6:20-8:00, Physics 133, Luyten

13. Practical and Stellar Astronomy. 3 credits. \$18.

Supplements Ast. 11, which, however, is not prerequisite; higher mathematics not necessary. A detailed description of the constellations and individual stars, and structure

of the sidereal universe, determination of time from the stars; extended opportunity for the use of the telescope and the observation of the heavenly bodies, supplemented by use of the Spitz Projection Planetarium.

Spring Semester

W 6:20-8:00, Physics 133, Luyten

Chemistry

A \$10 chemistry deposit card is required for each of the courses in chemistry. Information concerning the procurement of this card will be given at the first meeting of each class. A course fee of \$3 and charges for laboratory material and breakage will be punched out of the deposit card. The balance will be returned to the student at the end of the semester.

Analytical Chemistry (An.Ch.)

1. Quantitative Analysis—Gravimetric. 5 credits. \$30.

Principles and methods of gravimetric analysis; typical problems and proper laboratory practice. (Prerequisite: In.Ch. 11 or 12)

Spring Semester

Lect. T 6:00-8:00, Chemistry 315, Herr
Lab. Th 7:00-10:30, Chemistry 310, Herr

2. Quantitative Analysis—Volumetric. 5 credits. \$30.

General principles, methods, and calculations of volumetric analysis. (Prerequisite: In.Ch. 11 or 12)

Fall Semester

Lect. T 6:00-8:00, Chemistry 315, Herr
Lab. Th 7:00-10:30, Chemistry 310, Herr

7. Quantitative Analysis—Premedical. 4 credits. \$24.

Introductory, covering principles and methods of gravimetric and volumetric quantitative analysis; typical problems and proper laboratory practice. (Prerequisite: In.Ch. 11 or 12)

Spring Semester

Lect. T 8:00-10:00, Chemistry 315, Herr
Lab. Th 7:00-10:30, Chemistry 310, Herr

123. Advanced Quantitative Analysis. 3 credits. \$18.

(Prerequisite: An.Ch. 1-2 or equivalent. Repeated spring semester)

Fall Semester

TTh 7:00-10:00, Chemistry 310, Herr

Spring Semester

TTh 7:00-10:00, Chemistry 310, Herr

Inorganic Chemistry (In.Ch.)

6-7.† General Inorganic Chemistry. 5 credits per semester. \$30.

Study of the general laws of chemistry and of the nonmetals, metals, and their compounds. (No prerequisite)

Fall Semester

6 Lab. T 7:00-10:00, Chemistry 325, Herr
Lect. Th 7:00-9:00, Chemistry 325, Herr

Spring Semester

7 Lab. T 7:00-10:00, Chemistry 325, Herr
Lect. Th 7:00-9:00, Chemistry 325, Herr

† See Information, page 14.

12. Semimicro Qualitative Analysis. 5 credits. \$30.

Laboratory work in systematic qualitative analysis of cations with lectures on solutions, ionization, chemical and physical equilibria, oxidation and reduction, etc. (Prerequisite: In.Ch. 2, 5, 7 or 10)

Fall Semester

Lect. T 8:00-10:00, Chemistry 325, Herr

Lab. Th 7:00-10:00, Chemistry 325, Herr

Child Welfare (C.W.)**80. Child Psychology.** 3 credits. \$18.

A survey of the psychology of the young child from the standpoint of development and learning. (Prerequisite: Psy. 1-2. Repeated spring semester)

Fall Semester

M 6:20-8:00, Folwell 101, Bassham

Spring Semester

T 6:20-8:00, Folwell 101, Bassham

90. The Psychology of Parent-Child Relationships. 3 credits. \$18.

Relation of adults and children within the family; discussion of family problems such as finance, discipline, recreation, marital adjustment, etc., as related to children. (Prerequisite: C.W. 80 or equivalent)

Fall Semester

M 8:05-9:45, Folwell 101, Cummings

132. Later Childhood and Adolescence. 3 credits. \$18.

The meaning of adolescence; growth and personality development; vocational guidance; sex education; social adjustment, and emancipation from the family. (Prerequisite: C.W. 80 or equivalent)

Fall Semester

T 6:20-8:00, Folwell 101, Gollin

140. Behavior Problems in Younger Children. (Same as S.W. 173A) 3 credits. \$18.

Nature and origin of behavior difficulties in younger children; relation of earlier to later maladjustment; assessment, treatment, and training. (Prerequisite: 12 credits in psychology, educational psychology, or sociology)

Fall Semester

T 8:05-9:45, Folwell 105, Bassham

143. Problems of Mental Deficiency. 3 credits. \$18.

Diagnosis, care, training, social, educational and vocational problems, legal aspects. (Prerequisite: 12 credits in psychology, educational psychology, or sociology)

Spring Semester

T 8:05-9:45, Folwell 101, Gollin

172. Principles of Parent Interviewing. 3 credits. \$18.

Introduction to interviewing and counseling parents. (Prerequisite: 12 credits in psychology, education, educational psychology, or sociology)

Spring Semester

M 8:05-9:45, Folwell 105, Cummings

190. Use and Interpretation of Tests for Children. 3 credits. \$18.

Survey of mental tests for social worker, teacher, etc. (Prerequisite: 12 credits in psychology, educational psychology, or sociology)

Spring Semester

M 6:20-8:00, Folwell 101, Bassham

Education

See page 80.

English**Composition (Comp.)****English Placement Tests.**

Admission to composition classes beyond Preparatory Composition is based on satisfactory score in English Placement Test, or satisfactory completion of Preparatory Composition. Please note the following: (1) If you took the Placement Test in a Minnesota high school within the last three years, you must ask for assignment to the proper composition class a week before the first meeting of the class. (*You need not take the test again.*) Telephone, write, or call in person giving, in addition to your name, the name of your high school and the date of graduation. (2) If you have not taken the test, or if you took the test more than three years ago, report for testing at one of the following times and places.

Fall Semester

7:00 Tuesday, September 20, Nicholson Hall 211

7:00 Tuesday, September 20, St. P. Ext. Center 206

7:00 Monday, September 26, Nicholson Hall 211

Spring Semester

7:00 Tuesday, February 7, Nicholson Hall 211

Grammar Review. 3 Extension credits. \$18.

A "refresher" course for those who need a quick and thorough review of grammar, mechanics, and usage. Includes theme and report writing. This course should be useful to those students who feel they need a sound background for further courses in business English. (No prerequisite. This is not a preparation for Comp. 4 or Comm. 1a. See English Placement Tests [above]. Repeated spring semester)

Fall Semester

T 6:20-8:00, Folwell 104, Alford

Spring Semester

T 6:20-8:00, St. P. Ext. Center 205, Alford

Preparatory Composition. No credit. \$18.

Intensive drill on grammatical forms, structure, and theme writing. (No prerequisite. Note Comp. 4-5-6 below and Comm. 1a-2a-3a, page 37. Repeated spring semester)

Fall Semester

T 6:20-8:00, Folwell 209, Livingston

Th 6:20-8:00, St. P. Ext. Center 203

Spring Semester

W 6:20-8:00, Folwell 209, Livingston

English for the Foreign-Born I-II. No credit. \$27.

A course in the English language designed primarily for people of foreign extraction. Emphasis is on the language of the people rather than on literary excellence. Writing and speaking will deal with everyday problems of business and social life. This is not a course for those who speak little or no English, but for those who have some command of English

and want to improve it. It is not a preparation for college composition courses. (No prerequisite)

Fall Semester

I W 6:20-8:50, Folwell 104

Spring Semester

II W 6:20-8:50, Folwell 104

4-5-6. Freshman Composition. 3 credits each quarter. \$18.

This sequence satisfies the English requirement for graduation and is prerequisite to other English classes. Any student who receives a grade of A in Comp. 4 or 5 may, upon recommendation of his instructor, be exempted from any further requirement in English. (Prerequisite: Preparatory Composition or satisfactory score on English Placement Test, explained on page 34)

Fall Quarter

4 T 6:20-8:50, Folwell 107,
delPlaine
Th 6:20-8:50, St. P. Ext. Center
207, Aarsleff
5 W 6:20-8:50, Folwell 108,
Lufkin

Winter Quarter

5 (Same schedule as 4 W 6:20-8:50, Folwell
4, fall)
6 W 6:20-8:50, Folwell
108, Lufkin

Spring Quarter

4 W 6:20-8:50, Folwell 105,
Lufkin
T 6:20-8:50, Folwell 107,
delPlaine
Th 6:20-8:50, St. P. Ext. Center
207, Aarsleff

Communication 1a-2a-3a. See page 37.**27-28. Advanced Writing.** 3 credits each semester. \$18.

Offers training in the fundamentals of creative writing, through lectures and the criticism of manuscripts. 27: Deals with expository writing; articles, essays, criticism, etc. 28: Deals with description and narration. (Prerequisite: Comp. 4-5-6, or consent of instructor. Students may enter either semester)

Fall Semester

27 T 6:20-8:00, Folwell 205, Macdonald

Spring Semester

28 T 6:20-8:00, Folwell 205, Macdonald

101-102. Seminar in Writing (Advanced Short Story). 3 credits each semester. \$18.

For advanced and professional students who write with facility and desire personal direction. Criticism of manuscripts submitted. (Prerequisite: consult instructor)

Fall Semester

101 T 6:20-8:00, Folwell 207, Macdonald

Spring Semester

102 T 6:20-8:00, Folwell 207, Macdonald

Business English. See page 66.**Engineering English.** See page 85.*Literature (Engl.)***37. Twentieth-Century Short Story.** 3 credits. \$18.

An introductory sampling of the modern short story, covering such authors as Jack London, Ring Lardner, Somerset Maugham, Dorothy Parker, Thomas Wolfe, and John Steinbeck. (Prerequisite: Engl. A-B-C, or Comp. 4-5-6, or Comm. 1-2-3, or exemption from requirement)

Fall Semester

Th 6:20-8:00, Folwell 204, Rathburn

39. Twentieth-Century Novel. 3 credits. \$18.

The novel since Thomas Hardy. The course covers at least the following three English novels: Thomas Hardy's *Tess of the D'Urbervilles*, Joseph Conrad's *Victory*, Arnold Bennett's *The Old Wives' Tale*; and the following three American novels: Ernest Hemingway's *A Farewell to Arms*, Thomas Wolfe's *Of Time and the River*, John Steinbeck's *The Grapes of Wrath*. (Prerequisite: Comp. 4-5-6 or exemption)

Spring Semester

Th 6:20-8:00, Folwell 204, Rathburn

55-56. Shakespeare. 3 credits each semester. \$18.

55: The reading of plays from Shakespeare's early and middle periods—*Richard II*, *A Midsummer Night's Dream*, *The Merchant of Venice*, *Much Ado About Nothing*, and two or three other plays selected by the instructor. 56: The reading of plays from Shakespeare's middle and later periods—*Twelfth Night*, *Hamlet*, *Macbeth*, *The Tempest*, and two other plays selected by the instructor. (Prerequisite: Comp. 4-5-6, or Comm. 1-2-3, and 6 additional credits; or Engl. A-B-C; or 10 credits in 21-22-23. Students may take 56 before 55 if necessary)

Fall Semester

55 W 6:20-8:00, Folwell 207, Markels

Spring Semester

56 W 6:20-8:00, Folwell 207, Markels

85. Present-Day English. 3 credits. \$18.

Not a review of traditional "school grammar" nor a writing course, but a modern study of the living language designed to provide those insights that make for power and ease in the use of English. Attention will be given to how its words have developed in form and meaning, to its structural patterns, and to the principles of good usage in grammar and pronunciation as contrasted with notions of "correctness." (Open to students with Senior College standing and to others by permission. Graduate credit available upon completion of special work)

Spring Semester

M 6:20-8:00, Folwell 107, Allen

174. American English. 3 credits. \$18.

The distinctive and separate development of the English language in America; differences in vocabulary and pronunciation between it and British English; cultural relationships; taboos; euphemisms and coinages; regional speech in the United States, with special reference to Minnesota, through use of the unpublished collections of the Linguistic Atlas of the Upper Midwest. Experience in field work will be provided for qualified students (Open to students with Senior College standing and to others by permission)

Fall Semester

M 6:20-8:00, Folwell 107, Allen

French (Fren.)**1-2. Beginning French.** 3 credits each semester. \$18.

Grammar, pronunciation, reading, and practice in speaking. Where feasible, there will be one section emphasizing the conversational approach and one section the reading approach. (No prerequisite)

Fall Semester

1 W 6:20-8:00, Folwell 201, Sullivan
 W 8:05-9:45, St. P. Ext. Center 205
 2 W 6:20-8:00, Folwell 202, Butler

Spring Semester

1 W 6:20-8:00, Folwell 202, Butler
 2 W 6:20-8:00, Folwell 201, Sullivan
 W 8:05-9:45, St. P. Ext. Center 205

3-4. Intermediate French. 3 credits each semester. \$18.

Readings from modern authors, review of essential grammar, emphasis on spoken French. (Prerequisite: Fren. 1-2 or 2 years of preparatory French)

Fall Semester

3 M 6:20-8:00, Folwell 203

Spring Semester

4 M 6:20-8:00, Folwell 203

17a-b. French for Graduate Students. No credit. \$20.

Fundamentals of grammar; reading of appropriate prose. Prepares for examinations in French. (No prerequisite for 17a; for 17b: 17a or two years of French in high school or equivalent)

Fall Semester

17a M 6:20-8:00, Folwell 201, Brackney
 17b M 6:20-8:00, Folwell 102, Pulleyn

Spring Semester

17a M 6:20-8:00, Folwell 102, Pulleyn
 17b M 6:20-8:00, Folwell 201, Brackney

54-55. French Conversation. 3 credits each semester. \$18.

Informal discussion of current affairs and everyday topics. (Prerequisite: Fren. 3-4, or consent of instructor)

Fall Semester

54 W 6:20-8:00, Folwell 206, Desgranges

Spring Semester

55 W 6:20-8:00, Folwell 206, Desgranges

General Studies*Communication (Comm.)***1a-2a-3a. Communication.** 3 credits each quarter. \$18.

A practical course intended to prepare the student to meet more effectively the various vocational and social demands, to write and talk to others and to receive communication from them. Constant practice in writing and speaking is uniquely based upon some understanding of how language functions to convey meaning. 1a: The fundamental patterns of meaning in English, word meaning, social meaning, good usage. 2a: The use of language to influence human behavior. 3a: Mass communication of press, film, and radio, and how to receive it with critical discrimination. The sequence is accepted by the University as meeting all requirements which are satisfied by Comp. 4-5-6 (Freshman Composition). (Prerequisite: Preparatory Composition or satisfactory score on English Placement Test, as explained on page 34)

Fall Quarter

1a T 6:20-8:50, Folwell 203

Winter Quarter

2a (same schedule as fall)

Spring Quarter

3a (same schedule as fall)

*Family Life (F.L.)***1. Preparation for Marriage.** 3 credits. \$18 plus \$1 materials fee.

The course is designed to clarify what modern marriage requires of the individual and to help men and women gain a clearer picture of their own assets as marriage partners, through the discussion of such topics as values in family life today, problems of dating and courtship, selection of a marriage partner, marriage adjustments, planning for the family, income management, and others. Illustrative films and case materials are used. (No prerequisite. Repeated spring semester)

Fall Semester

T 6:20-8:00, Johnston 306, Luckey

Spring Semester

T 6:20-8:00, Johnston 306, Luckey

Humanities (Hum.)

Although it is preferable that the humanities courses be taken in sequence, this is not a requirement and any single unit or combination of units will prove satisfactory to students who wish to make such a selection.

1. Humanities in the Modern World I. 3 credits. \$18.

An introduction to the study of the humanities in the modern world, including the old regime, the revolution, neo-classicism and romanticism, from about 1740 to 1820. Materials used are history, prose criticism, literature, poetry, and art. Authors: Voltaire, Rousseau, Burke, Goethe, Tolstoy. (No prerequisite)

Note—Students wishing Senior College credit may register for Hum. 51 with consent of instructor. Additional work will be required for Senior College credit.

Fall Semester

M 8:05-9:45, St. P. Ext. Center 204, Ames

Th 6:20-8:00, Johnston 114, Vogelbaum

2. Humanities in the Modern World II. 3 credits. \$18.

The industrial revolution, liberalism and socialism, the psychology of individualism. Period covered is from about 1776 to 1890. Authors: Carlyle, Mill, Marx, Smith, Malthus, Ibsen, Flaubert, Dostoyevsky. (No prerequisite)

Note—Students wishing Senior College credit may register for Hum. 52 with consent of instructor. Additional work will be required for Senior College credit.

Spring Semester

M 8:05-9:45, St. P. Ext. Center 202, Ames
Th 6:20-8:00, Johnston 114, Vogelbaum

3. Humanities in the Modern World III. 3 credits. \$18.

The impact of science and evolution; religion and morals in a changing world, from about 1840 to 1914. Authors: Darwin, Chekhov, Kierkegaard, Nietzsche, Shaw, Mann. (No prerequisite)

Note—Students wishing Senior College credit may register for Hum. 53 with consent of instructor. Additional work will be required for Senior College credit.

Fall Semester

M 8:05-9:45, Johnston 106, Bryan

4. Humanities in the Modern World IV. 3 credits. \$18.

Civilization between two wars, the impact of psychoanalysis, communism, fascism, liberal democracy, since World War I. Authors: Freud, Lenin, Orwell, T. S. Eliot, Kafka, Ortega. (No prerequisite)

Note—Students wishing Senior College credit may register for Hum. 54 with consent of instructor. Additional work will be required for Senior College credit.

Spring Semester

M 8:05-9:45, Johnston 106, Bryan

11. The Greek Heritage. 3 credits. \$18.

The golden age of Athens—tragedy, the concepts of goodness and beauty, the struggle for the state. The age of reason—the concepts of reason, justice, order. Authors: Homer, Aeschylus, Plato, Aristotle, Thucydides, Sophocles, Euripides. (No prerequisite)

Note—Students wishing Senior College credit may register for Hum. 61 with consent of instructor. Additional work will be required for Senior College credit.

Fall Semester

T 6:20-8:00, Johnston 106, Ames

12. Roman and Medieval Heritage. 3 credits. \$18.

Roman jurisprudence and organization; epicureanism and stoicism; medieval faith, theocracy. Selections from Lucretius, Marcus Aurelius, Epictetus, Cicero, the New Testament, St. Augustine, St. Thomas, Dante. (No prerequisite)

Note—Students wishing Senior College credit may register for Hum. 62 with consent of instructor. Additional work will be required for Senior College credit.

Spring Semester

T 6:20-8:00, Johnston 106, Ames

21. American Life I. 3 credits. \$18.

The growth of individualism and democracy as recorded in American history, social thought, literature, and the arts. (No prerequisite)

Fall Semester

W 6:20-8:00, Johnston 106

22. American Life II. 3 credits. \$18.

The place in American civilization of the land, the city, and the good life; their implications and interrelations. (No prerequisite)

Spring Semester

W 6:20-8:00, Johnston 106

Invitation to Mathematics. 3 Extension credits. \$18.

Mathematics as an art. Lectures on the role of mathematics in the history of ideas and in modern civilization, and on mathematics as an art. The course is planned as an analogue to other courses in the humanities, in music, and in art. Only a knowledge of high school mathematics is assumed, and very little of that; not intended as preparation for professional use of mathematics. (No prerequisite)

Fall Semester

W 7:00-8:40, Johnston 126, Rosenbloom

Personal Orientation (P.O.)

1. How to Study. 3 Extension credits or 2 S.L.A. credits (see below). \$18.

Practical assistance to the student in developing efficient study habits, organizing materials, training the memory, preparing for examinations, and improving the speed and comprehension of reading. This course should be of special value to veterans and others who are planning an educational program and have not engaged in organized study for an extended period. (2 credits may be granted in S.L.A. with consent of instructor. No prerequisite. Class limited to 35 students. Repeated spring semester)

Fall Semester

T 8:05-9:45, Johnston 306, Luckey

Spring Semester

T 8:05-9:45, Johnston 306, Luckey

****Rhet. 47. Efficient Reading.** 3 credits in Ag., Educ., I.T., Ext.; 1 credit in S.L.A. \$18 plus \$2 materials fee.

Designed for students, business, or professional people of up-to-average reading ability who wish to improve their reading speed and comprehension. Emphasis is on reading techniques of particular use in achieving or maintaining superior scholastic or professional status. Maximum use is made of the tachistoscope and the Harvard Reading Films, two recently developed visual aids. Parallels Efficient Listening and is a suggested follow-up for How to Study. (No prerequisite. Class limited to 30 students. Repeated spring semester)

Fall Semester

M 6:20-8:00, Ford 80
 T 6:20-8:00, Ford 80, Wright
 T 8:05-9:45, Ford 80, Wright
 W 6:20-8:00, Ford 80, Brown
 W 8:05-9:45, Ford 80, Brown
 Th 6:20-8:00, St. P. Ext. Center 206
 Th 8:05-9:45, St. P. Ext. Center 206

Spring Semester

M 6:20-8:00, Ford 80
 T 6:20-8:00, Ford 80, Wright
 T 8:05-9:45, Ford 80, Wright
 W 6:20-8:00, Ford 80, Brown
 W 8:05-9:45, Ford 80, Brown
 Th 6:20-8:00, St. P. Ext. Center 206
 Th 8:05-9:45, St. P. Ext. Center 206

Efficient Listening. 3 Extension credits. \$18.

The primary emphasis in this course is upon efficient listening to instructive and directive speech. Of particular value to those who wish to improve concentration when listening to lectures, dictated material, instructions orally presented. Half of each class session is occupied with lectures on such topics as inefficient listening and its causes, the desire to learn and learning economy, the elements of concentration, speech structuralization, comprehension of main points, four usable systems of note-taking, and emotional adjustment to the speaker and his thesis. The other half of each class session is devoted to student performance.

Fall Semester

W 6:20-8:00, Ford 60, Nichols

** Registration must be made in person.

Vocabulary Building: How to Expand Your Word Power. 3 Extension credits.
\$18 plus 25 cents materials fee.

A class designed to extend the range and increase the quality of one's vocabulary for social and business purposes and for the benefit of one's intellectual development in general. The core of the course consists of the study of 150 word elements which form the basis of thousands of English words. This approach not only enables an individual to enlarge his speaking, writing, and reading vocabulary in a short space of time but also provides him with the means of independently continuing that process indefinitely. Recommended as background for other courses in the communication field. (No prerequisite. Repeated spring semester)

Fall Semester

M 8:05-9:45, St. P. Ext. Center 203, McCoy
T 6:20-8:00, Nicholson 122, Stockdale
T 6:20-8:00, Nicholson 207
W 8:05-9:45, Nicholson 207

Spring Semester

M 8:05-9:45, St. P. Ext. Center 203, McCoy
T 6:20-8:00, Nicholson 122, Stockdale
T 6:20-8:00, Nicholson 207
W 8:05-9:45, Nicholson 207

Geography (Geog.)

4. Human Geography. 5 credits. \$30.

The geography of population and principal ways of life; the capacity of the earth for future population. (No prerequisite. Not open to students who have taken the old course 45)

Fall Semester

T 6:20-8:50, Ford 285, Lukermann

110. South America. 3 credits. \$18.

A regional survey of the physical resources, population, agriculture, manufacturing, and transportation in the countries of South America. (Prerequisite: 5 credits in geography or consent of instructor)

Spring Semester

M 6:20-8:00, Ford 285, Eidt

Geology (Geol.)

1. General Geology. 3 credits. \$18.

Geology Laboratory A. 2 credits. \$12.

Consists of an introductory treatment of the materials of the earth, and the geologic processes; principles of earth sculpture, glaciation, volcanic activity, mountain building, etc.; geologic occurrence of gems, ores, and other economic mineral resources. (No prerequisite)

Fall Semester

1 T 6:20-8:00, Pillsbury 110, Taylor
A T 8:05-9:45, Pillsbury 22, Taylor

Note—Registration may be made for the combined classes or for Geol. 1, but it is recommended that they be taken together. Students who have completed 3 credits in Geol. 1 or 8 may register for Geol. A. To meet the Junior College natural science requirement, Geol. 1 and 2 and Lab. A and B must be completed.

2. General Geology (Historical). 3 credits. \$18.

Geology Laboratory B. 2 credits. \$12.

A résumé of the theories as to the origin of the earth, its geologic history, and the changes in its plant and animal life throughout the ages. (Prerequisite: Geol. 1)

Spring Semester

2 T 6:20-8:00, Pillsbury 110, Sloan
B T 8:05-9:45, Pillsbury 22, Brown

23. Mineralogy. 3 credits. \$18.

A study of the physical and chemical characteristics of minerals; occurrence, genesis, and uses. Determinative work and identification of minerals by physical tests. (No prerequisite)

Fall Semester

Th 6:20-8:00, Pillsbury 110, Taylor

24. Mineralogy. 3 credits. \$18.

A continuation of the study of physical and chemical characteristics of minerals; their occurrence, genesis, and uses. (Prerequisite: Geol. 23 or consent of instructor)

Spring Semester

Th 6:20-8:00, Pillsbury 110, Taylor

German (Ger.)**1-2. Beginning German. 3 credits each semester. \$18.**

The objectives of the course are to provide, without emphasis on formal grammar, the foundation of a reading knowledge adequate for cultural or professional purposes; and to encourage an understanding of the nature of language by systematic comparison between German and English. (No prerequisite)

Fall Semester

1 M 6:20-8:00, Folwell 207, Ramras
Th 6:20-8:00, Folwell 207, Menze
2 M 6:20-8:00, Folwell 209, Prottengeier

Spring Semester

1 M 6:20-8:00, Folwell 204
2 M 6:20-8:00, Folwell 207, Ramras
Th 6:20-8:00, Folwell 207, Menze

3. Beginning German. 3 credits. \$18.

Readings from modern authors, review of essential grammar, with practice in spoken German. (Prerequisite: Ger. 1-2 or 2 years of high school German)

Fall Semester

M 6:20-8:00, Folwell 206, Prottengeier

Spring Semester

M 6:20-8:00, Folwell 209, Prottengeier

4. Intermediate German. 3 credits. \$18.

Modern narrative prose. (Prerequisite: Ger. 3)

Spring Semester

M 6:20-8:00, Folwell 206, Prottengeier

17a-b. German for Graduate Students. No credit. \$20.

Designed to help graduate students acquire a reading knowledge of German as required of candidates for higher degrees. Grammar is reduced to a minimum, with stress on recognition of forms encountered in reading. Rapid reading of simple, graded material. Intensive reading of more difficult material selected from the various fields of specialization. Detailed study of several sets of examinations in each of the fields. (No prerequisite for 17a; for 17b: two years of German in high school, or equivalent)

Fall Semester

17a M 6:20-8:00, Folwell 205, Downs
17b M 6:20-8:00, Folwell 208, Wangsness

Spring Semester

17a M 6:20-8:00, Folwell 208, Downs
17b M 6:20-8:00, Folwell 205, Wangsness

Introduction to German Culture. 3 Extension credits. \$18.

A survey of the development of German culture from the times of Charlemagne (800) to 1900. Emphasis will be placed on significant movements and influential personalities in the fields of art, literature, music, religion, and science. The lectures, to be given in English, will be supplemented with slides and other additional audio-visual aids such as recordings, etc. No textbook is required. A suggested reading list will be provided. (No prerequisite)

Fall Semester

W 6:20-8:00, Folwell 208, Prottengeier

Health

See Public Health, page 56.

History (Hist.)

Although it is preferable that the units of these history classes be taken in sequence, students may register for credit in any single semester or quarter unit unless otherwise indicated.

1-2-3. Civilization of the Modern World. 3 credits each quarter. \$18.

1: The rise of the European state system as the framework within which Western civilization developed, and the economic, cultural, political, intellectual, and religious implications of the emerging system. 2: The struggle for control over the Western states system, and the emergence of liberal democracy in the modern world. 3: The impact of industrialism upon Western and world civilization, the origins and backgrounds of the twentieth-century world. (No prerequisite)

	Fall Quarter	Winter Quarter	Spring Quarter
1	T 6:20-8:50, Ford 30, McRandle	2 (same schedule as fall)	3 (same schedule as fall)

14-15-16. History of Ancient Civilization. (Or Hist. 50-51-52. See note below) 3 credits each quarter. \$18.

14: A survey of the rise of civilization in the Ancient Near East from the earliest times to 500 B.C. Emphasis is placed upon the origin of culture and its development in complexity from the primitive to the civilized stage. Special attention is given to the civilizations of Babylonia, Egypt, Indus Valley, Syria, Palestine, and Crete. (No prerequisite) 15: The history of the rise and flowering of the Greek civilization from the earliest times to the death of Alexander the Great in 323 B.C. Special emphasis is placed on Greek civilization in the fifth century (Age of Pericles) with attention to the political, social, literary, artistic, and philosophic achievements of that period. (No prerequisite, but student will find Hist. 14 helpful in providing a background) 16: The climax of ancient civilization during the Hellenistic Age (323-133 B.C.) and the Roman Imperial Period followed by the decline of Rome and of ancient civilization (to about 300 A.D.). The three main topics to be considered are (a) the civilization of the ancient world at its peak, (b) the rise and flowering of Roman culture, and (c) the reasons for the decline of ancient civilization. Special attention will be paid to political institutions, art, literature, economics and society, philosophy, and ancient science. (No prerequisite, but it is suggested that Hist. 16 be preceded by Hist. 14 and 15 in order that student may acquire a background for the history of the Roman period)

Note—Students wishing Senior College credit may register for Hist. 50-51-52 with consent of instructor. Additional work will be required for Senior College credit.

	Fall Quarter	Winter Quarter	Spring Quarter
14	Th 6:20-8:50, Ford 115, Jones	15 (same schedule as fall)	16 (same schedule as fall)

The Archaeology of Biblical Lands. No credit (short course). \$7.50.

A series of illustrated lectures designed to summarize the contribution of archaeology to our knowledge of ancient Near Eastern Civilization. The beginnings of archaeological investigation, excavations of major importance, and current operations will be among the subjects treated. The following schedule of lecture topics will show the content of the series:

Sept. 29	The Rediscovery of Assyria
Oct. 6	The Decipherment of Cuneiform Writing
Oct. 13	The Civilizations of Ancient Mesopotamia
Oct. 20	Egypt in the Days of Joseph and Moses
Oct. 27	The Stone Age in Palestine
Nov. 3	The Canaanites
Nov. 10	The Fall of Jericho
Nov. 17	The Philistines

- Dec. 1 The Phoenicians
 Dec. 8 The Hittites
 Dec. 15 Hebrews and Assyrians

All lectures begin promptly at 8:00 p.m. on Thursdays, in room 115 Ford Hall. Professor Tom B. Jones is the lecturer. Students desiring credit may register for Hist. 14 which meets at 6:20 p.m. on the same evenings.

20-21. American History. 4 credits each semester. \$24.

A survey of the political, economic, and social history of the United States with emphasis on the forces that resulted in the emergence of modern America. 20: Colonial and Early National Period. 21: Sectionalism and National Development. (No prerequisite)

Note—Hist. 22 will be offered in 1956-57.

Fall Semester

20 M 5:45-8:00, Ford 30, McRandle
 W 5:45-8:00, St. P. Ext. Center 205,
 Beatty

Spring Semester

21 M 5:45-8:00, Ford 30, McRandle
 W 5:45-8:00, St. P. Ext. Center 205,
 Beatty

79-80. American History Since 1900. 3 credits each semester. \$18.

A concentrated study of the social, political, economic, and cultural development of the United States since 1900 and of the rise of the United States as a world power. 79: The Spanish-American War and America's overseas empire; the rise of big business; problems of the city; the Progressive Era of Reform; America in World War I. 80: Social and intellectual crises of the 1920's; prosperity and depression; the New Deal; the rise of organized labor; from isolation to intervention; the post-war scene. (No prerequisite)

Fall Semester

79 M 6:20-8:00, Ford 115, Chambers

Spring Semester

80 M 6:20-8:00, Ford 115, Chambers

106a-107a. Continental Europe. (Not offered 1955-56.)

109-110. Europe in the Twentieth Century. 3 credits each semester. \$18.

109: The years 1900-1918. 110: From 1918 to present. Background and causes of World War I, history of Europe during four years of war, the Paris Conference and peace treaties, the new political and social order in central and eastern Europe, problems of the western democracies, the attempt at a new world order and its collapse, the background and history of World War II. (No prerequisite)

Fall Semester

109 W 6:20-8:00, Ford 115, Deutsch

Spring Semester

110 W 6:20-8:00, Ford 115, Deutsch

134-135. History of World War II. 3 credits each semester. \$18.

134: Origins and backgrounds; the principal powers and their relationships; the rise of totalitarian ideologies and systems; international relations of the 1930's; how the war came; the period of Axis preponderance. 135: The breakdown of Nazi-Soviet relations; war in the East and at sea; decline of Axis fortunes; the United States entry; interrelation of European and Far Eastern wars; inter-allied relations; the battles of France and Germany; liquidation of the War; occupation problems and policies; affairs of the U.N.; relations of the victor powers and the peace settlements. (No prerequisite)

Fall Semester

134 W 8:05-9:45, Ford 115, Deutsch

Spring Semester

135 W 8:05-9:45, Ford 115, Deutsch

137a. American History, 1850-1865. 3 credits. \$18.

This is the first in a three-semester sequence 137a-138a-139a, covering the period 1850-1900. (No prerequisite. Hist. 138a and 139a will be offered in 1956-57)

Spring Semester

T 6:20-8:00, Ford 175, Loehr

146-147. American Economic and Social History. (Not offered 1955-56.)

148. American Economic and Social History Since 1860. 3 credits. \$18.

Developments since 1860. This course completes the sequence Hist. 146-147-148. (No prerequisite)

Fall Semester

T 6:20-8:00, Ford 175, Loehr

Housing (Hous.)

Planning Your Modern Home. 2 Extension credits. \$12 plus 50 cents laboratory fee.

This is a nontechnical course prepared for those who plan to build, modernize, or redecorate their homes. The course will review the principles of planning and decorating and will investigate modern materials and techniques. It is intended to explain modern trends in residential design and to evaluate new developments so that home planners may invest their money wisely. (No prerequisite)

Fall Quarter

W 8:05-9:45, Murphy Aud., Bliss

Humanities

See page 37.

Italian (Ital.)

1a-2a. Beginning Conversational Italian. 3 credits each semester. \$18.

Conversational approach. (No prerequisite)

Fall Semester

1a T 6:20-8:00, Folwell 201, Pellegrini

Spring Semester

2a T 6:20-8:00, Folwell 201, Pellegrini

3a-4a. Conversational Italian. 3 credits each semester. \$18.

A continuation of Ital. 1a-2a.

Fall Semester

3a Th 6:20-8:00, Folwell 201

Spring Semester

4a Th 6:20-8:00, Folwell 201

Journalism (Jour.)

18. Principles of Advertising. 3 credits. \$18.

Theory, principles, and function of advertising; its role in the economic, social, and marketing structure. Newspapers, magazines, radio, and other advertising media. (Prerequisite: for degree candidates, Jour. 13 and Comp. 28; or consent of instructor)

Fall Semester

T 8:05-9:45, Murphy 311, Perry

****65. Graphic Processes for Publications and Advertising.** 2 credits. \$12 plus \$5 laboratory fee.

Study of letterpress, offset, gravure, and silk screen printing by demonstration and movie. Evaluation of processes. Art and illustration techniques in publications and advertising. (No prerequisite. Class limited to 20 students)

Fall Quarter

T 6:20-8:00, Murphy 105, Wilson

73. Magazine Writing I. 3 credits. \$18.

The theory and techniques of the nonfiction magazine article for general and specialized periodicals; subjects and materials, practice assignments, manuscript criticism, editorial principles, basic instruction for beginners in this field of writing. (Prerequisite: Comp. 4-5-6, or consent of instructor. Repeated spring quarter)

Fall Quarter

Th 6:20-8:50, Murphy 308, Kahm

Spring Quarter

Th 6:20-8:45, Murphy 311, Kahm

**77. Freedom of Speech and Press in the United States. }
177. Freedom of Speech and Press in the United States. }** 3 credits. \$18.

Note—Qualified students may register under 177 for graduate credit. Consent of instructor is required and additional work will be assigned, including a term paper.

The pattern of freedom of speech and press in the United States and the areas of tension today. Reconciliation of the needs of the individual and the requirements of the state. (No prerequisite)

Fall Semester

M 6:20-8:00, Murphy 302, Gerald

78. Public Relations. 3 credits. \$18.

A survey of the techniques and practices of workers in the public relations field. The function of the public relations counsel and publicity expert and their relationship to the communications media, to employer and employee, consumer, and citizen. The production of public relations programs and campaigns for business and industry, social work agencies, educational institutions, and government. (Prerequisite: Jour. 13 or consent of instructor)

Fall Semester

W 8:05-9:45, Murphy 308, Emery

Mathematics

See pages 39 and 87.

Music (Mus.)

Individual instruction in music, as well as study in the regular classes offered by the Department of Music, is open to registration through the General Extension Division by students not able to attend day classes full time.

Applied Music

Private lessons are given in piano, organ, voice, violin, trumpet, and all other orchestral instruments. Registration is made through the office of the Department of Music, 107 Scott Hall. Time and place of lessons are also arranged through the Music office. The courses offered, and their fees, will be found in the program of classes for the College

** Registration must be made in person.

of Science, Literature, and the Arts in the *Class Schedule*. For further information consult any office of the General Extension Division or the office of the Department of Music.

Enjoying Music. 3 Extension credits. \$18.

This is a class for those who wish to develop or increase their enjoyment and understanding of music as a means toward life enrichment. The lectures are carefully and completely illustrated by recordings. (No prerequisite. Limited to 50 students)

Fall Semester

T 8:05-9:45, Nicholson 111

Spring Semester

T 8:05-9:45, Nicholson 111

1T-2T-3T. Music Theory. 3 credits each quarter. \$18.

Development of musicianship through both auditory and visual perception; basic rudiments; exercises in part-writing and harmonization of chorales in the style of Bach; ear training, sight singing. (No prerequisite for 1T; prerequisite for 2T and 3T: the previous quarter. Offered 1955-56 and alternate years)

Fall Quarter

1T M 6:20-8:50, Scott 103, Fetler

Winter Quarter

2T (same schedule as fall)

Spring Quarter

3T (same schedule as fall)

4T-5T-6T. Music Theory. 3 credits each quarter. \$18. (Not offered 1955-56.)

Continuation of 1T-2T-3T with greater emphasis on harmonic analysis, part-writing, and clef reading. (Prerequisite: 3T. Offered 1956-57 and alternate years)

28-29. Minneapolis Symphony Demonstration Rehearsals. 1 credit each quarter. \$6.

A practical guide to intelligent listening and better understanding of symphonic music through specially arranged rehearsals of the Minneapolis Symphony Orchestra. (No prerequisite. Student may register with or without credit)

Fall Quarter

28 W 12:30-1:20, Northrop Auditorium

Winter Quarter

29 W 12:30-1:20, Northrop Auditorium

34a-35a-36a. History of Music. 3 credits each semester. \$18.

Designed to give an understanding of musical masterpieces as part of the general development of western culture from the crusades to the present. Copious musical illustrations with emphasis on the style of the music itself rather than on theoretical questions. Parallels but does not duplicate Mus. 34-35-36 in the College of Science, Literature, and the Arts. (No prerequisite. For nonmusic majors)

Fall Semester

34a-35a M 6:20-8:00, Scott 104, Downs

Spring Semester

35a-36a M 6:20-8:00, Scott 104, Downs

43-44-45. University Chorus. 1 credit each quarter. \$6.

Performances of major symphonic-choral works with the Minneapolis Symphony Orchestra, University Symphony Orchestra, and University Concert Band. (Students may register for any unit number each quarter with consent of instructor)

Fall Quarter

T 7:30-9:30, Nicholson Aud., Aliferis

Winter Quarter

(same schedule as fall)

Spring Quarter

(same schedule as fall)

50-51-52. American Music. 3 credits each semester. \$18.

Emphasis on Indian, folk, jazz, and contemporary art music; comprehensive discussion of jazz and its influence on American and European contemporary music; music of the Latin-American Indians and Mestizos. Listening to numerous studio and field recordings. (No prerequisite. For nonmusic majors)

Fall Semester

50-51 T 6:20-8:00, Scott 104, Riedel

Spring Semester

51-52 T 6:20-8:00, Scott 104, Riedel

56-57-58. Latin-American Music. 3 credits each semester. \$18.

Music in the Latin-American countries from pre-colonial times to the present with emphasis on primitive, folk, popular and contemporary art music. Demonstrations by authentic South American recordings and others. (No prerequisite. For nonmusic majors; may be counted as credit for a music minor)

Fall Semester

56-57 Th 6:20-8:00, Scott 104, Riedel

Spring Semester

57-58 Th 6:20-8:00, Scott 104, Riedel

73-74-75. Introduction to Opera. 3 credits each semester. \$18.

Designed to give an understanding of classical and romantic opera; centered on the weekly broadcasts of the Metropolitan Opera Company, and important presentations in the Twin Cities, including Minneapolis Symphony Orchestra performances, St. Paul Civic Opera productions, and the spring season of the Metropolitan in Northrop Auditorium. (No prerequisite. For nonmusic majors)

Fall Semester

73-74 W 6:20-8:00, Scott 104, Downes

Spring Semester

74-75 W 6:20-8:00, Scott 104, Downes

Natural History (Nat.H.)

Birds of Minnesota. No credit. \$18.

A laboratory and field class in identifying and enjoying the birds of this region. Early meetings will make use of collections of the museum of Natural History, but as soon as weather permits the class will meet in field locations on *Sunday mornings at 7:30*. (No prerequisite. Class limited to 20 students)

Spring Semester

Th 6:20-8:00, Museum of Natural History 309,
Breckenridge, Gunderson

Wild Game of Minnesota. 2 Extension credits. \$12.

A nontechnical survey of the upland game birds, waterfowl, and mammals, particularly the fur bearers and big game of Minnesota; their habits, characteristics, and requirements. Recognition and conservation of principal game species will be discussed. Illustrated lectures and demonstrations. (No prerequisite. Class limited to 20 students)

Fall Quarter

W 6:20-8:00, Museum of Natural History 309,
Gunderson

Nursing

Nursing (Nurs.)

108. The Nursing Team. 3 credits. \$18.

The role of various members of the nursing team in relation to patient teaching. Development of team leadership. Analysis of patient needs and development of nursing care plans. (Open to registered professional nurses)

Fall Semester

Th 6:20-8:00, Millard 116, Harris, Norris

Nursing Administration (Nu.Ad.)

58. Introduction to Ward Administration. 3 credits. \$18.

The place of the head nurse in the hospital organization, basic principles of maintaining a good nursing service, analyzing patients' needs and directing the activities of the ward personnel. (Open to registered professional nurses. Repeated spring semester)

Fall Semester

T 6:20-8:00, St. P. Ext. Center 205, Grainger

Spring Semester

T 6:20-8:00, Owre 111, Grainger

70. Work Simplification. 3 credits. \$18.

An introduction to the principle of work simplification with application of principle and methods to situations in the practice of nursing. (Open to registered professional nurses)

Fall Semester

T 6:20-8:00, Millard 116, Harris

85. Fundamentals of Nursing Service Administration. 3 credits. \$18.

Study of principles of administration applied to the operation of nursing service in hospitals. Organization; administrative relationships; personnel policies, practices, relationships; staff education; income and expenditure, budgeting, salary schedules; public relations; records and reports. (Open to registered professional nurses)

Spring Semester

M 6:20-8:00, St. P. Ext. Center 207, Harris

See also *Nursing Education, Education, Child Welfare, and Public Health.*

Nursing Education

See page 82.

Parliamentary Procedure (Parl.)

Parliamentary Procedure. 3 Extension credits. \$18.

Fundamental principles and practices of parliamentary law in organized meetings, especially for executive officers and members of organizations. The course is designed to equip the student to take an active and informed part in the organizations of which he is a part. By demonstration and laboratory techniques it will be possible for the students actually to participate in and conduct meetings in connection with the course. Topics to be considered will include formation of organizations, drafting of constitutions, duties of officers, motions, amendments, nominations, and elections. (No prerequisite)

Fall Quarter

W 7:00-9:30, Ford 30, Miller

Personal Orientation

Efficient Listening. See General Studies, page 39.

Efficient Reading. See General Studies, page 39.

How to Study. See General Studies, page 39.

Preparation for Marriage. See General Studies, page 37.

Vocabulary Building. See General Studies, page 40.

Philosophy (Phil.)

1. Problems of Philosophy. 3 credits. \$18.

Introduction to the subject; the main fields of investigation; permanent problems; principal methods and schools of philosophy; historical and contemporary views. (No prerequisite)

Fall Semester

M 6:20-8:00, Johnston 113, Terrell

2. Logic. 3 credits. \$18.

A study of the difference between logical and fallacious reasoning; the functions and uses of language; rules of good definitions and sound argument. (No prerequisite. Repeated spring semester)

Fall Semester

T 8:05-9:45, Johnston 113, Maxwell

Spring Semester

M 6:20-8:00, Johnston 113, Maxwell

3. Ethics. 3 credits. \$18.

An examination of the problems which arise when human beings attempt to think systematically about conduct and values (are there absolute standards?) the problem of free will, and a survey of historical views about the right and the good. (No prerequisite)

Spring Semester

T 6:20-8:00, Johnston 113, Raab

10. Science and Religion. 3 credits. \$18.

An inquiry into the nature of science and religion as currently interpreted, with an attempt to find grounds of conflict and/or reconciliation. (No prerequisite)

Fall Semester

T 6:20-8:00, Johnston 113, Raab

50. History of Philosophy. 3 credits. \$18.

A survey of ancient Greek philosophy from Thales to Aristotle, with emphasis on Plato and Aristotle. (No prerequisite)

Spring Semester

W 6:20-8:00, Johnston 113, Donegan

87. Readings in Religious Classics. 3 credits. \$18.

A course designed to acquaint the general reader with several of the best literary expressions of religion. No attempt will be made to settle theological or sectarian issues. Emphasis will be placed on the understanding of each author's work as it relates to his life and that of his contemporaries. Selected readings are planned from the following works of authors of diverse temperament, persuasion, time and place: Thomas à Kempis' *Imitation of Christ*, Woolmann's *Journal*, Kierkegaard's *Thoughts on Crucial Situations*, Loyola's *Exercises*, and Calvin's *Sermons*. (No prerequisite)

Spring Semester

W 8:05-9:45, Johnston 113, Donegan

107. Philosophy in Modern Literature. (Formerly Phil. 135) 3 credits. \$18.

A survey of basic philosophical ideas in modern civilization as they are expressed in major works of literature. (No prerequisite)

Spring Semester

Th 6:20-8:00, Johnston 113, Terrell

Photography (Phot.)

Students in all photography classes must furnish their own cameras.

Art 10. Basic Photography I. 3 credits. \$18 plus \$5 laboratory fee.

A course for beginners, with little or no experience in photography. The course will include lectures and demonstrations dealing with basic photographic equipment and materials, general camera and darkroom techniques, history, and criticism. There will be some laboratory work in use of the camera, in contact printing, and enlarging. This class is of interest to people who need a working knowledge of photography in professions other than photography, and for those who want to know how to use a camera efficiently. (No prerequisite. Repeated spring semester)

Fall Semester

M 6:20-8:00, Murphy 20, Liebling

Spring Semester

M 6:20-8:00, Murphy 20, Liebling

Art 11. Basic Photography II. 3 credits. \$18 plus \$5 laboratory fee.

A course for amateurs with some experience and familiarity with special photographic equipment and techniques. Work will include some assigned projects, lectures, and demonstrations, but special attention will be given to individual interests and requirements. (Prerequisite: Art 10 or equivalent with instructor's consent. Repeated spring semester)

Fall Semester

W 6:20-8:00, Murphy 20, Agar

Spring Semester

W 6:20-8:00, Murphy 20, Agar

Color Photography I. 3 Extension credits. \$18 plus \$5 laboratory fee.

A foundation course in the growing field of color photography, designed to provide you with practical knowledge and experience in basic color work. Course includes: (1) lecture demonstrations of equipment, color processes, and techniques; and (2) supervised camera assignments in the studio and on outdoor field trips. (Experience or instruction in black and white photography is desirable, but not a prerequisite. Repeated spring semester)

Fall Semester

W 6:20-8:00, Wesbrook 206, Webb

Spring Semester

T 6:20-8:00, Wesbrook 206, Webb

Color Photography II. 3 Extension credits. \$18 plus \$5 laboratory fee.

A workshop course in which the student participates in supervised group projects. Course includes lecture demonstrations, field trips, and attention to such subjects as color portraiture, darkroom techniques, color experiments, and special problems. (Prerequisite: Color Photography I)

Fall Semester

T 6:20-8:00, Wesbrook 206, Webb

Spring Semester

W 6:20-8:00, Wesbrook 206, Webb

Motion Picture Production I. 3 Extension credits. \$18 plus \$5 laboratory fee.

A basic course designed to give the business man and beginning film producer a well-rounded foundation in various phases of silent motion picture production. Exercises in script writing, cinematography, editing, and laboratory practices and costs provide a practical basis for producing educational and industrial films in your various institutions. (Prerequisite: an interest in the production of motion pictures. Class limited to 15 students)

Fall Semester

T 6:20-8:00, Wesbrook 50, Cain

Motion Picture Production II. 3 Extension credits. \$18 plus \$7.50 laboratory fee.

A continuation course for Motion Picture Production I for the purpose of studying the problems involved in adding sound to a motion picture. Exercises in sound recording, sound editing, music and sound effects cutting and laboratory procedures will give practical experience in the field. (Prerequisite: Motion Picture Production I. Class limited to 15 students)

Spring Semester

T 6:20-8:00, Wesbrook 50, Cain

Physics (Phys.)

11-12. General Physics for Engineers. 5 credits each semester. \$30.

Mechanics, heat, electricity. (Prerequisite: I.T.M. 11 for 11; I.T.M. 12 for 12. 13 will be offered 1956-57. Courses must be taken in sequence)

Fall Semester

11 M 7:00-9:00, Physics 166, Harris
W 7:00-10:00, Physics 166, Harris

Note—Students must attend both nights.

Spring Semester

12 M 7:00-9:00, Physics 166, Harris
W 7:00-10:00, Physics 166, Harris

Theoretical Physics

See Graduate Engineering Program, page 82.

Political Science (Pol.)

and

Public Administration

Note—Qualified students may register for certain political science courses under a graduate course number (see double course headings below) provided they obtain instructor's consent and satisfactorily complete a certain amount of extra work under his supervision. Consult department head as to necessary qualifications; consult Extension office as to registration procedures.

The General Extension Division, in co-operation with the Political Science Department, offers a Certificate in Public Administration for the satisfactory completion of approved programs of study. The course program for this award is outlined in detail on page 8 of this bulletin. The completed program represents the equivalent of one academic year of full-time study at university level.

1.† American Government and Politics: Part I. 3 credits. \$18.

All of us are aware of the impact of international events upon the American system of government and the tremendous part that government plays in our lives. This course is designed to provide an intelligent understanding of certain fundamental features of our governmental system: the nature of our constitution, the protection of individual rights and liberties, political parties, public opinion, nominations, and elections. Special attention will be given throughout to current developments. (No prerequisite; to receive credit for Pol. 1 or 2 a student must complete both Pol. 1 and 2)

Fall Semester

M 6:20-8:00, Ford 120, Christensen

2.† American Government and Politics: Part II. 3 credits. \$18.

Recognizing that the American citizen must have an understanding of our system of government if he is to play an active and intelligent part in helping it meet the problems of the future, this course is designed to provide a description, analysis, and evaluation of the legislative, executive, and judicial branches of our government (national, state, and local) with special attention to current developments. (No prerequisite; to receive credit for Pol. 1 or 2 a student must complete both Pol. 1 and 2)

Spring Semester

M 6:20-8:00, Ford 120, Christensen

† See Information, page 14.

7. Government and Politics of Western Europe. 3 credits. \$18.

An introduction to, and analysis of, the government and politics of Europe, particularly of England, France, Italy, Germany, and the Scandinavian countries. Attention will be given to fundamental principles, institutional character and tendencies, parties and contending ideologies, the internal power relations, etc. (No prerequisite)

Spring Semester

Th 6:20-8:00, Ford 60, Turner

15. Elements of Political Science. 3 credits. \$18.

An introductory study of the state, sovereignty and liberty, constitutions, the forms of government, and the functions of the state; principles and practices, purposes and institutions, the place which the modern state should occupy in society and the means of the attainment of that position. (No prerequisite)

Fall Semester

Th 8:05-9:45, St. P. Ext. Center 203, Tucker

25. World Politics. 3 credits. \$18.

Significance of contemporary events abroad and their effect on American interests. Implications of the Yalta, San Francisco, Potsdam, and other conferences. Schedule of lectures will be altered to explain current developments and trace causes. (No prerequisite)

Spring Semester

W 6:20-8:00, Ford 180, Mills

55. Government of the Soviet Union.**143. § Government of the U.S.S.R. and Adjacent States. } 3 credits. \$18.**

An analysis of the government and politics of Soviet Russia that seeks to explain the rise of Bolshevism; the sources and nature of its ideology; the history of the Communist regime, institutional character; the organization of power; the role of the party; foreign, economic, and cultural policies; significance for Western Civilization. (No prerequisite)

Spring Semester

T 6:20-8:00, Ford 160

58. Governmental Accounting. 3 credits. \$18.

A course in the principles and procedures of governmental accounting including: fund accounting; budgetary accounting as it relates to preparation and control of appropriation and program budgets, and control of periodic allotments; revenues, expenditures, assets, and liabilities; account classification; organizational and administrative aspects including systems and simplification techniques; financial reporting; principles of governmental cost accounting. (No prerequisite. See B.A. 158, page 66)

Spring Semester

Th 6:20-8:00, Ford 160, Magraw

61. Municipal Law and Administration. } 3 credits. \$18.**121. § Municipal Administration.**

General principles of municipal administration; forms of administrative organization and control; the framework within which municipal government operates, including home rule charters and state statutes; liability of the municipality and its officers for wrongful acts; specific administrative services, such as personnel, budgeting and finance, research and planning, and public reporting. Emphasis is placed on Minnesota law and practice. (No prerequisite)

Spring Semester

M 6:20-8:00, Ford 150, Peterson

§ See Note at beginning of Political Science section.

62. Public Personnel Administration. 3 credits. \$18.

Development and significance of the public service; organization for personnel management; classification of positions; pay standardizations and administration; recruitment, examination, and placement; in-service training; evaluation of performance; conditions of employment; separation; human relations and morale; employee organization; obligations and responsibilities of public employees; retirement systems. (No prerequisite)

Spring Semester

W 6:20-8:00, Ford 150, Jackson

63. Public Financial Administration. 3 credits. \$18.

Survey of purchasing, contracting, revenues, taxation, special assessments, service charges, borrowing, expenditures, budgeting, accounting, cost accounting, auditing, and reporting. Emphasis on state and municipal practice.

Fall Semester

M 6:20-8:00, Ford 60, Robertson

64. Employee Training Techniques. 3 credits. \$18.

Survey of methods used in analysis of work for training purposes, course construction, employee motivation, classroom and on-the-job presentation, development and use of instructional aids, and evaluation. Emphasizes application of techniques to public employee training programs; of special interest to government personnel technicians and training officers. (No prerequisite. Class is limited to 20 students)

Fall Semester

W 6:20-8:00, Johnston 205, Pieper

65. Government of Minnesota. 3 credits. \$18.

An analysis of the structure and functions of state units. Discussion of such problems as legislative organization and procedure; the executive and the administration; personnel problems; political parties; taxation and finance. Emphasis on the changing relationships between city and state, and state and nation. (No prerequisite)

Spring Semester

Th 8:05-9:45, St. P. Ext. Center 203, Tucker

67. Administrative Analysis. 3 credits. \$18.

A study of the techniques of analyzing the organization and methods of administrative agencies. Topics include organization surveys, work simplification, space and equipment layouts, evaluation of forms, preparation of procedural manuals, and problems of control, delegation, and co-ordination. (No prerequisite)

Fall Semester

Th 6:20-8:00, Ford 80, Magraw

73. City and County Planning. 3 credits. \$18.

Purpose and nature of planning; organization of planning agencies; citizen participation in planning; the master plan; zoning; housing; urban redevelopment; fiscal planning; the capital budget and program; planning for various municipal functions; intergovernmental relationships in planning.

Fall Semester

T 6:20-8:00, Ford 70, Jones

76. Business and Government.

126. § Government and the Economic Order. } 3 credits. \$18.

A survey of the impact of government on the American economy. Topics dealt with include factors conditioning the role of government, the problem of depressions, labor and government, government and agriculture, monopoly and giantism, public utility regula-

§ See Note at beginning of Political Science section.

tion, financial controls, conservation, public ownership, and national economic planning. Attention is focused on current major economic issues. (No prerequisite)

Fall Semester

T 6:20-8:00, Ford 50, Polley

77. Administrative Regulation.

127.§ Government and the Economic Order. } 3 credits. \$18.

A comprehensive treatment of the administrative system which has developed for control of economic activities and of the administrative problems which arise in such control. (No prerequisite)

Spring Semester

T 6:20-8:00, Ford 50, Polley

85. Problems of World Politics.

195.§ Colonial Government and the Problems of Imperialism. } 3 credits. \$18.

Continuation of Pol. 25 which, however, is not prerequisite. Special attention to Southern Asia. (No prerequisite)

Fall Semester

W 6:20-8:00, Ford 180, Mills

90. Chinese Government and Politics.

154.§ Chinese Government and Politics. } 3 credits. \$18.

Constitutional and political development in China; political ideas, government, political parties, and problems of the Communistic regime. (No prerequisite)

Fall Semester

Th 6:20-8:00, Ford 50, Turner

94. The Far East in International Relations.

194.§ The Far East in International Relations. } 3 credits. \$18.

Political development of China, Japan, and Korea, with emphasis on the period since World War I; Western-Asiatic diplomacy; current problems and military conflict in Asia. (No prerequisite)

Spring Semester

M 6:20-8:00, Ford 85, Levi

98. Foreign Affairs Administration.

175.§ Conduct of American Foreign Relations I. } 3 credits. \$18.

Powers of the President and the Congress in foreign relations; the treaty power, executive agreements, and the "Bricker Amendment"; organization and work of the Department of State; other foreign affairs agencies; disorganization, reorganization, and coordination in recent foreign affairs administration. (No prerequisite)

Fall Semester

W 8:05-9:45, Ford 50, Jones

99. Diplomacy.

176.§ Conduct of U.S. Foreign Relations II. } 3 credits. \$18.

The nature and objects of diplomacy; diplomacy in relation to balance of power, concert of powers, collective security; personal diplomacy, secret diplomacy, conference diplomacy, popular diplomacy; organization and reorganization of the U. S. Foreign Service, its functions, problems of recruitment, training, tenure, loyalty; overseas administration of economic and military aid technical assistance. (No prerequisite)

Spring Semester

W 8:05-9:45, Ford 150, Jones

§ See Note at beginning of Political Science section.

Psychology (Psy.)

1a. Application of Psychology to Living. 3 credits. \$18.

This course is devoted to psychology in personal relationships and in the achievement of mental health. It centers, for the most part, around our fundamental needs—the source of all our actions and satisfactions—and it presents principles highly applicable in the life of every person. (No prerequisite; may be taken with the same satisfaction before or after Psy. 1-2. Elective credit in S.L.A. Not to be confused with Elementary Psychology A. Repeated spring semester)

Fall Semester

M 6:20-8:00, Nicholson 216, White
T 6:20-8:00, St. P. Ext. Center 202, White
Th 8:05-9:45, Nicholson 216, White

Spring Semester

M 8:05-9:45, Nicholson 216, White
T 8:05-9:45, St. P. Ext. Center 201, White
Th 6:20-8:00, Nicholson 216, White

1-2.† General Psychology. 3 credits each semester. \$18.

This course is designed to orient the student to the whole field of psychology. Its emphasis is upon methods of investigation. Required for most other courses in psychology. (No prerequisite)

Fall Semester

1 W 6:20-8:00, Nicholson Aud., White
F 7:00-8:40, St. P. Ext. Center 201, Gray

Spring Semester

2 W 6:20-8:00, Nicholson Aud., White
F 7:00-8:40, St. P. Ext. Center 201, Gray

4-5.† Introductory Laboratory Psychology. 2 credits each semester. \$18.

Experiments illustrating the subject matter and methods of the psychology of today. Each student interprets his own performances with respect to general ability, special abilities (mechanical, clerical, artistic, etc.), interests, and personality traits. Supplies the laboratory experience necessary for using psychology as the natural science requirement in the Junior College. (May be taken with or after Psy. 1-2)

Fall Semester

4 W 8:05-9:45, Psychology 211, Clark

Spring Semester

5 W 8:05-9:45, Psychology 211, Clark

70. Principles of Psychological Measurement. 3 credits. \$18.

Designed to present statistical methods necessary to the practical application of psychological concepts. Especially useful to persons who work with psychological tests or with any sort of objective evaluation technique. Special emphasis is given to psycho-physical methods and to techniques of attitude scaling, directed toward the needs of persons engaged in analysis of public opinion or in market research. Topics discussed include presentation and arrangement of data, measures of central tendency and dispersion, attitude scaling techniques (including the Likert, Thurstone, and Guttman methods), psycho-physical methods, sampling methods and problems of forecasting, tests of significance of differences, and correlation analysis. (Prerequisite: Psy. 1-2 or consent of instructor)

Fall Semester

T 8:05-9:45, Johnston 115, Dunnette

119. Psychology of Personality. 3 credits. \$18 plus \$1 laboratory fee.

Designed to dissolve the halo of mystery surrounding the concept of personality, to the end that persons may better understand themselves and those they influence. Personality factors in relationship to business, family, and marital life. Special study of the many conditions, cultural and biological, which produce the varied traits distinguishing one person from another. Emphasis upon the importance of early experiences in forming character. (Prerequisite: Psy. 1-2)

Spring Semester

W 8:05-9:45, Psychology 115

† See Information, page 14.

122-123.† Vocational Development and Personnel Psychology. 3 credits each semester. \$18 plus \$1 laboratory fee.

Deals with selecting, counseling, training, and maintaining an efficient labor force in industry. Theory and practice of giving, interpreting, and evaluating psychological tests and of interviewing; constructing and using rating scales; training, maintaining, and promoting employees. There will also be actual practice in the use of psychological tests. (Prerequisite: consent of instructor. Not open for credit to those who have taken Psy. 160 for credit)

Fall Semester

122 M 6:20-8:00, Psychology 211, Longstaff

Spring Semester

123 M 6:20-8:00, Psychology 211, Longstaff

125-126. Psychology of Individual Differences. 3 credits each semester. \$18.

Asks how and why people differ. Deals with factors such as age, sex, race, heredity, and environment and how these are related to differences in ability and temperament. These differences are important in personnel work, vocational counseling, and in industrial relations. (May be used for elective credit toward a Certificate in Industrial Relations. Prerequisite: Psy. 1-2)

Fall Semester

125 T 6:20-8:00, Johnston 115, Dunnette

Spring Semester

126 T 6:20-8:00, Johnston 115, Dunnette

144-145.† Abnormal Psychology. 3 credits each semester. \$18.

Normal and abnormal behavior contrasted; varieties of maladjustment, or inadequacies of personality as shown in everyday life, contrasted against the background of neurotic and psychotic persons in order to consider programs of mental hygiene. (Prerequisite: Psy. 1-2)

Fall Semester

144 M 8:05-9:45, Psychology 115, Holt

Spring Semester

145 M 8:05-9:45, Psychology 115, Holt

Public Health (Pub.H.)**50. Personal and Community Health.** 3 credits. \$18.

Fundamental principles of health conservation and disease prevention. (No prerequisite. Open to students who have not taken 3, 4, 51, 52, 100 or G.C. 10C)

Fall Semester

T 6:20-8:00, Millard 129, Thomson

59. Health of the School Child. 3 credits. \$18.

Disease control; health appraisal; emotional problems; school environment; accident prevention and emergency care. (Prerequisite: 3 and 4, or 3 and 51, or G.C. 10C and 4, or G.C. 10C and 50, or 50 or 52, or 100; exemption from 3 on basis of military service not acceptable as substitute for personal health course)

Spring Semester

T 6:20-8:00, Millard 129, Eichenlaub

62. Public Health Nursing I. 5 credits. \$30.

Significance of nurse-family relationships; implication of interviewing techniques; analysis of family health needs with emphasis on public health problems from birth until school age; consideration of home, clinic, and community as areas of operation. (To receive credit for the course the student must complete both 62 and 63. Prerequisite: registered public health nurse or consent of instructor, 133 or concurrent registration)

Spring Semester

W 6:20-8:50, Millard 129, Sandve

† See Information, page 14.

75. Introduction to Environmental Sanitation. 3 credits. \$18.

Principles of urban and rural sanitation relating to water, food, wastes, housing, air, insects, rodents. (Prerequisite: 3 credits in public health)

Spring Semester

M 6:20-8:00, Millard 129, Bond

100. Elements of Preventive Medicine and Public Health. 5 credits. \$30.

Occurrence and prevention of communicable, degenerative, and industrial diseases; protection of food, water, and milk; maternal and child health. (Prerequisite: 3 or 50, and course in bacteriology)

Fall Semester

T 6:20-8:50, Millard 214, Schuman

133. Mental Hygiene. 3 credits. \$18.

Emotional factors underlying wholesome family relations; problems interfering with successful adjustment in family and community. (No prerequisite)

Fall Quarter

M 6:00-8:30, Millard 129, Cline

Radio and Television

See page 62.

Recreation

See page 94.

Scandinavian (Scan.)

1-2. Beginning Norwegian. 3 credits each semester. \$18.

This course, intended for students who have little or no previous knowledge of Norwegian, stresses spoken Norwegian, but provides in addition the essentials of grammar and some practice in simple composition. (No prerequisite)

Fall Semester

1 W 6:20-8:00, Folwell 12, Nelson

Spring Semester

2 W 6:20-8:00, Folwell 12, Nelson

3-4. Intermediate Norwegian. 3 credits each semester. \$18.

Designed for students with some theoretical and practical knowledge of Norwegian. Provides a rapid review of grammar and considerable practice in conversation and composition. Readings in Norwegian.

Fall Semester

3 M 6:20-8:00, Folwell 12, Nelson

Spring Semester

4 M 6:20-8:00, Folwell 12, Nelson

7-8. Beginning Swedish. 3 credits each semester. \$18.

Intended primarily for beginners in Swedish. A minimum of grammar, with emphasis on simple composition and conversation, and some reading of elementary selected prose. (No prerequisite)

Fall Semester

7 T 6:20-8:00, Folwell 12, Gustafson

Spring Semester

8 T 6:20-8:00, Folwell 12, Gustafson

11b-12b. Readings in Swedish Literature. 3 credits each semester. \$18.

A continuation of Scan. 11a and 12a, designed for students who have had at least one year of Swedish or who have a fair reading knowledge of the language. The readings will include material from the drama and prose fiction of Strindberg, Selma Lagerlöf, and others.

Fall Semester

11b T 8:05-9:45, Folwell 12, Gustafson

Spring Semester

12b T 8:05-9:45, Folwell 12, Gustafson

Slavic and Oriental Languages*Hebrew (Heb.)***1-2-3. Beginning Hebrew.** 3 credits each quarter. \$18.

An introductory course in the Hebrew language, aimed at developing a minimal conversational ability for practical situations. It will equip students to read simple texts at sight and current periodicals with the aid of a dictionary, and will acquaint them with the existence of the extensive Hebrew literature.

*Fall Quarter*1 T 6:20-8:50, Folwell 113,
Kisch*Winter Quarter*2 (Same schedule
as fall)*Spring Quarter*3 (Same schedule
as fall)*Polish***1-2. Beginning Polish.** 3 credits each semester. \$18.

This introductory course to the Polish language is designed to equip the student with a modest conversational ability, an efficient knowledge of the structure of the language, and facility in reading newspapers and selected literary texts. (No prerequisite for 1; prerequisite for 2: Polish 1 or consent of instructor)

Fall Semester

1 T 6:20-8:00, Folwell 226, Trendota

*Spring Semester*1 Th 6:20-8:00, Folwell 226, Trendota
2 T 6:20-8:00, Folwell 226, Trendota**3-4. Intermediate Polish.** 3 credits each semester. \$18.

This course will develop and extend the basic language skills acquired in Polish 1-2. However, more attention will be given to reading literary texts. Various aspects of Polish life and culture will provide topics for conversation. (Prerequisite: Polish 1-2 or consent of instructor)

*Fall Semester*3 W 6:20-8:00, Folwell 226, Trendota
4 Th 6:20-8:00, Folwell 226, Trendota*Spring Semester*

4 W 6:20-8:00, Folwell 226, Trendota

*Russian (Russ.)***1-2. Russian Reading.** 3 credits each semester. \$18.

A beginning course with emphasis on reading. Comprehensive discussion of the Russian grammatical system, with special stress on the recognition of forms and the structure of the sentence. Interpretation and translation of easy texts. This course aims to give a general working knowledge of Russian and the basic preparation for reading tests required of graduate students in their specific fields. (No prerequisite for 1; prerequisite for 2: Russ. 1 or consent of instructor)

Fall Semester

1 M 6:20-8:00, Folwell 113, Alexeev

Spring Semester

2 M 6:20-8:00, Folwell 113, Alexeev

Social Work

See Sociology.

Sociology (Soc.)

1. Introduction to Sociology. 3 credits. \$18.

A study of the characteristics of human group life. An analysis of the factors associated with the development of human group life and man's social environment; the structure of the social environment and its influence upon the individual's behavior; the processes involved in social change and the social problems that accompany social change. A survey of the fundamental social institutions, such as the family and the church; the development and decline of social institutions; change in the institutional functions and social disorganization. (No prerequisite. Repeated spring semester)

Fall Semester

Th 6:20-8:00, Ford 20, Taves

Spring Semester

T 6:20-8:00, Ford 20, Taves

49. Social Problems. 3 credits. \$18.

A survey course in contemporary social problems with special emphasis on personal demoralization and social disorganization.

Fall Semester

M 6:20-8:00, St. P. Ext. Center 207, Johnson

Spring Semester

Th 6:20-8:00, Ford 180, Johnson

50. An Introduction to the Theory and Practice of Social Work. 5 credits. \$30.

A survey of social service with consideration of areas of social needs, social agencies, their purpose and function, and the methodology and philosophy of social work practice. (Prerequisite: 6 credits in some social science, preferably sociology)

Fall Semester

W 6:20-8:00, Ford 175

53. Elements of Criminology. 3 credits. \$18.

A general survey of the field of criminology. (Prerequisite: Soc. 1 or consent of instructor)

Fall Semester

W 6:20-8:00, Ford 70, Donohue

91B. Interviewing. 3 credits. \$18.

A course on interviewing method as applied to the use in service professions and occupations. (Prerequisite: Soc. 91 or 91A and consent of instructor. This course not designed for social workers primarily)

Fall Semester

M 6:20-8:00, Ford 175, Saloshin

92. Working with Groups. 3 credits. \$18.

A course which examines group process and how to work as a leader or adviser with groups, particularly those found in the informal education and recreational agency and in children's institutions.

Fall Semester

W 10:30 a.m.-12:20 p.m., Ford 70, Cohn

93. Programming as Affected by Changes in the Community. 3 credits. \$18.

This course is designed for social group workers currently practicing in community agencies.

Spring Semester

W 9:30 a.m.-11:20 a.m., Ford 70, Pernell

111. Population Trends. 3 credits. \$18.

This course emphasizes the cultural and social phases of population change with particular reference to birth rates, death rates, and migration. The implications of population change are also discussed. (Prerequisite: Soc. 1 or consent of instructor)

Spring Semester

M 6:20-8:00, Ford 60, Francis

118. Delinquent Behavior. 3 credits. \$18.

A critical analysis of the nature of delinquent behavior and its "causes," with consideration of the help that understanding of causes can give to its modification and its prevention. (Prerequisite: Soc. 53 or consent of instructor)

Spring Semester

W 6:20-8:00, Ford 60, Donohue

123. Intergroup Relations. 3 credits. \$18.

Interaction of social and cultural groups in America. Processes leading to group contact; characteristics and contributions of ethnic groups in the United States; mechanisms and problems of group adjustment. Democratic theory and practice; sources of prejudice; contemporary status of principal minority groups; international implications; trends and proposed solutions. (Prerequisite: Soc. 1 or consent of instructor)

Fall Semester

T 6:20-8:00, Ford 60

176. Dynamics of Human Behavior Based on Psychoanalytic Theory. 3 credits. \$18.

The application of psychoanalysis in the understanding of abnormal behavior; the lectures deal with normal and abnormal behavior, especially in relation to problems met by the social worker and teacher. (Prerequisite: 6 credits in sociology and 6 credits in psychology and consent of an adviser in the School of Social Work)

Spring Semester

W 6:20-8:00, N.W. Bank Bldg. 690, Sukov

Note—Properly qualified students may use this course for graduate credit upon application to the chairman of the School of Social Work.

Spanish (Span.)**1-2. Beginning Spanish. 3 credits each semester. \$18.**

Grammar, pronunciation, reading, and practice in speaking. (No prerequisite)

Fall Semester

- 1 M 6:20-8:00, Folwell 202, Grismer
T 6:20-8:00, St. P. Ext. Center 205,
Mousolite
Th 6:20-8:00, Folwell 202, Rundorff
2 M 6:20-8:00, Folwell 204

Spring Semester

- 1 Th 6:20-8:00, Folwell 203, Rundorff
2 M 6:20-8:00, Folwell 202, Grismer
T 6:20-8:00, St. P. Ext. Center 207,
Mousolite

3-4. Intermediate Spanish. 3 credits each semester. \$18.

Review, composition, readings from modern authors. Attention to correspondence and commercial practice if desired. (Prerequisite: Span. 1-2 or 2 years of preparatory Spanish)

Fall Semester

- 3 T 8:05-9:45, St. P. Ext. Center 205,
Mousolite
W 6:20-8:00, Folwell 204, Vazquez

Spring Semester

- 4 T 8:05-9:45, St. P. Ext. Center 207,
Mousolite
W 6:20-8:00, Folwell 204, Vazquez

54b-55b. Spanish Conversation. 3 credits each semester. \$18.

Informal discussion of current affairs and everyday topics. (Prerequisite: Span. 3-4, or consent of instructor)

Fall Semester

54b W 6:20-8:00, Folwell 203, Floripe

Spring Semester

55b W 6:20-8:00, Folwell 203, Floripe

56. Practical Spanish Phonetics. 3 credits. \$18.

A course intended for students on the elementary, intermediate or advanced level who need systematic training in Spanish pronunciation. A practical study of Spanish sounds, based on the reading of well-graded exercises and the extensive use of the tape-recording machine. The emphasis is not only on the correct pronunciation but also on the proper intonation of spoken Spanish. (Prerequisite: one semester of Spanish or consent of instructor)

Fall Semester

T 6:20-8:00, Folwell 202, Cuneo

57. Commercial Spanish. 3 credits. \$18.

Commercial correspondence in Spanish, including the main parts of a Spanish letter, models of letters and commercial forms and documents, abbreviations used in Spanish correspondence and business vocabulary. (Prerequisite: Span. 3-4)

Spring Semester

T 6:20-8:00, Folwell 202, Cuneo

Speech and Theater Arts (Spch.)

****Beginning Practical Speech Making.** 3 Extension credits. \$20 plus \$2.50 material and laboratory fee.

This course is designed particularly for the adult student who wants a practical application of the fundamentals of speech to his professional, business, and social needs. The primary purpose of the course is to develop confidence and effectiveness in speaking situations. Individual attention will be given to cases of nervousness, embarrassment, inadequacy, inferiority, and stage fright. Each student speaks before the class each meeting. Voice recordings and an analysis of the speaking voice will be made. (No prerequisite. Each section limited to 20 students)

Fall Semester

M 6:20-8:00, Folwell 5, Fulton

W 8:05-9:45, Folwell 5, Fulton

Th 6:20-8:00, St. P. Ext. Center 204, Fulton

Spring Semester

M 6:20-8:00, Folwell 5, Fulton

W 8:05-9:45, Folwell 5, Fulton

Th 6:20-8:00, St. P. Ext. Center 204, Fulton

****Advanced Practical Speech Making.** 3 Extension credits. \$20 plus \$2.50 material and laboratory fee.

An advanced speech course designed particularly for the adult student who wishes to develop skill in sound argumentative and effective persuasive speaking. The primary purpose of the course is to present the rules of logic and the impelling motives of conduct in a practical manner. Topics of current interest will be analyzed and discussed. Each student speaks before the class each meeting. (Open only to students who have completed Beginning Practical Speech Making, except by special consent of instructor. Class limited to 20 students)

Fall Semester

W 6:20-8:00, Folwell 5, Fulton

Spring Semester

W 6:20-8:00, Folwell 5, Fulton

** Registration must be made in person.

1-2†-3. Fundamentals of Speech. 3 credits each semester. \$18 plus \$1 laboratory fee.

Speech as a means of social adaptation and control; techniques of body and voice; organization of speech material and study of types of speeches; practice for correctness and effectiveness in presentation. Voice recordings. (No prerequisite)

Fall Semester

- 1 M 6:20-8:00, Folwell 308, Fletcher
W 6:20-8:00, St. P. Ext. Center 206,
Bystrom
- 2 M 6:20-8:00, Folwell 305
W 6:20-8:00, St. P. Ext. Center 206,
Bystrom
- 3 M 6:20-8:00, Folwell 305
W 6:20-8:00, St. P. Ext. Center 206,
Bystrom

Spring Semester

- 1 M 6:20-8:00, Folwell 308, Fletcher
W 6:20-8:00, St. P. Ext. Center 206,
Bystrom
- 2 M 6:20-8:00, Folwell 305
W 6:20-8:00, St. P. Ext. Center 206,
Bystrom
- 3 M 6:20-8:00, Folwell 305
W 6:20-8:00, St. P. Ext. Center 206,
Bystrom

****65. Radio and Television Speech.** 3 credits. \$18 plus \$2 laboratory fee.

Speech and psychology of radio and television; voice, diction, articulation, pronunciation, speech personality. Specific projects in radio and television situations. Several voice recordings will be made. (Prerequisite: Spch. 1-2, or consent of instructor. Class limited to 25 students)

Fall Semester

- W 6:20-8:00, Murphy 302, Christensen

****66. Radio and Television Drama.** 3 credits. \$18 plus \$2 laboratory fee.

A study of the methods and techniques involved in the production of dramatic and other programs in the radio and television field. Students participate in all phases, including production direction, acting, script analysis, sound effects, selection of music. Several projects are carried out under actual radio and television conditions. (Prerequisite: Spch. 65 or consent of instructor. Class limited to 25 students)

Spring Semester

- W 6:20-8:00, Murphy 302, Christensen

71. Play Production. 3 credits. \$18.

The analysis and selection of plays for amateur groups in schools, clubs, and churches. Explores the problems of casting, blocking, rehearsing, and organizing of plays and other forms of entertainment.

Fall Semester

- W 6:20-8:00, Nicholson 302, Ballet

72. Play Production. 3 credits. \$18.

Practical solutions to problems in scenery construction, painting, lighting, costuming, properties, and stage make-up. Especially designed for those who must work with limited budgets and equipment.

Spring Semester

- W 6:20-8:00, Nicholson 302, Josal

106. Discussion. 3 credits. \$18.

Co-operative thinking; recognition and definition of problems, critical analysis, examination of possible solutions. Planning, preparing for, participating in, and leading classroom, public, radio and television discussions. (Prerequisite: 1-2 or 5. Repeated spring semester)

Fall Semester

- M 6:20-8:00, Folwell 404, Smith

Spring Semester

- M 6:20-8:00, Folwell 404, Smith

† See Information, page 14.

** Registration must be made in person.

****Speech Correction for Stutterers. No credit. \$25.**

A course in the psychological and practical techniques useful in overcoming the handicap of stuttering at the adult level. (Not open to currently enrolled high school students. Class limited to 12 students)

Fall Semester

Th 6:20-8:00, Folwell 308, Clubb

Spring Semester

Th 6:20-8:00, Folwell 308, Clubb

Textiles

See page 79.

Theater

See page 62.

BUSINESS ADMINISTRATION**Accounting***First Year Accounting Courses***Principles of Accounting (Econ. 24, 25, and 26).**

This is the first year introductory course based on standard college texts and laboratory materials. There is no prerequisite course for Econ. 24, but evening students should be capable of college level work. To meet the needs of evening students the three courses are scheduled on three plans:

1. Semester class schedule, for 3 credits each term requiring three semesters for completion.
2. Quarter basis, 2½-hour classes, 3 credits each quarter, course completed in one year.
3. One-semester course, meeting twice weekly in 2½-hour sessions, spring semester only.

For students who wish regular class periods in order to take two classes the same evening or who prefer more time and less concentration in beginning an elementary technical study.

For students who wish to complete the entire course in one year of 3 quarters of 11 weeks each.

For those who wish to concentrate on completion of the course in the spring semester, in order to begin advanced courses in the following fall semester.

Note—In registering, students are cautioned to observe under which plan the particular class is scheduled.

Econ. 24-25. Principles of Accounting. 3 credits each semester. \$18.

The first two units of the University course in accounting on the semester basis. (No prerequisite)

Fall Semester

24 M 6:20-8:00, St. P. Ext. Center 201
T 6:20-8:00, Vincent 301, Meyers

Spring Semester

25 M 6:20-8:00, St. P. Ext. Center 201
T 6:20-8:00, Vincent 301, Meyers

**** Registration must be made in person.**

Econ. 26. Principles of Accounting. 3 credits. \$18.

Third unit of the three-term course on semester basis. May be followed by B.A. 65 in spring semester. (Prerequisite: Econ. 25)

Fall Semester

T 6:20-8:00, Vincent 307, Gaasedelen
W 8:05-9:45, St. P. Ext. Center 203, Creviere

Econ. 24-25-26. Principles of Accounting. 3 credits each quarter. \$18 each unit.

The first-year University course in accounting, quarter basis. (No prerequisite)

*Fall Quarter**Winter Quarter**Spring Quarter*

24 M 6:20-9:00, Vincent 301,
Lund

25 (same schedule as fall)

26 (same schedule as fall)

W 5:30-8:00, St. P. Ext.
Center 203, Creviere

Th 6:20-9:00, St. P. Ext.
Center 201, Creviere

Econ. 24-25-26. Principles of Accounting (Combined). 9 credits. \$18 each unit.

This course offers Econ. 24-25-26 complete in one semester, six weeks for each, two classes per week. Registration and fees accepted for combined course, or for single units provided Econ. 24 has preceded 25 and Econ. 25 has preceded 26.

Spring Semester

MF 6:20-10:00, Vincent 306, Lund

MF 6:20-10:00, St. P. Ext. Center 206, Creviere

Second Year Accounting Courses

For students who do not intend to prepare for technical or professional accounting work but wish to understand more about accounting as a tool in either finance or management, the following courses which are designed for nonaccounting majors should be taken when available: B.A. 65, Analysis of Financial Statements; B.A. 66, Managerial Costs; and B.A. 154, Budgetary Control. For students who intend to prepare for accounting work and take more than two additional courses after the first year, either B.A. 150-151, Intermediate Accounting, or B.A. 152-153, Cost Accounting, are necessary prerequisite courses and should be taken after the first year courses are completed.

B.A. 65. Analysis of Financial Statements. 3 credits. \$18.

A course in the use of financial statements by creditors, investors, and executives. The material is approached from the viewpoint of the reader of statements, and is not concerned with accounting technicalities. Reports of commercial, industrial, public utility, and railroad companies are used as basic material for the course. (Prerequisite: Econ. 26 or consent of instructor)

Spring Semester

W 6:20-8:00, St. P. Ext. Center 204

Th 6:20-8:00, Vincent 301, Gaasedelen

Elementary Functional Wiring for Punched Card Equipment. 3 Extension credits. \$18.

A course for those interested in procedures for different types of machine operation. Major emphasis on a different specialized equipment each semester. (No prerequisite. Consult instructor)

Fall Semester

M 6:20-8:00, Ford 70, Dolan

B.A. 91. Intermediate Machine Accounting. 1 credit plus 2 Extension credits. \$18.

Punched card methods and standard procedures as applied to accounting and statistical records. Card and code designs. For those who understand wiring and operation of standard equipment. (Prerequisite: consent of instructor)

Spring Semester

M 6:20-8:00, Ford 160, Bonney

B.A. 118, 135. Auditing Procedure and Public Accounting. 3 Extension credits each semester. \$18 each semester. (6 University credits on completion of both courses consecutively.)

An introduction to auditing procedure with the preparation of a co-ordinated set of working papers based on examination of accounting and other records. The writing of short and long audit reports, development of auditing standards, S.E.C. and A.I.A. releases and audit case studies, C.P.A. examination questions in auditing. (Prerequisite: B.A. 151, B.A. 65, or B.A. 139 for fall semester, B.A. 118 for spring semester, or consent of instructor)

Fall Semester

118 Th 6:20-8:00, Vincent 301, Reighard

Spring Semester

135 Th 6:20-8:00, Vincent 306, Reighard

B.A. 133. Standard Cost Accounting and Distribution Costs. 3 credits. \$18.

Methods of standard costs; meaning of standards; setting of standards for materials, labor, and overhead; analysis of and accounting for variations; development and application of standards to distribution as well as to production activities. (Prerequisite: B.A. 66 or 130 or 153 or consent of instructor)

Fall Semester

T 8:05-9:45, St. P. Ext. Center 204, Tuttle

B.A. 134. Income Tax Accounting. 4 credits plus 2 Extension credits. \$36.

Application of income tax laws to and preparation of both state and federal returns for individuals, partnerships, and corporations. (Prerequisite: B.A. 151 or consent of instructor)

Fall Semester

M 6:20-9:40, Vincent 306, Nelson

W 6:20-9:40, St. P. Ext. Center 204, Daly

B.A. 150-151. Intermediate Accounting. 3 credits each semester. \$18.

Second-year accounting for students intending to specialize in accounting. Standard text and problems designed to build on principles of the first-year course, developing accepted accounting practices in valuation and amortization procedures, determination of periodic income and stockholders' interest. (Prerequisite: Econ. 26 or equivalent with consent of instructor)

Fall Semester

150 T 6:20-8:00, Vincent 2, Lund
 W 6:20-8:00, Vincent 306
 W 6:20-8:00, St. P. Ext. Center 202,
 Johnson

Spring Semester

151 T 6:20-8:00, Vincent 2, Lund
 W 6:20-8:00, Vincent 306
 W 6:20-8:00, St. P. Ext. Center 202,
 Johnson

B.A. 152-153. Cost Accounting. 3 credits each semester. \$18.

Cost accounting with text, laboratory set and problems, requiring outside preparation, covering job order and process cost procedures and theory. (Prerequisite: Econ. 26 or equivalent with instructor's consent. With special permission students may substitute B.A. 152 for B.A. 68 to meet core group requirements)

Fall Semester

152 T 8:05-9:45, Vincent 306, Meyers
 W 8:05-9:45, St. P. Ext. Center 202,
 Tuttle

Spring Semester

153 T 8:05-9:45, Vincent 306, Meyers
 W 8:05-9:45, St. P. Ext. Center 202,
 Tuttle

Advanced Cost Accounting A-B.† 3 Extension credits each semester. \$18.

A detailed practical application to business situations of the principles of cost accounting, and the installation of cost systems; burdens and burden centers; pro forma journal entries; wage methods; change from job to process cost methods; by-product accounting; forms. (Prerequisite: B.A. 152-153, or Cost Accounting I-II)

Fall Semester

A T 6:20-8:00, St. P. Ext. Center 204, Tuttle

Spring Semester

B T 6:20-8:00, St. P. Ext. Center 204, Tuttle

B.A. 154. Budgetary Control. 3 credits. \$18.

Fundamentals of establishing and operating a budget. Budgetary control and the relationship to break-even analysis. (Prerequisite: B.A. 153 or consent of instructor)

Spring Semester

T 8:05-9:45, St. P. Ext. Center 204, Tuttle

W 8:05-9:45, Vincent 306

B.A. 158. Governmental Accounting. 2 credits plus 1 Extension credit. \$18.

Procedures and problems in accounting for government budgets, appropriations, and funds. (See Pol. 58, page 52)

Spring Semester

Th 6:20-8:00, Ford 160, Magraw

B.A. 159. Advanced Accounting. 3 credits. \$18.

Branch accounting, consolidated statements, estates and trusts, concerns in financial difficulties, and other specialized problems. (Prerequisite: B.A. 151)

Spring Semester

W 8:05-9:45, Vincent 205, Nelson

W 8:05-9:45, St. P. Ext. Center 204, Johnson

Advertising

See pages 45 and 76.

Business English

Review of Business English. 3 Extension credits. \$18.

For those who have been out of school for a while or who had poor preparation for Business English while in school. Modern, streamlined sentence structure, paragraphing, punctuation, and spelling. Brief introduction to letter form and organization. Emphasis on brevity, accuracy, meaning, and vividness. (No prerequisite)

Fall Semester

T 6:20-8:00, St. P. Ext. Center 207, Lippert

Th 6:20-8:00, Ford 150, Lippert

Spring Semester

M 6:20-8:00, Ford 50, Lippert

W 6:20-8:00, St. P. Ext. Center 207, Lippert

Business Correspondence. 3 Extension credits. \$18.

A practical class for people recognizing the value of effective expression in business letters. The principal types of letters will be analyzed and the written assignments will emphasize the development of a letter style capable of producing economical, clear, action-getting letters. (No prerequisite. Repeated spring semester)

Fall Semester

M 6:20-8:00, Ford 150, Lippert

W 8:05-9:45, Main Engineering 4, Haga

Spring Semester

T 6:20-8:00, St. P. Ext. Center 201, Lippert

W 6:20-8:00, Main Engineering 215, Haga

† See Information, page 14.

Communication in Management. 3 Extension credits. \$18.

Note—On approval of petition by instructor and the School of Business Administration, University credit (not in excess of 3 credits) applicable for a B.B.A. degree will be recognized for Communication in Management in lieu of Comp. 58, provided class work has included appropriate supplementary assignments. Consult instructor at beginning of class term.

An advanced course for people working at the administrative level. Reviews and analyzes the forms and styles appropriate in the three major classes of management communication: downward (order-giving), upward (administrative reporting), and horizontal (clearance and review). In addition to the class assignments, each student will work out an individual communication project related to his specific job. (No prerequisite)

Fall Semester

W 6:20-8:00, Main Engineering 215, Haga

Spring Semester

W 8:05-9:45, Main Engineering 215, Haga

Business Law

B.A. 51-52-53, 56. Business Law. 3 credits each semester. \$18.

Note—51 and either 52 or 53 must be completed before credit for degree or senior certificate is granted.

Comprehensive course in the fundamental principles of law for the business and professional man. 51: Contracts—formation, operation, transfer, discharge. 52: Business associations—nature, creation and terms of the relation, rights, and liabilities of the parties when doing business through agents, partnerships, and corporations. 53: Law of sales of goods under the Uniform Sales Act and law of commercial paper under the Uniform Negotiable Instruments Law. 56: Nature and classification of real estate; deeds and conveyances; landlord and tenant; recording and abstracting; Torrens titles; liens and mortgages; wills, probating of estates, and duties of administrators and executors. (Prerequisite: B.A. 51 must precede or be taken in conjunction with either 52 or 53 unless consent of instructor is obtained for a different sequence)

Fall Semester

51 M 8:05-9:45, St. P. Ext. Center 206,
Thomas
W 6:20-8:00, Ford 120, Moss
52 M 6:20-8:00, St. P. Ext. Center 205,
Thomas
W 8:05-9:45, Ford 120, Moss
53 T 6:20-8:00, Vincent 113,
VanValkenburg

Spring Semester

51 M 6:20-8:00, St. P. Ext. Center 204,
Thomas
W 8:05-9:45, Ford 120, Moss
52 M 8:05-9:45, St. P. Ext. Center 204,
Thomas
W 6:20-8:00, Ford 120, Moss
53 T 6:20-8:00, Vincent 113, VanValkenburg
56 Th 6:20-8:00, Vincent 113, Carroll

Common Legal Problems I. 3 Extension credits. \$18 plus \$1 materials fee.

A course in everyday legal principles for the layman who wishes more intelligently and efficiently to manage his own personal affairs and to fulfill his place as a citizen. Any individual, whether married or single, housewife or businessman, is bound to come up against many legal problems in varied fields during a lifetime. In many cases these problems might never arise or might be considerably minimized if the persons involved could anticipate them and know in advance what are the basic rights and liabilities and what steps should be taken to enforce or guard them, whom to consult, etc. This course will examine those everyday transactions which of necessity involve certain fundamental aspects in the following fields: real property, rentals, leases, purchases and sales, building contracts and liens, mortgages and loans; handling of wills, estates, and probate proceedings; tax returns; accidents, negligence, trespass and other torts, and liability for such torts; and contracts and sales. (No prerequisite. Repeated spring semester)

Fall Semester

T 6:20-8:00, St. P. Ext. Center 206, Clay
W 6:20-8:00, Ford 150, Thorfinnson

Spring Semester

T 6:20-8:00, St. P. Ext. Center 206, Clay
W 6:20-8:00, Ford 50, Thorfinnson

Common Legal Problems II. 3 Extension credits. \$18 plus \$1 materials fee.

Common Legal Problems I is not a prerequisite. The course will consider the following subjects with the same objective as in Common Legal Problems I: domestic relations, rights and liabilities of husband and wife, parent and child; rights and liabilities of master

and servant, principal and agent, and partners; corporations and partnerships; sole proprietorships; crimes and prosecution of accused; negotiable instruments and banking; insurance; and adoption proceedings. Consideration will also be given to economic, business, and social legislation which necessarily affects the individual's legal rights, i.e., benefits under the Social Security Act, Railroad Retirement and Sickness Benefit Acts, Old Age Assistance legislation, Workmen's Compensation Act, etc.; the effects of State and Federal legislation on business management, employers, employees, and the public; wage and price control; the Interstate Commerce Commission; State Public Service Commissions; and other governmental agencies. (Repeated spring semester)

Fall Semester

W 8:05-9:45, Ford 150, Thorfinnson

Spring Semester

W 8:05-9:45, Ford 50, Thorfinnson

Parliamentary Law. See page 48.

Economics and Finance

Econ. 3. Elements of Money and Banking. 3 credits. \$18.

The nature and functions of money and credit; a study of commercial banking and the Federal Reserve System—their functions in private finance, ordinary governmental finance, and war finance. Machinery designed to control alternate periods of inflation and deflation; other types of financial institutions and security exchanges; changes in form and functions resulting from legislation or revised business practices. (No prerequisite)

*Fall Semester*M 6:20-8:00, St. P. Ext. Center 204
W 6:20-8:00, Vincent 207*Spring Semester*M 6:20-8:00, St. P. Ext. Center 202
T 8:05-9:45, Vincent 113

Econ. 5. Elements of Statistics. 3 credits. \$18.

Elementary concepts in statistical methods: averages, ratios, errors, sampling, index numbers, graphic representation, collection of material. (No prerequisite; a background of elementary algebra is useful)

*Fall Semester*M 8:05-9:45, St. P. Ext. Center 205
W 6:20-8:00, Vincent 113
W 8:05-9:45, Vincent 113*Spring Semester*M 6:20-8:00, St. P. Ext. Center 205
Th 6:20-8:00, Vincent 6

Econ. 6-7. Principles of Economics. 3 credits each semester. \$18.

Principles underlying economic activity, prices, and the cost of production; the factors of productions; division of labor and its relation to the development of industry; wages, rent, interest, profits; the level of national income and employment. (No prerequisite)

*Fall Semester*6 M 6:20-8:00, Vincent 113
M 8:05-9:45, St. P. Ext. Center 202
T 6:20-8:00, Vincent 1, Borak
W 6:20-8:00, Vincent 1, Borak
W 8:05-9:45, Vincent 207
7 Th 6:20-8:00, Vincent 205, Smith*Spring Semester*6 W 6:20-8:00, Vincent 1, Borak
Th 8:05-9:45, Vincent 1
7 M 6:20-8:00, Vincent 207
M 8:05-9:45, St. P. Ext. Center 201
T 6:20-8:00, Vincent 207
W 6:20-8:00, Vincent 113
W 8:05-9:45, Vincent 113

B.A. 58. Elements of Public Finance. 3 credits. \$18.

Public expenditures, revenues, debts, fiscal policy, and financial administration. Special attention is given to tax principles, practices, burdens, and co-ordination of national, state, and local finance. (Prerequisite: Econ. 6-7)

Spring Semester

T 6:20-8:00, Vincent 1, Borak

Econ. 64. Economics of Money and Banking. 3 credits. \$18.

The problems of a central bank and the theory of the value of money. Includes control of reserves, providing a scientific currency, regulation of credit, fluctuations of the general price level—their causes and possible reduction. (Prerequisite: Econ. 3 and 6-7 and 80)

Spring Semester

Th 8:05-9:45, Vincent 2, Smith

Econ. 73. Manpower Economics and Labor Problems. See Industrial Relations, page 71.**B.A. 74. Business Statistics.** 3 credits. \$18.

Explanation and criticism of statistical techniques for dealing with time series; measurements of trend, seasonals, cycles; index numbers. Statistical control of quality on manufacturing operations. (Prerequisite: Econ. 5 or equivalent)

Spring Semester

Th 8:05-9:45, Vincent 113

Econ. 75. Corporation Finance. 3 credits. \$18.

Incorporation. The various types of corporate securities and their uses. Financial plans for industrial, utility, and other types of corporations. Financial affairs of an established business. General financial problems of the holding company, consolidations, mergers, and reorganizations. (Prerequisite: Econ. 3 and 6-7)

Fall Semester

M 6:20-8:00, Vincent 205, Sutton

Econ. 80. Intermediate Economic Analysis: Income and Employment. 3 credits. \$18.

The determinants of national income, employment, and the price level, with particular attention to aggregate consumption and investment. (Prerequisite: Econ. 7)

Fall Semester

W 6:20-8:00, Vincent 205

Econ. 81. Intermediate Economic Analysis: Firms and Households. 3 credits. \$18.

The analysis of individual decision-making, by firms and households, under conditions of monopoly, competition, and monopolistic competition. (Prerequisite: Econ. 7)

Spring Semester

W 6:20-8:00, Vincent 205

Econ. 85. Government Regulation of Business. 3 credits. \$18.

A general course on the economic aspects of legislation affecting the pricing process and the distribution of the national income; origins of limitations on free competition; regulation of public utilities, trusts and combinations, and "unfair competitive practices"; positive assistance to industrial groups. (Prerequisite: Econ. 7)

Fall Semester

W 8:05-9:45, Vincent 2, Boddy

Econ. 129. Economic Issues of Today. 3 credits. \$18.

A special survey of current economic problems and their analysis designed for nonmajors and of particular interest to teachers and other social-minded people who wish to broaden their knowledge and to be brought up to date. (Prerequisite: Econ. 7)

Spring Semester

Th 6:20-8:00, Vincent 207, Smith

B.A. 146. Investments. 3 credits. \$18.

A general or "cross cut" survey of the external and internal factors influencing the prices of securities, and of the principles of an investment policy for the individual investor. Emphasis is placed upon objective analysis from source materials of factors explaining price differentiation. (Prerequisite: Econ 75 or 155)

Spring Semester

M 6:20-8:00, Vincent 113, Sutton

B.A. 148. The Securities Market. 3 credits. \$18.

Consideration of behavior over time or "longitudinal" analysis of prices of individual and groups of securities. Emphasis is placed upon the relationship of economic conditions to security values, particularly the effects of cyclical fluctuation. (Prerequisite: B.A. 146 or consent of instructor)

Spring Semester

M 8:05-9:45, Vincent 113, Sutton

Econ. 149. Business Cycles. 3 credits. \$18.

Analysis of factors involved in business fluctuations. Comparison of theories of their causes. Examination of proposals for the stabilization of employment, production, and capital formation. Introduction to the statistical data and methods of business forecasting. (Prerequisite: Econ. 64 or 142 or consent of instructor)

Fall Semester

Th 8:05-9:45, Vincent 205

Fundamentals of Investment Banking I-II. 3 Extension credits each semester. \$18.

Classroom instruction supplemented by special lectures by men of experience in investment banking, commercial banking, and other related fields. Course covers nature of various kinds of securities; statistical and investment analysis of securities; vocabulary and practices of the securities business; investment practice of various investor groups. (No prerequisite)

Fall Semester

I T 6:20-8:00, Johnston 114, Power

Spring Semester

II T 6:20-8:00, Johnston 114, Power

Industrial Engineering

See page 86.

Industrial Management and Administration

B.A. 89. Production Management. 3 credits. \$18.

Location and layout of industrial plants; types of operating organization; shop personnel; standards of operation; purchasing and inventory control; routing, scheduling, and dispatching of products; scientific management; practical problems in production control. Included in core group requirement for all candidates for a degree in business. (Prerequisite: Econ. 6-7. Repeated spring semester)

Fall Semester

M 6:20-8:00, Johnston 122, Peterson
M 8:05-9:45, Johnston 122, Peterson

Spring Semester

M 6:20-8:00, Johnston 122, Peterson

B.A. 184. Scientific Management in Industry. 3 credits. \$18.

A study of the origin and development of the movement to apply the methods of science to the management of industrial enterprises; the effects upon individual plant

management and the influence upon "rationalization" in industrial society. (Prerequisite: B.A. 89 or concurrent registration)

Spring Semester

M 8:05-9:45, Johnston 122, Peterson

Industrial Relations

Econ. 73. Manpower Economics and Labor Problems. 3 credits. \$18.

This course deals with: (1) the marketing of manpower resources; (2) the institutional structure of labor markets; (3) economic and social problems arising out of labor marketing processes; (4) methods, procedures, and proposals for solving these problems. (Prerequisite: Econ. 6-7)

Note—Qualified students may earn graduate credit in Econ. 161. For information, consult the Committee on Student Scholastic Standing.

Fall Semester

T 8:05-9:45, St. P. Ext. Center 202, Mahoney
W 6:20-8:00, Vincent 2, Heneman

Spring Semester

W 8:05-9:45, Vincent 6

Econ. 162. Labor Movements. (Offered 1956-57)

Econ. 163. Union Government and Policies. (Offered 1956-57)

Econ. 164. Labor Legislation: Collective Bargaining. (Offered 1957-58)

Econ. 166. Settlement of Industrial Disputes. 3 credits. \$18.

Major consideration of the economic impact and implications of principal methods of settling labor disputes, including mediation, conciliation, fact-finding, and voluntary and compulsory arbitration. (Prerequisite: Econ. 73 or 161)

Spring Semester

Th 6:20-8:00, Vincent 2, Turnbull

B.A. 167. Introduction to Industrial Relations. 3 credits. \$18.

Evaluation of managerial policies and devices for the control of personnel; determination of labor needs; methods of dealing with workers; selective devices; training and safety programs; compensation; collective bargaining; governmental personnel programs. (Prerequisite: Econ. 73 or 161)

Spring Semester

M 6:20-8:00, St. P. Ext. Center 207, Mahoney
W 6:20-8:00, Vincent 2, Heneman

Econ. 169. Labor Legislation: Economic Security. 3 credits. \$18.

Analysis of (1) origins and development of economic and social problems of the worker; (2) executive, legislative, and judicial attempts to deal with these problems; and (3) economic and social consequences of the developments. Treatment of "protective labor legislation," involving child labor, hours and wages, industrial accidents and illness, old age, and unemployment. (Prerequisite: Econ. 73 or 161)

Fall Semester

Th 8:05-9:45, Vincent 2, Turnbull

B.A. 180D. Senior Topics: Industrial Relations. 3 credits. \$18.

Designed to develop familiarity with professional procedures and techniques in each of the major functions of manpower management. Individual and group projects prepare the student for professional application of procedures. Job evaluation and wage and salary

administration are the specific manpower management functions discussed in this offering. (Prerequisite: B.A. 167)

Spring Semester

W 8:05-9:45, Vincent 2, Heneman

Psy. 122-123.† Vocational and Personnel Psychology. See page 56.

Psy. 125-126. Psychology of Individual Differences. See page 56.

Survey of Current Problems in Industrial Relations. 3 Extension credits. \$18.

Note—The content of this course changes each time it is given and, as the course title indicates, deals with current materials. Hence, experienced industrial relations workers may wish to repeat this course at intervals.

A discussion workshop for advanced students concerned with classic books and ideas in industrial relations. Class members will read and discuss critically classics in the field. Important recent concepts and developments will also be examined and critically compared with the classics of the field. Each session will consist of a short lecture or book report followed with a general discussion of the importance of the ideas expressed in the report. (Prerequisite: consent of instructor. Course open to experienced union officers and business agents, personnel and industrial relations managers, and government officials doing industrial relations work. A limited number of students who cannot meet these requirements but who have successfully completed B.A. 167 may also be admitted. Class will be limited and early registration is recommended)

Fall Semester

W 8:05-9:45, TSMb 211, Heneman

Spring Semester

M 8:05-9:45, St. P. Ext. Center 205, Mahoney

Supervision I: Elements of Supervision. 3 Extension credits. \$18 plus \$1 materials fee.

A general discussion of basic principles of supervision in the office and factory. Survey of principles for the handling of day-to-day problems of supervisors with emphasis upon human relations aspects of such problems. Deals with such problems as selection, induction and training of new employees, employee appraisal, giving orders, handling grievances, discipline, and employee morale. Extensive use of class discussion of practical problems drawn from office and plant situations. (No prerequisite. Repeated spring semester)

Fall Semester

T 6:20-8:00, St. P. Ext. Center 203
T 6:20-8:00, Ford 160

Spring Semester

M 6:20-8:00, St. P. Ext. Center 203
M 6:20-8:00, Ford 70

Supervision II: Advanced Techniques of Supervision. 3 Extension credits. \$18.

Emphasizes specialized supervisory techniques based upon principles outlined in Supervision I. Includes discussion of research in supervisory methods and practices and their relative success in application in the office and plant. Methods of supervisory training, morale measurement, job analysis and job evaluation, safety programs, wage and salary administration, principles of organization and communications are among the topics discussed. Extensive use is made of discussion method and case studies. (Prerequisite: Supervision I)

Spring Semester

T 8:05-9:45, Ford 70, Lindbom

Supervision III: Techniques of Employee Training. 3 Extension credits. \$18.

Primary emphasis is on the training techniques a line supervisor could make use of in developing his employees. Course content includes discussion of basic principles of training, training on an individual basis, group training, and special problems of orienting the new employee, making use of staff training services, safety training and evaluation of training. Extensive use is made of class discussion, role playing, case studies, and demonstrations. (Prerequisite: Supervision II)

Fall Semester

M 8:05-9:45, Ford 50, Lindbom

† See Information, page 14.

Problems of Union Administration. 3 Extension credits. \$18.

A survey course examining the structure and function of unions, trends in collective bargaining, factors affecting membership participation and other practical problems of union administration. Includes discussions of labor's role in the community, public relations of unions, developments in health and welfare programs, problems of "labor unity," and labor's rights and responsibilities under the law. (No prerequisite)

Fall Semester

Th 6:20-8:00, TSMb 211, Uphoff

Economics of Collective Bargaining. (Offered 1956-57)**Personnel Methods.** 3 Extension credits. \$18.

A detailed analysis and evaluation of a limited number of specific, technical techniques of professional personnel management—such as job evaluation, wage surveys, incentive systems, supervisory training, morale surveys, testing. (Prerequisite: B.A. 167 or consent of instructor)

Spring Semester

T 6:20-8:00, Ford 60, England

Human Relations in Industry. 3 Extension credits. \$18.

Primary emphasis is on the characteristics of the human relations movement in industry today. Course content is designed to answer questions concerning employee motivation, human aptitudes and their measurement, supervision and leadership, problems of plant morale, and industrial communications. Time is also devoted to special problems of bio-mechanics (fitting the machine to the man). Course content will be presented by means of lectures and case problems)

Fall Semester

M 8:05-9:45, Ford 170, England

Manpower Development I: Problems of Manpower Development. 3 Extension credits. \$18.

Complete analysis of all techniques of manpower development in business and industry. Review of principles of learning and their application in techniques of manpower development. Discussion of training techniques in reading efficiency, executive development, apprentice programs, J.I.T., coaching, guided experience, work simplification. Discussion of development, installation, and administration of manpower development programs. Outside reading, projects, and reports. (Prerequisite: B.A. 167 or consent of instructor)

Fall Semester

M 6:20-8:00, Ford 170, Mold

Manpower Development II: Management Administrative Practices. 3 Extension credits. \$18.

Examination and discussion of various management problems and proper application of administrative practices to the problems of management. Substantial outside preparation of Harvard-type case studies form the basis of class activity. Additional projects will be assigned as class progresses. A course for experienced managers. (Prerequisite: Manpower Development I)

Spring Semester

M 8:05-9:45, Ford 170, Mold

Insurance

Econ. 50. Insurance Principles. 3 credits. \$18.

An analysis of the role insurance plays in combating risk; types of insurers; fundamentals of life, property, and liability insurance contracts; sales, underwriting, actuarial, finance, and claims functions of insurers; internal and external regulation; and social insurance. Designed primarily for the insurance consumer and the student who intends to

pursue the insurance curriculum in the day school. (Prerequisite: Econ. 6-7. Repeated spring semester)

Fall Semester

T 8:05-9:45, Vincent 6, Williams

Spring Semester

T 8:05-9:45, Vincent 6, Williams

Property and Casualty Insurance Curriculum.

The University of Minnesota co-operates with the Insurance Institute of America and the American Institute for Property and Casualty Underwriters, Inc., by offering an educational program that provides the basic courses needed by those who wish to take the examinations of either or both of the institutes. The Insurance Institute of America courses are considered excellent preparation for the more difficult American Institute courses which lead to the Chartered Property and Casualty Underwriters (C.P.C.U.) award. Complete details of the program of training under both institutes are printed in the institutes' annual announcements, copies of which may be obtained from the General Extension Division of the University of Minnesota. (Co-ordinator for C.P.C.U. program for 1955-56 will be Frank Howard, Ge 7553)

I.I.A. Parts A, B, and C. 3 Extension credits each semester. \$18.

Based on the Part A, Part B, and Part C Topical Outlines of the Insurance Institute of America. Provides a background in property and liability insurance and serves as a preparatory course for the C.P.C.U. program. Economic and social influences of insurance; risk and insurance; types of risk and kinds of insurance to meet them; historical development of insurance; types of insurers and their organization; underwriting and reinsurance; method for analysis of insurance contracts; regulation; intensive study of the contracts currently being used in fire, ocean marine, inland marine, and casualty insurance, and in fidelity and surety bonding. It is recommended, but not required, that Part A be taken before Parts B-C.

Fall Semester

A M 6:20-8:00, Vincent 6, Williams

Spring Semester

B-C M 6:20-8:00, Vincent 6, Williams

C.P.C.U. Part I. Insurance Principles and Practices, A-B. 3 Extension credits each semester. \$18.

An intensive course in the basic principles of property and casualty insurance, designed as preparation for examination I for the Chartered Property Casualty Underwriter (C.P.C.U.) award offered by the American Institute for Property and Casualty Underwriters, Inc. The course will be conducted by a panel of instructors selected from practicing insurance men, co-ordinated and supervised by the University School of Business Administration. (Prerequisite: at least three years' general experience or the equivalent in formal study and acceptance of special registration application; consult any Extension office)

Fall Semester

A M 6:20-8:00, Ford 180, Howard

Spring Semester

B M 6:20-8:00, Ford 180, Howard

C.P.C.U. Part II. Insurance Principles and Practices, A-B. 3 Extension credits each semester. \$18.

An intensive course in the basic principles of property and casualty insurance, designed as preparation for examination II for the Chartered Property Casualty Underwriter (C.P.C.U.) award offered by the American Institute for Property and Casualty Underwriters, Inc. The course will be conducted by a panel of instructors selected from practicing insurance men, co-ordinated and supervised by the University School of Business Administration. (Prerequisite: at least three years' general experience or the equivalent in formal study and acceptance of special registration application; consult any Extension office)

Fall Semester

A M 8:05-9:45, Ford 180, Howard

Spring Semester

B M 8:05-9:45, Ford 180, Howard

C.P.C.U. Part V. Accounting and Finance, A-B. 3 Extension credits each semester. \$18.

This course is designed as preparation for examination V for the Chartered Property Casualty Underwriter (C.P.C.U.) award. The subject matter covers principles of accounting, principles of business and personal finance, and business organization and agency

management. (Prerequisite: one year of accounting or the completion of one or more parts of the C.P.C.U. program)

Fall Semester

A M 6:20-8:00, Ford 85

Spring Semester

B M 6:20-8:00, Ford 170

College of Life Underwriters Curriculum.

In co-operation with the Minneapolis and St. Paul Chapters of the American College of Life Underwriters (C.L.U.) This year the Extension Division is offering Part C and Part D of the C.L.U. educational program (see listing below). Many of the regularly listed courses elsewhere in this bulletin may be of assistance to those who are preparing for examination on other parts of the curriculum. Full information on the American College of Life Underwriters study program may be obtained from the annual announcement of C.L.U. which is available at Extension offices or through the Minneapolis or St. Paul chapters of the Chartered Life Underwriters.

Minneapolis—Lynn M. Elling, 127 Wesley Temple Building, AT 5338
 St. Paul—W. F. Stone, 1300 Pioneer Building

C.L.U. Part C. Law, Trusts, and Taxes I-II. 3 Extension credits each semester. \$18.

This course is designed as preparation for the annual C.L.U. examination in Part C, Law, Trusts, and Taxes, as conducted by the American College of Life Underwriters. The subject matter will cover such topics as general commercial law, insurance law, and contracts; wills, trusts, and estates; taxation and business insurance, etc.

Fall Semester

I M 4:00-5:40, St. P. Ext. Center 202,
 Wheeler

Spring Semester

II M 4:00-5:40, St. P. Ext. Center 202,
 Wheeler

C.L.U. Part D. Finance I-II. 3 Extension credits each semester. \$18.

This course is designed as preparation for the annual C.L.U. examination in Part D, Finance, as conducted by the American College of Life Underwriters. The subject matter will cover such topics as: Corporation Finance, Banking and Credit, and Investments. For information concerning the C.L.U. educational program and its requirements see notice above.

Fall Semester

I M 3:45-5:30, N.W. Bank Bldg. 690, Sutton

Spring Semester

II M 3:45-5:30, N.W. Bank Bldg. 690, Sutton

Marketing and Merchandising

Basic Salesmanship. 3 Extension credits. \$18.

Principles underlying salesmanship—aspects of human relations, buying motives, pre-approach, approach, the interview, meeting objections, voice requirements, closing the sale. (No prerequisite. Repeated spring semester)

Fall Semester

M 6:20-8:00, Ford 185, Stanchfield
 Th 6:20-8:00, St. P. Ext. Center 202,
 Stanchfield

Spring Semester

M 6:20-8:00, Ford 185, Stanchfield

Advanced Salesmanship. 3 Extension credits. \$18.

Self-management, organizing and planning territorial work, sales routine and office correspondence, finding prospects and getting the interview, individual sales demonstrations, development of potential in the territory, use of advertising. (Prerequisite: Basic Salesmanship or consent of instructor. Class limited to 35 students)

Spring Semester

Th 6:20-8:00, Ford 185, Stanchfield

B.A. 76. Credits and Collections. 3 credits. \$18.

Study of the nature and types of credit and of credit instruments and agencies; qualifications and work of the credit manager; valuation and use of financial statements and credit reports; collection methods and correspondence; bankruptcy and adjustments; credit limits and control. (Prerequisite: B.A. 77)

Fall Semester

Th 6:20-8:00, Vincent 6, Kerns

Principles of Credits and Collections II. 3 Extension credits. \$18.

This course is designed to follow B.A. 76 with emphasis upon analysis of financial statements as a source of credit information; legal remedies used in collection of delinquent accounts; handling insolvent accounts and bankruptcies; adjustment problems and the use of adjustment bureaus; credit insurance; activities and services of credit associations; measures of credit department efficiency, and other important phases of credit work. (Prerequisite: B.A. 76 or equivalent)

Spring Semester

Th 6:20-8:00, Vincent 205, Kerns

B.A. 77. Survey in Marketing. 3 credits. \$18.

Survey course including descriptive analysis of (1) marketing institutions and their control; (2) market areas; (3) marketing costs; (4) the operation of supply and demand in marketing. (Prerequisite: Econ. 6-7)

Fall Semester

Th 6:20-8:00, Vincent 207, Hollander

Spring Semester

M 8:05-9:45, Vincent 2

B.A. 113. Sales Management. 3 credits. \$18.

Organization and direction of sales methods and men from the sales manager's point of view; determination of selling policy; product and market research; sales planning and research; selection of distribution methods; sales campaigns and quotas; incentives and compensation for salesmen; training in salesmanship; supervision and control. Case studies and discussions. (Prerequisite: B.A. 77)

Fall Semester

M 6:20-8:00, Vincent 207, Lewis

B.A. 114. Retail Store Management. 3 credits. \$18.

Organization; location, layout, and equipment; buying and sales budgets and sales planning; sales promotion; interior and window display; stock and expense control; finance and general policy; credits and collections; personnel; store operation and services. Case studies, problems, and discussions. (Prerequisite: B.A. 77)

Spring Semester

T 6:20-8:00, Vincent 6, Hollander

B.A. 188. Advertising. 3 credits. \$18.

Covers two important phases of advertising: the place of advertising in business and advertising procedure. Attention to planning an advertising campaign, including market research, appropriations, choice of media, scheduling, preparation of copy, and layout. (Prerequisite for degree credit: Psy. 56 and B.A. 77)

Spring Semester

M 6:20-8:00, Vincent 205, Lewis

G.C. 49A-B-C. Retailing and Selling. 5 credits each quarter (classwork, 3 credits; work experience, 2 credits). \$30 plus \$1 materials fee.

Open to full-time store employees who can arrange to attend Monday morning lectures. Instruction in the field of retailing with salesmanship receiving the greatest emphasis. Other phases of merchandising covered will enable one to perform with greater understanding at various capacities in a retail business. The student may follow specific interests through directed studies. Assigned laboratory meetings include demonstrations, reports, group dis-

cussions, and observation trips into a variety of distributive businesses. Speakers from local stores, related businesses, and consumer groups provide current information and business contacts of importance. The three units should be taken in sequence but registration in any single unit may be approved by instructor. 49A—Salesmanship; personnel policies; store system; consumer credit; stock control; distributive vocations. 49B—Historical background of retailing; types of retail outlets; store organization; nonselling activities in merchandising. 49C—Selling through promotion; display, advertising, store services; trends in retailing; merchandise research, labeling, standardization; consumer education; co-ordination of retail store activities. (Prerequisite for all units: consent of instructor)

Fall Quarter

A Lect. M 9:30-10:20 a.m., Nicholson 122,
Determan
Lab. T 6:30-10:00 p.m., Nicholson 122,
Determan

Winter Quarter

B (same schedule as fall quarter)

Spring Quarter

C (same schedule as fall quarter)

National Institute of Credit Curriculum

The University of Minnesota co-operates with the Minneapolis and St. Paul chapters of the National Association of Credit Men in a program of educational training leading toward the awards of Associate and Fellow of the National Institute of Credit (the educational branch of the Association). Those interested in working for these awards should be registered with the National Institute of Credit at the Association office (502 Thorpe Building, Minneapolis; Telephone GE 8356) and should receive advice there as to an approved program of study. Course registrations for evening classes should be made at any of the Extension Division offices, indicated on the inside cover of the Evening Classes bulletin.

The curriculum of the National Institute of Credit, together with selected Extension Division courses, follows. (The suggested Extension courses should prove valuable to those contemplating work toward a University degree or an Extension certificate as well as for the Institute awards. For further information, consult the Extension Committee on Student Scholastic Standing):

Institute Curriculum

**Approved Equivalent Extension Courses*

Associate Award

Business Economics
Basic Accounting
Business Correspondence
Credit and Collection Principles
Advanced Credits

Econ. 6-7, Principles of Economics
Econ. 24-25-26, Principles of Accounting
Business Correspondence
B.A. 76, Credits and Collections
Principles of Credits and Collections II

Fellow Award Program (in addition to preceding courses)

Law of Contracts and Agency
Law of Business Transactions or Negotiable Papers
Public Speaking
Salesmanship or Marketing
Credit Management Problems
Financial Statement Analysis
Psychology (Applied, General, or Business)

Techniques of Supervision
Office Management or Personnel Management
Electives

B.A. 51-52, Business Law
B.A. 53, Business Law
Beginning Practical Speech Making
Basic Salesmanship, or
B.A. 77, Survey in Marketing

B.A. 65, Analysis of Financial Statements
Psy. 1a, Application of Psychology to Living, or
Psy. 1-2, General Psychology, or
Psy. 122-123, Vocational Development and Personnel Psychology
Supervision I

See footnote below

* Electives and substitutions or transfers of credits may be approved on petition to the educational committees of the local Association chapters. For further information on this program, please consult the Association office (Thorpe Building).

Office Management

Business Data Processing by Electronics I-II. No credit. \$25 each quarter.

A two-unit course designed to introduce the programming and procedures necessary for different types of equipment. Course I is descriptive of equipment, processing and programming for limited and flexible high-speed electronic equipment. Course II, while not fully dependent on I as a prerequisite, will be a series of case studies of applications to sales, billing, inventory, payrolls, and adjustments for permanent records. This course should be of special interest to systems development personnel, statisticians, accountants, and others concerned with present and prospective planning and operation of electronic machine installations. To keep the class within a reasonable enrollment of qualified students, registration will be based on prior applications available at extension offices, subject to selective approval of instructor.

Fall Quarter

I T 7:00-9:30, Johnston 105, Locks

Winter Quarter

II (Same schedule as fall)

Real Estate

The University of Minnesota co-operates with the National Association of Real Estate Boards and with the Real Estate Boards of St. Paul and Minneapolis in a program of educational training leading toward competence in the professional aspects of real estate practice. Instructing staff for each course will be made up of a number of practicing realtors in the Twin Cities. Co-ordinator for the Real Estate Boards: Bernard G. Rice, 616 Third Avenue South, Minneapolis.

Fundamentals of Real Estate Practice. 3 Extension credits. \$18.

Economic functions of the real estate business; fundamental practices of the real estate office and other realtors; real estate valuations; methods of appraising; brokerage; principles of real estate management; ethics of real estate practice. Basic course; should be taken prior to any other courses in real estate curriculum. (No prerequisite)

Fall Semester

M 6:20-8:00, Ford 155, Rice, co-ordinator

Real Estate Sales Brokerage. 3 Extension credits. \$18.

A study of the basic principles and practices involved in the conduct of real estate sales from beginning to end; evaluation, listing, advertising, contracts and leases, financing and taxes, property showing, selling techniques, code of ethics. (No prerequisite)

Fall Semester

W 6:20-8:00, Ford 155, Rice, co-ordinator

Real Estate Appraisal. 3 Extension credits. \$18.

Detailed consideration of principles and practices involved in appraising various types of real property for various purposes. Factors determining valuations; making and reporting appraisals. Appraisals procedures in various legal actions. (No prerequisite)

Spring Semester

M 6:20-8:00, Ford 55, Rice, co-ordinator

Real Estate Financing and Insurance. 3 Extension credits. \$18.

A study of financing methods and practice relating to conventional, F.H.A., V.A., and combination loans; secondary financing; special loans on leases, farms, industrial and commercial properties; and primary phases of insurance procedures in the average real estate office. (No prerequisite)

Spring Semester

W 6:20-8:00, Ford 55, Rice, co-ordinator

Real Estate Law (B.A. 56. Business Law). See Business Law, page 67.

Planning Your Modern Home. See page 44.

Building Material Estimating. See page 86.

Secretarial

Refresher Course in Business Theory for Secretaries. No credit. \$36 (see note below).

Designed for secretaries having some background in business theory, the course should be of particular interest as a review for candidates for the Certified Professional Secretary examinations. It will consist of twenty-four sessions, covering the following four units of six sessions each: I. Secretarial Accounting; II. General Secretarial and Office Procedures; III. Economics and Business Administrations; and IV. Business Law and Human Relations. (These units correspond with sections of the C.P.S. examinations, to be given May 4 and 5, 1956; candidates must be registered for the examinations before December 15, 1955.) The refresher course will begin October 4 and conclude about the first of April. Class will meet on Tuesday evenings from 7:00 to 9:30. Detailed information on the schedule is available at extension offices. Students may take any or all of the four units of the course. Fee for the complete course is \$36; for any two units, \$18; for one unit, \$10. Course co-ordinator is Miss Naomi Peterson, Main 8158, Extension 296. See also the Secretarial Certificate program, page 8.

Textiles

Textiles. 3 General College or Extension credits. \$18 plus \$2 materials fee.

A class for consumers and for those making or selling clothing and home furnishings. Woven and knitted fabrics of cotton, linen, wool, silk, rayon, and the new fibers; manufacturing and finishing processes; qualities, tests, uses, maintenance; explanation of technical terms and of characteristics determining comparative values; application to men's, women's, and children's apparel as well as to household items such as draperies, rugs, upholstery fabrics, blankets, linens. The content of the course is somewhat flexible depending upon the needs and interests of the students enrolled. (No prerequisite)

Fall Semester

W 7:00-8:40, Ford 130, Knight

Traffic and Transportation

B.A. 71-174. Transportation: Services and Charges. 3 credits each semester. \$18.

The rail, water, air, and highway transportation facilities, services, rates, and laws, and their relation to business establishments; problems in handling freight, express, and parcel-post shipments; scope, selection, and use of the facilities and services of common carriers; rate structures; problems involving freight classification and use of tariffs. (Prerequisite: Econ. 6-7. 71 to precede 174)

Fall Semester

71 M 6:20-8:00, Vincent 1, Nightingale

Spring Semester

174 M 6:20-8:00, Vincent 1, Nightingale

B.A. 180-181-I. Senior Topics: Transportation. 3 credits each semester. \$18.

Advanced study of tariffs and tariff construction, of rate structures, and of auxiliary services, including problems thereon. Analysis of important current cases and decisions affecting shippers and carriers. (Prerequisite: B.A. 71-174)

Fall Semester

180-I M 8:05-9:45, Vincent 1, Nightingale

Spring Semester

181-I M 8:05-9:45, Vincent 1, Nightingale

Interstate Commerce Practice and Procedure I-II. 3 Extension credits each semester. \$18.

Advanced study of state and federal regulatory laws and U.S. Supreme Court cases governing rail and highway transportation. Attention to practice and procedure before rate and classification committees, state commissions, and the Interstate Commerce Commission. Preparation of informal, formal, and investigation and suspension cases before regulatory commissions. (Prerequisite: B.A. 71-174 and B.A. 180-I, or equivalent)

Fall Semester

I W 6:20-8:00, Vincent 6, Nightingale

Spring Semester

II W 6:20-8:00, Vincent 6, Nightingale

Interstate Commerce Practice and Procedure III-IV. 3 Extension credits each unit. \$20 plus \$2 materials fee each unit.

A detailed analysis of pleadings such as complaints, petitions for modification, reconsideration, intervention, and other formal pleadings commonly used in proceedings before the Interstate Commerce Commission. Consideration will also be given to the preparation of statements and replies in modified and shortened procedure cases, exceptions, and replies to exceptions to examiners' proposed reports, as well as other pleadings, petitions, and statements required in proceedings under Parts I and II of the Interstate Commerce Act. Several sessions will be devoted to analysis of a transcript of a proceeding before the Commission, preparation of briefs in support of the shipper's and carrier's positions, and preparation of oral argument before the Commission. The course should be of special interest to transportation, traffic, and commerce representatives of industry, railroads and motor carriers, and to attorneys and Interstate Commerce Practitioners.

Enrollment in this course is limited to attorneys, registered I.C.C. Practitioners, or those who have completed the University's Extension course in Interstate Commerce Practice and Procedure II or its equivalent.

Interstate Commerce Practice and Procedure III will be offered during the first eight weeks of the fall semester; part IV will be offered during the last eight class sessions.

Fall Semester

M 6:20-9:35, Ford 20, Thorfinnson, Clay

EDUCATION

Art Education (Ar.Ed.)

17. Pictorial Expression for Elementary Education. 3 credits. \$18 plus \$2 materials fee.

Provides a background survey of art in life and education. Materials, techniques, and ideas important to children's art expression, relationship to adult expression, and significance in educational growth. (No prerequisite)

Spring Semester

Th 6:20-8:00, TSF 259, Gayne

18. Design Activities for Elementary Education. 3 credits. \$18 plus \$2 materials fee.

Relationship between art and nature. Problems in invention, arrangement and decoration, color, lettering, posters, bulletin board displays, etc. (No prerequisite)

Fall Semester

Th 6:20-8:00, TSF 253, Gayne

Curriculum and Instruction (Ed.C.I.)

103. The Teaching of Science in the Elementary School. 3 credits. \$18.

Emphasis on resources and materials and their application to the elementary grades. (Prerequisite: Ed. 71A-B or teaching experience)

Spring Semester

M 6:20-8:00, Peik Hall 365, Boeck

105. Audio-Visual Materials in Education. 3 credits. \$18 plus \$6 laboratory fee.

Characteristics, advantages, limitations, and practical schoolroom use of visual materials of nonprojection and projection types. Practice in operation of projection machines. (No prerequisite. Class meets for 3 hours and 20 minutes weekly, as indicated below)

February 14–April 3

T 4:30-6:10 and 7:10-8:50, St. P. Ext. Center 203, Pearson

109. Audio-Visual Materials and Equipment Laboratory. 3 credits. \$18 plus \$6 laboratory fee.

Practice in planning and making materials for audio-visual education and in the use of machines and equipment. (Prerequisite: Ed.C.I. 105 or consent of instructor. Class meets for 3 hours and 20 minutes weekly, as indicated below)

April 10–June 5

T 4:30-6:10 and 7:10-8:50, St. P. Ext. Center 203, Pearson

149. Teaching and Supervision of Arithmetic in the Elementary School. 3 credits. \$18.

Function of arithmetic instruction; curriculum studies; development of socialized units; measurement and diagnosis; experimental research on methods of arithmetic instruction; literature on arithmetic. (Prerequisite: Ed. 71C or equivalent)

Fall Semester

M 6:20-8:00, St. P. Ext. Center 202

Educational Psychology (E.Psy.)

60. Introduction to Measurement and Statistics. 3 credits. \$18.

A study of measures of central tendency, variability, and correlation as well as principles of test construction. (Prerequisite: 6 credits in psychology)

Fall Semester

Th 6:20-8:00, Johnston 115, Hoyt

120. Basic Principles of Measurement. 3 credits. \$18.

Principles of measurement applied to the construction and evaluation of tests and to the interpretation of scores. (Prerequisite: E.Psy. 60 or equivalent)

Spring Semester

Th 6:20-8:00, Johnston 115, Hoyt

189. Survey of Special Education Problems. 2 credits. \$12.

Advanced course for persons working in special education or allied fields. (Prerequisite: E.Psy. 182 or experience and permission of instructor)

Fall Quarter

M 6:20-8:00, Johnston 115, Schoenbohm

History and Philosophy of Education (H.Ed.)

156. History of Ideas in American Education. 3 credits. \$18.

Selected readings in American political, economic, and social development with reference to the emerging system of public education.

Spring Semester

F 6:20-8:00, Johnston 115, Ellis

Nursing Education (Nu.Ed.)

72. Application of Principles of Learning to Clinical Instruction. 3 credits. \$15.

Study of learning situations in the basic professional program in nursing. Sources and selection of materials and organization of instruction. Evaluation of student learning in clinical situations.

Fall Semester

M 6:20-8:00, Ford 130, Dunning

Additional courses in the nursing field are listed under *Nursing* and *Nursing Administration*, page 47. See also *Child Welfare, Education, and Public Health*.

ENGINEERING

Graduate Extension Program in Engineering

The Institute of Technology, the Graduate School, and the General Extension Division, in co-operation with a group of industrial firms in the Twin Cities area, have inaugurated a program of evening classes designed to satisfy the major portion of the master of science degree requirements in the engineering field.

The Extension course offerings have been chosen from the group of basic scientific subjects upon which advanced study in engineering fields rests. Under degree Plan A, i.e., with thesis, an entire minor of 9 credits in mathematics and varying portions of the major in eight other fields may be completed through Extension work. The balance of the classes needed for the major remain to be taken over a period approximating one full-time quarter of day classes in length. Thesis work will be done in the usual manner under the supervision of the departmental adviser.

Only those students duly admitted to the Graduate School will be allowed to enroll in the classes specified for the advanced degree.

For 1955-56 it is expected that the following classes will be offered: *Fall Quarter*: Phys. 101A. *Winter Quarter*: Phys. 103A. *Spring Quarter*: An advanced class in certain specialized fields, depending upon sufficient demand. Each course carries 3 credits, tuition fee \$30. The schedule will be Tuesday 7:00-9:30 in Physics 145.

For further information about this program and the schedules for the above-mentioned courses, please contact the Office of the Assistant Dean, General Extension Division, Lincoln 8791.

Aeronautical Engineering

See Aeronautics, page 93.

Civil Engineering

Surveying I. 3 Extension credits. \$30.

Lectures and field problems in the use of tape, transit and level, adjustment of instruments, computation and plotting of field notes, area and earthwork computations, and elements of land surveying. (Prerequisite: Trigonometry. Class meets 4 hours one night a week in a drafting room, with some of the class periods at arranged hours for field work)

Fall Semester

W 6:20-9:40, Main Engineering 217, Fant

Surveying II. 3 Extension credits. \$30.

Lectures and field problems in horizontal and vertical curves, setting slope stakes for earthwork, topographic mapping by transit stadia surveys, and determination of azimuth by solar observation. (Prerequisite: Surveying I. Class meets 4 hours one night a week in a drafting room, with some of the class periods at arranged hours for field work)

Spring Semester

W 6:20-9:40, Main Engineering 217, Fant

Highways and Pavements II. 3 Extension credits. \$18.

Continuation of Highways and Pavements I. Textbook assignments, lectures, and laboratory work. Emphasis on bituminous materials and mixtures. (Prerequisite: Highways and Pavements I)

Fall Semester

T 6:20-8:00, Experimental Engineering 193,
Thomas

Soil Engineering. 4½ Extension credits. \$27.

A course intended for students who wish to become familiar with the basic soil properties and use of soil information in highway and structural engineering. Origin and nature of soil, soil maps, properties and tests, texture, Atterberg limits, compaction, solids-volume relationships, permeability, engineering classification, frost action, thickness of flexible pavements, consolidation and shearing strength. Subject material is demonstrated by problems and by laboratory work and demonstrations. (No prerequisite, but knowledge of elementary algebra is desirable)

Spring Semester

T 6:20-8:50, Experimental Engineering 193,
Kersten

Structural Engineering. No credit. \$30.

A review of structural analysis and design in steel, concrete and timber, and a presentation of recent developments. Among the developments to be discussed will be prestressed reinforced concrete, high strength steel bolts, semi-rigid steel frame design, timber connectors, laminated wood arches, ultimate design theories, dynamic stresses, application of digital computers.

Fall Semester

T 7:00-10:00, Main Engineering 106, Wise

Refresher Course for Civil Engineers. No credit. \$20.

Designed as a review course for practicing civil engineers. Lectures and problem sessions. (Prerequisite: B.C.E. or equivalent degree, or completion of Parts I and II of the State Board Examination)

Winter Quarter

Th 7:00-9:00, Main Engineering 104,
Civil Engineering Staff

Drawing and Descriptive Geometry (Draw.)**I. Engineering Drawing.** 3 credits. \$18.

An elementary course in engineering drawing including the fundamentals of shape and size description and drafting techniques. (No prerequisite. Repeated spring semester. See note in Draw. 3)

Fall Semester

T 7:00-9:30, Main Engineering 201, Bullen
W 7:00-9:30, Main Engineering 101, Palmer
W 7:00-9:30, St. P. Ext. Center 201, Springer

Spring Semester

T 7:00-9:30, Main Engineering 201, Bullen
W 7:00-9:30, Main Engineering 101, Palmer
W 7:00-9:30, St. P. Ext. Center 201, Springer

2. Engineering Drawing. 3 credits. \$18.

Continuation of Draw. 1 dealing with advanced problems in shape and size descriptions. (Prerequisite: Draw. 1 or consent of instructor. See note in Draw. 3)

Fall Semester

T 7:00-9:30, Main Engineering 201, Bullen
W 7:00-9:30, Main Engineering 101, Palmer
W 7:00-9:30, St. P. Ext. Center 201, Springer

Spring Semester

T 7:00-9:30, Main Engineering 201, Bullen
W 7:00-9:30, Main Engineering 101, Palmer
W 7:00-9:30, St. P. Ext. Center 201, Springer

3. Descriptive Geometry. 3 credits. \$18.

Elementary course in the graphical solution of space problems by means of orthographic projection. (Prerequisite: Draw. 2. See following note)

Note—Engineering Drawing 1, 2, 3 may be substituted by petition for the day school sequence of 4, 6, 5, respectively.

Fall Semester

W 7:00-9:30, Main Engineering 201, Quaid

Spring Semester

W 7:00-9:30, Main Engineering 201, Quaid

20. Advanced Mechanical Drawing. 2 credits. \$12.

Applications of engineering drawing as developed in specialized fields of engineering. (Prerequisite: Draw. 1 and 2)

Fall Semester

W 7:30-9:30, Main Engineering 201, Quaid

38. Blue Print Reading I-II. 2 Extension credits per semester or 2 Institute of Technology credits for both semesters. See below. \$12 each semester.

Basic principles of reading and interpreting industrial blueprints, and techniques of making shop sketches in the machine trades. (No prerequisite. Two University credits in Draw. 38 may be granted by petition for completion of both I and II)

Fall Semester

38-I W 7:00-9:00, Main Engineering 101,
Palmer

Spring Semester

38-I W 7:00-9:00, Main Engineering 101,
Palmer
38-II W 7:00-9:00, Main Engineering 101,
Palmer

55. Production Illustration. 3 Extension credits or 2 Institute of Technology credits. \$18.

Pictorial drawing as used in industry. (Prerequisite: Draw. 1 or equivalent experience)

Spring Semester

W 7:30-10:00, Main Engineering 201, Quaid

Electrical Engineering (E.E.)**Elements of Electric Circuits I-II. 6 Extension credits each semester. \$36.**

Fundamental laws of direct-current circuits, the magnetic field and magnetic properties of iron and steel, induced and generated electromotive forces, electric fields. Laws of AC circuits, complex representation of AC quantities, series and parallel AC circuits, polyphase AC circuits, power measurements in AC circuits. (No prerequisite)

Fall Semester

I Lect. T 7:00-10:00, Electrical Engineer-
ing 237, Cartwright
Lab. Th 7:00-10:00, Electrical Engineer-
ing 107a

Spring Semester

II Lect. T 7:00-10:00, Electrical Engineer-
ing 237, Cartwright
Lab. Th 7:00-10:00, Electrical Engineer-
ing 107a

Elements of Electronics I-II. 6 Extension credits each semester. \$36.

Electronic emission, conduction, through vacuums and gases; characteristics of vacuum tubes, of gas and vapor tubes, and of mercury pooltubes; amplifier circuits, trigger circuits.

oscilloscopes, and control circuits; application of electronic devices to industry; electronic power devices. (Prerequisite: Elements of Electric Circuits I-II or equivalent in experience)

Fall Semester

I Lect. T 7:00-10:00, Electrical Engineering 138, Liu
Lab. Th 7:00-10:00, Electrical Engineering 207c

Spring Semester

II Lect. T 7:00-10:00, Electrical Engineering 138, Liu
Lab. Th 7:00-10:00, Electrical Engineering 207c

Refresher Course for Electrical Engineers. No credit. \$20.

Designed as a review course for practicing electrical engineers. Lectures and problem sessions. (Prerequisite: B.E.E. or equivalent degree, or completion of Parts I and II of the State Board Examination)

Winter Quarter

Lect. W 7:00-10:00, Electrical Engineering 237,
Electrical Engineering Staff

Engineering English (Engl.)**85(I.T.). Advanced Technical Communication. 3 credits. \$18.**

Technical writing, including reports and manuals, combined with the public speaking required of engineers, technical men, and those in the business and sales end of the technical industries. Stress in writing is on concise, definite, connected style; use of numbers, abbreviations, and illustrations; organization of material; and proper levels of writing for different levels of readers. Stress in speaking is on preparation and organization; getting and holding interest; and on use of visual methods and materials. (Required in most courses in the Institute of Technology. I.T.: 3 credits with prerequisite of Engl. 4, 5, 6. Extension: 3 credits without prerequisite)

Fall Semester

M 8:05-9:45, Main Engineering 4, Lippert
T 8:05-9:45, St. P. Ext. Center 207, Lippert

86(I.T.). Advanced Technical Communication. 3 credits. \$18.

Technical and business letter writing combined with conference and interview technique for engineers, technical men, and those in the business and sales end of the technical industries. Letters include inquiry, reply, conference setup, adjustment, letter report, recommendation, and supervisory types (also job application, public relations, sales, and employee relations as the class may elect). Consideration of the technical magazine article. Speech work includes both planning and setting up, participating in, and following up conferences, and technical and supervisory interviews. (Required in most courses in the Institute of Technology. Engl. 86 may be taken before or without Engl. 85, but the two make a well-integrated unit. I.T.: 3 credits with prerequisite of Engl. 4, 5, 6. Extension: 3 credits without prerequisite)

Spring Semester

M 8:05-9:45, Main Engineering 4, Lippert
T 8:05-9:45, St. P. Ext. Center 207, Lippert

Business English. See page 66.

Other courses in English. See page 34.

General Engineering (G.E.)**Use of Engineer's Slide Rule. 1½ Extension credits. \$9.**

Theory and computation practice necessary for those who wish to use the slide rule in ordinary computations. Drills on fundamental processes. (No prerequisite)

Fall Semester

Th 7:00-8:00, Main Engineering 217, Johnson

Building Material Estimating. 3 Extension credits. \$18.

Training in reading detailed blueprints and estimating quantities of materials or cubic yardage in excavations; measurements, picking off blueprints, estimating and figuring total amounts of concrete, brick, timber, and all kinds of steel buildings. This course is intended for the beginner who has no training or experience in reading blueprints or in estimating. Ability to use a slide rule is helpful but not necessary. (No prerequisite)

Fall Semester

Th 8:05-9:45, Main Engineering 217, Johnson

Industrial Engineering (I.E.)**Elements of Industrial Engineering and Management.** 3 Extension credits. \$18.

An introduction to the problems and techniques of developing a highly efficient management team for a modern manufacturing concern. Includes discussions on business organization and financing, research and product development, standardization, plant layout and materials handling, production and inventory control, quality control, cost control, labor relations. Required for further work in industrial engineering. (No prerequisite. Repeated spring semester)

Fall Semester

W 7:00-8:40, Mech. Engineering 202, Lundy

Spring Semester

M 7:00-8:40, Mech. Engineering 202, Power

Production Planning and Control. 5 Extension credits. \$30.

Development of systems for increasing plant efficiency through effective co-ordination of inventories, manpower, and equipment with sales. Lectures and discussions on sales forecasting, master scheduling, inventory control, work routing, scheduling of operations, dispatching, analysis of equipment requirements. (Prerequisite: Elements of Industrial Engineering and Management or consent of instructor)

Fall Semester

Th 7:00-10:00, Mech. Engineering 202, Block

****Elements of Work Simplification.** 5 Extension credits. \$30 plus \$5 laboratory fee.

Common sense principles combined with systematic analysis to eliminate waste motion and unnecessary effort in all fields of work. Lectures are combined with actual practice in the application of the flow process chart, flow diagram, in the analysis of a job for improvement. The course is designed for personnel who wish to learn the skills of work simplification for direct application to the solution of work problems in their own area. (Prerequisite: Elements of Industrial Engineering and Management or consent of instructor. Class limited to 20 students accepted in order of registration)

Fall Semester

W 6:20-9:15, Mech. Engineering 102, Mold

Spring Semester

W 6:20-9:15, Mech. Engineering 202, Scheib

Advanced Work Simplification. 5 Extension credits. \$30 plus \$5 laboratory fee.

The installation and administration of work simplification programs in business, industry, unions, and other types of organizations. This course assumes a background in work simplification, or, as a prerequisite, the Elements of Work Simplification, and is limited to personnel in supervisory positions who wish to install and administer work simplification programs within their own departments or organizations.

Spring Semester

W 7:00-10:00, Mech. Engineering 102, Mold

****Work Measurement and Production Standards (Time Study).** 3 Extension credits. \$18 plus \$1 laboratory fee.

Determination of time standards for repetitive work, to provide factual data for wage incentives, cost accounting and estimating, production scheduling, and management control

** Registration must be made in person.

Lectures and practice in job standardization, use of stop watch, performance rating, rest and delay allowances, development of standard data, and maintenance of current standards. (Prerequisite: Elements of Work Simplification. Class limited to 20 students accepted in order of registration)

Fall Semester

M 7:00-8:40, Mech. Engineering 106, Scheib

Spring Semester

M 7:00-8:40, Mech. Engineering 106, Scheib

****Industrial Plant Layout.** 5 Extension credits. \$30 plus \$2 laboratory fee.

Lectures on the application of industrial engineering principles in simplifying and improving the layout of manufacturing plants, shops, and warehouses and in planning new layouts. Laboratory studies include the use of flow charts, the determination of equipment and space requirements, and the use of templates and scale models in planning new layouts. Students are invited to bring their own problems for laboratory analysis. (Prerequisite: Elements of Work Simplification, or consent of instructor. Class limited to 25 students accepted in order of registration)

Spring Semester

W 7:00-10:00, Mech. Engineering 106, Lundy

Elements of Quality Control. 5 Extension credits. \$30.

Determination of quality requirements and their relation to manufacturing costs. Establishment of quality control standards; inspection procedures and organization. Use of statistical sampling techniques and control charts for more effective inspection and reduction of costs. For those engaged in quality control and others such as production supervisors, plant managers, and design engineers who are concerned with quality problems. (Prerequisite: consent of instructor)

Fall Semester

T 7:00-10:00, Mech. Engineering 110, McElrath

Advanced Topics in Quality Control. 5 Extension credits. \$30.

Additional topics in industrial sampling inspection methods including discussions of classification of defects, MIL-STD-105A, variables inspection. An introduction to applications of sequential sampling for attributes and measurements. Some industrial significance tests including elementary analysis of variance. Latest developments in quality control techniques. (Prerequisite: Elements of Quality Control, or Basic Engineering Statistics I, or Business Statistics '74, or consent of instructor)

Spring Semester

T 7:00-10:00, Mech. Engineering 110, McElrath

****Methods-Time Measurement (M.T.M.).** 5 Extension credits. \$30 plus \$10 special fee.

Methods-Time Measurement is a procedure for analyzing manual work in terms of elemental motions for which standard times have been established. M.T.M. is a valuable tool for simplifying work methods and for setting accurate and consistent time standards for incentive, planning, estimating, and cost control. Lectures, discussions, and demonstrations will be integrated with practice in the application of M.T.M. to factory and office operations. (Prerequisite: training or experience in time study and work simplification. Class limited to 15 students. Enrollment tentative, subject to approval of instructor)

Spring Semester

Th 7:00-10:00, Mech. Engineering 102, Block

Mathematics (I.T.M.)**Basic Mathematics.** 4½ Extension credits. \$27.

A practical course for shop men in industry or machine work, and for those who need an elementary background in mathematics. The work includes arithmetic through fractions, decimals, percentage; elementary geometry involving areas of plane figures, proportion,

volumes and weights; elementary algebra; elementary trigonometry and logarithms. The course is also valuable as a refresher in elementary secondary mathematics. (Prerequisite: grade school arithmetic. Class meets for two sessions a week for twelve weeks. Repeated spring term)

Fall Quarter

MTh 6:20-8:00, Main Engineering 203

February 13-April 30

MTh 6:20-8:00, Main Engineering 203

Elementary Algebra I-II.† Entrance credit. \$18.

Elements of algebra to quadratic equations. (No prerequisite)

Fall Semester

I Th 8:05-9:45, Main Engineering 205

Spring Semester

II Th 8:05-9:45, Main Engineering 205

Plane Geometry I-II (Combined). Entrance credit. \$36.

Elements of plane geometry, equivalent to one year of high school geometry; designed especially for those who wish to clear up their University of Minnesota entrance requirements. (Two sessions a week)

Fall Semester

MW 6:20-8:00, Main Engineering 206, Schuck

Solid Geometry. Entrance credit. \$18.

Standard theorems and exercises; practice in special proofs and original exercises. (Prerequisite: plane geometry. Extra sessions arranged during fall quarter in order to complete a full course in a shorter period. Repeated spring semester)

Fall Quarter

M 8:05-9:45, Main Engineering 206, Schuck

Spring Semester

M 6:20-8:00, Main Engineering 206, Schuck

9. Higher Algebra. Entrance credit. \$30.

A review and collegiate treatment of the topics of elementary algebra, which is prerequisite. (Prerequisite: elementary algebra. Repeated spring semester)

Fall Semester

M 7:00-10:00, Main Engineering 106

T 7:00-10:00, St. P. Ext. Center 201

Spring Semester

Th 7:00-10:00, Main Engineering 227

11. College Algebra and Trigonometry I. 5 credits. \$30.

Trigonometric functions, right triangles, slide rule, oblique triangles, vectors, radian measure. Factoring, fractions, functions and graphs, linear equations and determinants, exponents and radicals, quadratic equations, inequalities, systems of quadratic equations, proportion, and variation. Mathematical induction, binomial theorem. (Prerequisite: higher algebra. Repeated spring semester)

Fall Semester

M 7:00-10:00, Main Engineering 104

W 7:00-10:00, Main Engineering 205

Spring Semester

M 7:00-10:00, Main Engineering 106

W 7:00-10:00, Main Engineering 106

12. College Algebra and Trigonometry II. 5 credits. \$30.

Progressions, logarithms. Trigonometric functions, trigonometric equations, complex numbers. Theory of equations, partial fractions, hyperbolic functions. (Prerequisite: I.T.M. 11 or equivalent. Offered spring semester only)

Spring Semester

M 7:00-10:00, Main Engineering 104

W 7:00-10:00, Main Engineering 205

† See Information, page 14.

12a. Trigonometry. 5 credits. \$30. (Offered last time, Fall 1955)

Logarithms, trigonometric functions, plane right triangles, fundamental relations between functions, various formulas, identities and equations, graphical representation, inverse functions, oblique triangles, de Moivre's theorem. Introduction to spherical trigonometry and study of the right spherical triangle. (Prerequisite: I.T.M. 11 or equivalent. Students who have taken I.T.M. 11 in evening classes should avail themselves of this final opportunity to complete the sequence. From now on, only the combined College Algebra and Trigonometry I and II will be offered)

Fall Semester

M 7:00-10:00, Main Engineering 227
 W 7:00-10:00, Main Engineering 227
 Th 7:00-10:00, St. P. Ext. Center 205

13. Analytic Geometry. 5 credits. \$30.

Rectangular co-ordinate systems in a plane, locus and equation, study of the straight line and its equations, the conic sections, transformation of co-ordinates, polar co-ordinates, higher plane curves, and various other topics in plane analytic geometry. Introduction to solid analytic geometry. (Prerequisite: I.T.M. 11 and I.T.M. 12 or equivalent)

Fall Semester

T 7:00-10:00, Main Engineering 203

Spring Semester

M 7:00-10:00, Main Engineering 227
 Th 7:00-10:00, St. P. Ext. Center 205

24. Calculus I: Differential. 5 credits. \$30.

Functions and limits, the derivative. Applications of the derivative to problems in rates, maxima and minima, inflections, curve tracing. Differentials, approximation with differentials, polar co-ordinates, parametric equations, curvature, indeterminate forms, partial differentiation, infinite series. (Prerequisite: I.T.M. 13 or equivalent)

Fall Semester

T 7:00-10:00, Main Engineering 215, Fischer
 F 7:00-10:00, St. P. Ext. Center 203

25. Calculus II: Integral. 5 credits. \$30.

The integration of standard elementary forms, integration by various devices, the evaluation of constant of integration, the definite integral, areas, volumes, length of curve, area of surfaces, centroids, moments of inertia, fluid pressures, multiple integration with applications, infinite series, and the expansion of functions. (Prerequisite: I.T.M. 24 or equivalent)

Fall Semester

T 7:00-10:00, Main Engineering 227

Spring Semester

T 7:00-10:00, Main Engineering 215, Fischer
 F 7:00-10:00, St. P. Ext. Center 203

80. Elementary Differential Equations. 3 credits. \$18.

A first course in ordinary differential equations. Equations of the first order and various degrees. Equations of higher order with particular attention to linear equations. Total differential equations and systems of equations; integration in series. (Prerequisite: I.T.M. 25 or equivalent)

Spring Semester

M 6:20-8:00, Main Engineering 215, Fischer

Basic Industrial Statistics I. 5 Extension credits. \$30.

Principles of statistical methods applied to engineering and industrial problems; collection and interpretation of data, averages and measures of variation, charts and graphs, introduction to probability and sampling theory. The above concepts in statistics form the basis for Industrial Quality Control. (Prerequisite: higher algebra or equivalent with consent of instructor)

Fall Semester

W 7:00-10:00, Mech. Engineering 110, McElrath

Basic Industrial Statistics II. 5 Extension credits. \$30.

Continuation of Basic Industrial Statistics I with accent on industrial applications covering: small sampling tests, elements of curve fitting, some aspects of tolerances, introduction to experimental design. (Prerequisite: Basic Industrial Statistics I; or Econ. 5. Elements of Statistics; or B.A. '74, Business Statistics; or equivalent with consent of instructor)

Spring Semester

W 7:00-10:00, Mech. Engineering 110, McElrath

Mechanical Engineering (M.E.)**Use of Mechanical Engineering Handbooks I-II.** (Not offered 1955-56)**Instrumentation and Automatic Control I-II.**† 6 Extension credits upon completion of both parts. \$18 plus \$3 laboratory fee for each part.

Part I is concerned with the more common types of automatic controls found in residential and commercial usage. These include two-position or on-off and proportional or throttling type control effects. These fundamental control actions will be studied thoroughly in both lecture and laboratory. Both electrical- and air-operated controls are included. *Part II* will be a continuation of Part I and will deal more with industrial instruments and automatic controls. The theory of control will be covered mathematically, descriptively, and graphically. Basic modes of control built into commercial industrial controllers such as proportional, automatic reset, and rate response will be covered in detail. Methods of obtaining these responses such as electrically, hydraulically, or pneumatically will be analyzed. Typical industrial control circuits will be investigated. This will involve analysis of all component parts such as the process, measuring means, recording or indicating instrument, controller, and final control elements. (Prerequisite: consult instructor. Student must complete both parts to receive credit)

Fall Semester

I W 6:30-10:00, Mech. Engineering 302, LaJoy
(Sept. 28-Nov. 23)

II W 6:30-10:00, Mech. Engineering 302, LaJoy
(Nov. 30-Jan. 25)

****Servomechanisms.** 4 Extension credits. \$24 plus \$3 laboratory fee.

An elementary course covering the basic principles of servomechanisms. A brief review will cover the necessary mathematics. Elementary control systems will be discussed as well as basic error-indicators or follow-up mechanisms, both mechanical and electrical. Detailed analysis will also be made of servo systems with various types of damping. Methods of obtaining desired types of damping and other required system characteristics will be discussed in detail. (Prerequisite: mathematics through calculus or consent of instructor. Class limited to 25 students)

February 15-May 2

W 7:00-10:00, Mech. Engineering 302, LaJoy

Tool Design I-II. 5 Extension credits each semester. \$30 plus \$1 laboratory fee.

Lecture and laboratory course which covers tooling methods, selection of best machine for the manufacturing operation, design of jigs and fixtures, tool making procedures, and tool inspection methods. Analysis of piece part blue prints will be made to determine best sequences of manufacturing operation and estimating machining time to manufacture the parts. (No prerequisite)

Fall Semester

I T 7:00-10:00, Mech. Engineering 180,
Crowder

Spring Semester

II T 7:00-10:00, Mech. Engineering 180,
Crowder

† See Information, page 14.

** Registration must be made in person.

****Machine Tool Operation I-II.** 5 Extension credits each semester. \$30 plus \$3 laboratory fee.

Lecture and laboratory course which covers all types of machines for production such as lathes, drill presses, shapers, milling machines, turret lathes, automatic screw machines, surface grinders, cylindrical grinders, centerless grinders, thread grinders, thread milling machines, jig boring machines, gear hobbers, gear shapers, and profile milling machines. All laboratory work on the above machines consists of the manufacture of machined parts to commercial standards necessary to manufacture a 14-inch all-gear head lathe with quick change gear box. (Prerequisite for Part II is previous semester's work or consent of instructor. Class limited to 24 students accepted in order of registration)

Fall Semester

I M 7:00-10:00, Mech. Engineering 114,
Crowder

Spring Semester

II M 7:00-10:00, Mech. Engineering 114,
Crowder

Press Working of Metals I-II. 3 Extension credits each unit. \$18 plus \$1 materials fee.

This is a design course dealing with: types of presses and their selection; preliminary steps in die engineering; specifications for selection of sheet materials and die steels; bending, forming, embossing, folding, shaving, burnishing, broaching, and trimming dies; drawing dies; coining, swaging, and cold sizing dies; temporary dies and low-cost tools for limited production; two-step die operations and progressive dies; assembly dies; considerations given to the press working of stainless steels, monel metal, and the nonmetallic materials—fiber, rubber, and rawhide.

Fall Quarter

I M 7:00-10:00, Mech. Engineering 214,
Benson

February 6–April 23

II M 7:00-10:00, Mech. Engineering 214,
Benson

****Heating, Ventilating, and Air Conditioning I-II.†** 4½ Extension credits each semester. \$27.

A course designed to present the fundamentals of heating, ventilating, and air conditioning to those interested in designing, installing, selling, or recommending the modern type appliances for heating, ventilating, and air conditioning installations. The subject matter of this course deals with terminology; heat transfer and heat transmission coefficients; all sources of heat loss from a structure; heating loads and heating costs; determination of temperatures in various parts of a structure; vapor transmission, problems; design of gravity and mechanical warm air heating systems; design of gravity and forced hot water heating systems; design of wet and dry panel heating systems; design of steam heating systems; fuels and combustion; and combustion equipment selection and controls. (Prerequisite: high school mathematics or consent of instructor. Class limited to 30 students accepted in order of registration)

Fall Semester

I W 7:00-9:30, Mech. Engineering 208, Borry

Spring Semester

II W 7:00-9:30, Mech. Engineering 208, Borry

Refrigeration I-II. 4½ Extension credits each semester. \$27.

An elementary course for those engaged in the design, construction, maintenance, manufacture, and sale of refrigeration equipment. Fundamental terms, concepts, definitions; basic refrigeration cycles including compression, steam jet and absorption refrigeration; compressors, evaporators, and condensers; refrigeration controls, thermostatic and automatic expansion valves, high and low side-float systems and capillary tubes; psychrometry; refrigerants; high, intermediate, and low temperature applications of refrigeration; determination of cooling and refrigeration loads; calculation of heat transfer coefficients; laboratory demonstrations of refrigeration equipment. (Prerequisite: consent of instructor)

Fall Semester

I Th 7:00-9:30, Mech. Engineering 302,
Threlkeld

Spring Semester

II Th 7:00-9:30, Mech. Engineering 302,
Threlkeld

† See Information, page 14.

** Registration must be made in person.

Automotive Engines—Operation and Maintenance I. 3 Extension credits. \$18 plus \$2 laboratory fee.

A study of construction and maintenance of principal engine parts, ignition systems, carburetors, lubricants, fuels, coolants, and anti-freezes in the automobile, truck, and bus engines of the gasoline type. (No prerequisite)

Fall Semester

I Th 7:00-8:40, Mech. Engineering 321, Murphy

Aircraft Power Plants I. 3 Extension credits. \$18 plus \$2 laboratory fee.

Basic theory of jet propulsion, gas turbines, and reciprocating engines. Engine types, construction, compressor and turbine configurations, and combustion and combustion chambers. Problems of lubrication, cooling, and ignition. Performance and performance charts with relation to operating variables such as speed, temperature, pressure, and altitude. Fuels, fuel specifications, metering systems, and fuel controls.

Spring Semester

Th 7:00-8:40, Mech. Engineering 321, Murphy

Fundamentals of Foundry Practice. 4½ Extension credits. \$27 plus \$5 laboratory fee.

A lecture and laboratory course dealing with the molding techniques, core making, melting, and cleaning of ferrous and nonferrous castings. Engineering properties of castings, casting design, standard foundry material tests.

Fall Semester

M 7:00-9:30, Mech. Engineering 102, Holtby

****Beginning Plastics.** 4½ Extension credits. \$27 plus \$3 materials fee.

A laboratory and lecture course dealing with the materials, equipment and methods used in the fabrication of plastic products. (No prerequisite. Class limited to 22 students)

Spring Semester

Th 7:00-9:30, Mech. Engineering 114, Holtby

Refresher Course for Mechanical Engineers. No credit. \$20.

Designed as a review course for practicing mechanical engineers. Lectures and problem sessions. (Prerequisite: B.M.E. or equivalent degree, or completion of Parts I and II of the State Board Examination)

Winter Quarter

Th 7:00-9:00, Mechanical Engineering 106,
Mechanical Engineering Staff

Mechanics and Materials (M.&M.)

26. Engineering Statics. 5 credits. \$30.

Resolution of force systems, equilibrium of rigid bodies and analysis of framed structures. Centroids. Graphical methods. Friction. Virtual work. Moments of inertia. (Prerequisite: I.T.M. 25)

Fall Semester

Th 7:00-10:00, Main Engineering 215, Fischer

Spring Semester

T 7:00-10:00, Main Engineering 202

** Registration must be made in person.

127. Engineering Dynamics. 5 credits. \$30.

Kinematics of structural elements. Dynamics of particles and of rigid-bodies. Work and energy. Impulse and momentum. Introduction to mechanical vibrations. (Prerequisite: M.&M. 26)

Fall Semester

Th 7:00-10:00, Main Engineering 206

Spring Semester

Th 7:00-10:00, Main Engineering 215, Fischer

128. Engineering Solid Mechanics. 5 credits. \$30.

Introduction to static strength properties of structural materials. Stress and strain. Applications to tension and torsion members, beams, columns, and joints. Design considerations. Statically indeterminate members. State of stress at a point, combined stress, and Mohr's circles. (Prerequisite: M.&M. 26)

Fall Semester

M 7:00-10:00, Main Engineering 215, Fischer

Metallography (Met.)

Metallography and Heat Treatment I-II.

 3 Extension credits each semester. \$18 plus \$2 laboratory fee.

A beginning course for those engaged in practical heat treatment, metal working, specification writing, inspection, buying or selling metal products. Lectures and laboratory work in the heat treatment of steel and correlation of properties with structure. Pyrometry freezing of alloys, microstructures, the iron-carbon diagram, surface hardening, cast iron and specifications. Second semester: hardenability and weldability, hardenability tests, SAE alloy steels, tool and high speed steels, stainless steels, bearing metals, brasses, aluminum alloys. (No prerequisite but I must precede II unless student has had experience in heat treatment)

Fall Semester

I M 6:30-7:15, Appleby 315, Mackay
 Lab. 7:15-8:05
 W 7:15-8:05, Appleby 315, Jerabek
 Lab. 1, 6:20-7:10
 Lab. 2, 8:10-9:00

Spring Semester

II M 6:30-7:20, Appleby 315, Jerabek
 Lab. 7:20-8:10

AERONAUTICS

Air Pilots' Ground School

The University Extension Division operates, on a short-course basis, a ground school for all pilots who are seeking a Private Pilot certificate or a Commercial Pilot certificate or an Instrument rating or a Flight Instructor rating. The course is open to all pilots and prospective pilots, regardless of their educational background. The full course (four "terms") provides thorough instruction in air navigation (including the use of computers), aeronautical meteorology, flight theory, analysis of flight maneuvers, airplane structures, aircraft engines, civil air regulations, aircraft instruments, radio aids, and related subjects. However, the student may select whatever term or terms he needs.

The primary objective of the course is to prepare students for the Civil Aeronautics Administration's commercial-pilot written examination. From time to time, depending upon the demand, supplementary short courses are offered for pilots who have completed the commercial-pilot ground-school course, or its equivalent, and who are preparing for the C.A.A. written examination for the instrument rating or the flight instructor rating. Also, when there is sufficient demand, special courses are offered for pilots who are in need of a full course of instruction for the C.A.A. written examination for the instrument rating or the flight instructor rating. Special bulletins are issued whenever such supplementary or special courses are to be offered, listing the tuition fees and other pertinent information.

The University ground school meets all requirements of, and is fully approved by, the C.A.A. as an Approved Advanced Ground School, and offers to its students all of the privileges extended by the C.A.A. to such approved schools. C.A.A. examinations are given at the University, by C.A.A. agents, at the end of each full course, for those who are interested in qualification for the various C.A.A. pilot certificates and ratings. (Flight students should bear in mind that if they have completed their ground training in a C.A.A. Approved Advanced Ground School they may take their C.A.A. written examinations at any time,

regardless of how little flight experience they have had. It is to the student's advantage to start his ground-school studies as early as possible in his training program.)

Each term lasts five weeks, the class meeting on Tuesday and Thursday evenings, from 7:00 p.m. to 10:00 p.m., in Aeronautical Engineering 211 on the Minneapolis Campus of the University. In addition to these scheduled meetings, there are some extra meetings, by special arrangement, for those who need special help or who are unable to attend all of the regular class meetings. The instructor is Sam R. Hamilton.

A student may enter the ground school at or near the beginning of any term, and may enroll for only one term or for any combination of terms, according to his needs. The fee, which is payable at the end of the second week of the term, is \$17.25 per term, making a total of \$69 if all four terms are taken. The total cost of textbooks and materials for all four terms is approximately \$15. Registration may be made through any of the General Extension Division offices, or through the instructor in the classroom.

The current schedule follows. For information regarding succeeding schedules, or regarding the supplementary and special courses referred to above, consult any Extension Division office or call Mr. Hamilton at Midway 8-2559.

Term I: Radio Aids to Navigation, Aircraft Instruments, and Civil Air Regulations.

Dates: June 7, 1955, through July 7, 1955.

Term II: Navigation (other than Radio Navigation) and the Use of Computers.

Dates: July 12, 1955, through August 11, 1955.

Term III: Aeronautical Meteorology.

Dates: August 16, 1955, through September 15, 1955.

Term IV: Flight Theory, Analysis of Flight Maneuvers, and Aircraft Engines.

Dates: September 20, 1955, through October 20, 1955.

Term I: Radio Aids to Navigation, Aircraft Instruments, and Civil Air Regulations.

Dates: October 25, 1955, through November 24, 1955.

Term II: Navigation (other than Radio Navigation) and the Use of Computers.

Dates: November 29, 1955, through December 29, 1955.

Term III: Aeronautical Meteorology.

Dates: January 3, 1956, through February 2, 1956.

Term IV: Flight Theory, Analysis of Flight Maneuvers, and Aircraft Engines.

Dates: February 7, 1956, through March 8, 1956.

Term I: Radio Aids to Navigation, Aircraft Instruments, and Civil Air Regulations.

Dates: March 13, 1956, through April 12, 1956.

Term II: Navigation (other than Radio Navigation) and the Use of Computers.

Dates: April 17, 1956, through May 17, 1956.

Term III: Aeronautical Meteorology.

Dates: May 22, 1956, through June 21, 1956.

Term IV: Flight Theory, Analysis of Flight Maneuvers, and Aircraft Engines.

Dates: June 26, 1956, through July 26, 1956.

RECREATION

Note that the recreational activities are offered in four groups: for children only, for women only, for men only, for men and women. Unless otherwise designated, all classes meet for one 45-minute session per week, carry no credit, and require no prerequisite. A health examination will be required in all Extension classes except golf. A physician will be available at Norris Gymnasium for Women at the first class meeting only. The cost of the health examination is seventy-five cents. Those not receiving this health examination must bring a letter from their own physician stating his approval of the swimming activity. Information about lockers will be given at first class meeting.

Activities Open to Children

**Swimming for Small Girls. \$7.50 plus \$2 special fee.

A course in swimming for girls between the ages of 6 and 12 years. Each girl must bring a permit for swimming from her own doctor. First meeting will be for the purpose of classifying swimmers into the following groups: beginners; advanced beginners (those who swim with ease in shallow water); intermediate swimmers (those who swim with ease in deep water). Swimmers may bring their own suits. Caps are required for all swimmers. (Each section limited to 20 girls)

Fall Semester

Beginners

S 8:45-9:30, Norris Gym 51, Lampe

Advanced Beginners

S 9:30-10:15, Norris Gym 51, Lampe

Intermediates

S 10:15-11:00, Norris Gym 51, Lampe

Spring Semester

Beginners

S 8:45-9:30, Norris Gym 51, Lampe

Advanced Beginners

S 9:30-10:15, Norris Gym 51, Lampe

Intermediates

S 10:15-11:00, Norris Gym 51, Lampe

Swimming for Boys. \$7.50 plus \$2 special fee.

A course for boys 6 to 12 years of age and at least 48 inches tall. The first meeting will be for the purpose of classifying swimmers into their proper groups: beginning, intermediate, advanced. Swimmers are required to bring their own towels.

Spring Semester

Beginners and Intermediates

S 10:00-10:45, Cooke Hall, Ostrander

Advanced

S 11:00-11:45, Cooke Hall, Mueller

Activities Open Only to Women

**Golf (Beginning)—for Women. \$7.50 plus \$2 special fee.

Class and individual instruction in the fundamentals of golf. Motion pictures and slides showing proper form of strokes. Discussion of rules, golf etiquette, and terminology. As much instruction as possible to be given in the spring at University Golf Course, weather permitting. Students furnish own clubs for outdoor play, an indoor practice ball, and one golf ball. (Each section limited to 20 students. Repeated spring semester)

Fall Semester

T 5:30-6:15, Norris Gym 60, Slocum

T 6:15-7:00, Norris Gym 60, Slocum

Spring Semester

T 5:30-6:15, Norris Gym 60, Lampe

T 6:15-7:00, Norris Gym 60, Lampe

W 5:30-6:15, Norris Gym 60, Slocum

W 6:15-7:00, Norris Gym 60, Slocum

Th 5:30-6:15, Norris Gym 60, Reiter

Th 6:15-7:00, Norris Gym 60, Reiter

**Golf (Intermediate)—for Women. \$7.50 plus \$2 special fee.

A review of the fundamentals (as listed for Beginning Golf) with the work of the class planned to meet individual needs. (Prerequisite: some knowledge of and experience in golf. Each section limited to 20 students)

Spring Semester

T 7:00-7:45, Norris Gym 60, Reiter

W 7:00-7:45, Norris Gym 60, Slocum

Th 7:00-7:45, Norris Gym 60, Reiter

****Swimming (Beginning and Advanced Beginning)—for Women. \$7.50 plus \$2 special fee.**

For beginners and those who want to increase their skill in strokes and diving. A health examination will be given at the first class meeting. (Each section limited to 30 students. Repeated spring semester)

Fall Semester

Beginners
 T 6:00-6:45, Norris Gym 51, Larson
 T 6:50-7:35, Norris Gym 51, Tinker
 Advanced Beginners
 T 6:00-6:45, Norris Gym 58, Tinker
 W 6:00-6:45, Norris Gym 51, Slaughter

Spring Semester

Beginners
 T 6:00-6:45, Norris Gym 51, Larson
 T 6:50-7:35, Norris Gym 51, Tinker
 W 6:00-6:45, Norris Gym 51, Larson
 Advanced Beginners
 T 6:00-6:45, Norris Gym 58, Tinker
 T 6:50-7:35, Norris Gym 58, Larson
 W 6:50-7:35, Norris Gym 51, Larson

****Swimming (Intermediate and Advanced)—for Women. \$7.50 plus \$2 special fee.**

A course for those who know how to swim but wish to learn new strokes or polish upon those they already know. Instruction in diving and water safety included. (Each section limited to 30 students. Repeated spring semester)

Fall Semester

W 6:50-7:35, Norris Gym 58, Slaughter

Spring Semester

W 6:00-6:45, Norris Gym 58, Slaughter
 W 6:50-7:35, Norris Gym 58, Slaughter

American Red Cross Life Saving—for Women. \$7.50 plus \$2 special fee.

This course leads to certification by the American Red Cross as "Senior Life Saver." The requirements for this certification are concerned with a standing front dive, surface dive, treading, floating, and swimming 440 yards.

Fall Semester

T 6:50-7:35, Norris Gym 58, Larson

Tennis (Beginning)—for Women. \$7.50 plus \$2 special fee.

Group and individual instruction. First eleven weeks of instruction given indoors; last six weeks at the University tennis courts. Individual practice for the improvement of strokes; working with tennis robot. Students furnish own tennis rackets and balls. Tennis permits are necessary if University courts are used. (Consult instructor)

Spring Semester

W 5:30-6:15, Norris Gym 151, Reiter

Tennis (Intermediate)—for Women. \$7.50 plus \$2 special fee.

Group and individual instruction for those who have elementary skills. Practice on courts. Tennis permits are necessary if University courts are used. (Consult instructor)

Spring Semester

W 6:20-7:05, Norris Gym 151, Reiter

Activities Open Only to Men

Golf—for Men. \$10 plus \$2 special fee.

The fundamentals of golf. Motion pictures or stereopticon slides show proper form of stroke. Eight to ten meetings for pictures, lectures, etc., will be held on Monday nights beginning February 13. Lessons or appointments with competent golf instructors in the golf gymnasium will be scheduled for Tuesday or Wednesday evenings February 14 to

April 2. The last six meetings will be held, weather permitting, at the University Golf Course. The outdoor schedule is adjusted to light. Students will furnish their own clubs.

Spring Semester

M 7:00-7:45, Physics 155, Bolstad and staff

Swimming—for Men. \$7.50 plus \$2 special fee.

Class and individual instruction for beginners in all swimming strokes, in diving, in senior lifesaving; preparation for Red Cross examinations. Woolen bathing suits not permitted. Health examination at first meeting. Other sections arranged on demand.

Spring Semester

W 8:05-8:50, Cooke Hall, Giles

Activities Open to Men and Women

Badminton Club—for Men and Women. One period, 6 months, \$12.50.

Two periods per week, as scheduled below, will be devoted to playing the game. Registration will be by periods, with a maximum of 16 players accepted for each. Prospective students should register at the campus office of the General Extension Division to insure acceptance in any period. Registration may be for more than one period per week. Students furnish own rackets and shuttlecocks.

Periods: 6:00 to 7:30 p.m., and 7:30 to 9:00 p.m., Cooke Hall gymnasium, Monday beginning September 26 and continuing through March with a recess at Christmas. In addition to the regular class periods, those registered may use the badminton courts when available for general intramural play. In charge: Anway.

Faculty

Immanuel C. Fischer, M.S., Assistant Professor of Engineering
Albert M. Fulton, Ph.M., Associate Professor of Speech
Leah M. Lewis, B.S., Assistant Professor of Interior Design
Helen P. Mudgett, M.A., Assistant Professor of Intercultural Education
Wendell White, Ph.D., Associate Professor of Psychology

Note: Owing to uncertainties of some departments as to future staff and unavoidable last minute additions and changes, this list is necessarily incomplete.

Hans Aarsleff, M.A., Instructor in English
Frank Agar, Lecturer in Photography
Wassilij Alexeev, Visiting Lecturer in Slavic and Oriental Languages
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Harold F. Arneman, Ph.D., Assistant Professor of Soils
Bernard P. Arnest, Associate Professor of Art
Woodrow J. Aunan, Ph.D., Assistant Professor of Animal Husbandry
Arthur H. Ballet, Ph.D., Assistant Professor of Speech and Theater Arts
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Harland Benson, Lecturer in Mechanical Engineering
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Donald G. Cain, B.A., Production Manager, Audio-Visual Education Service
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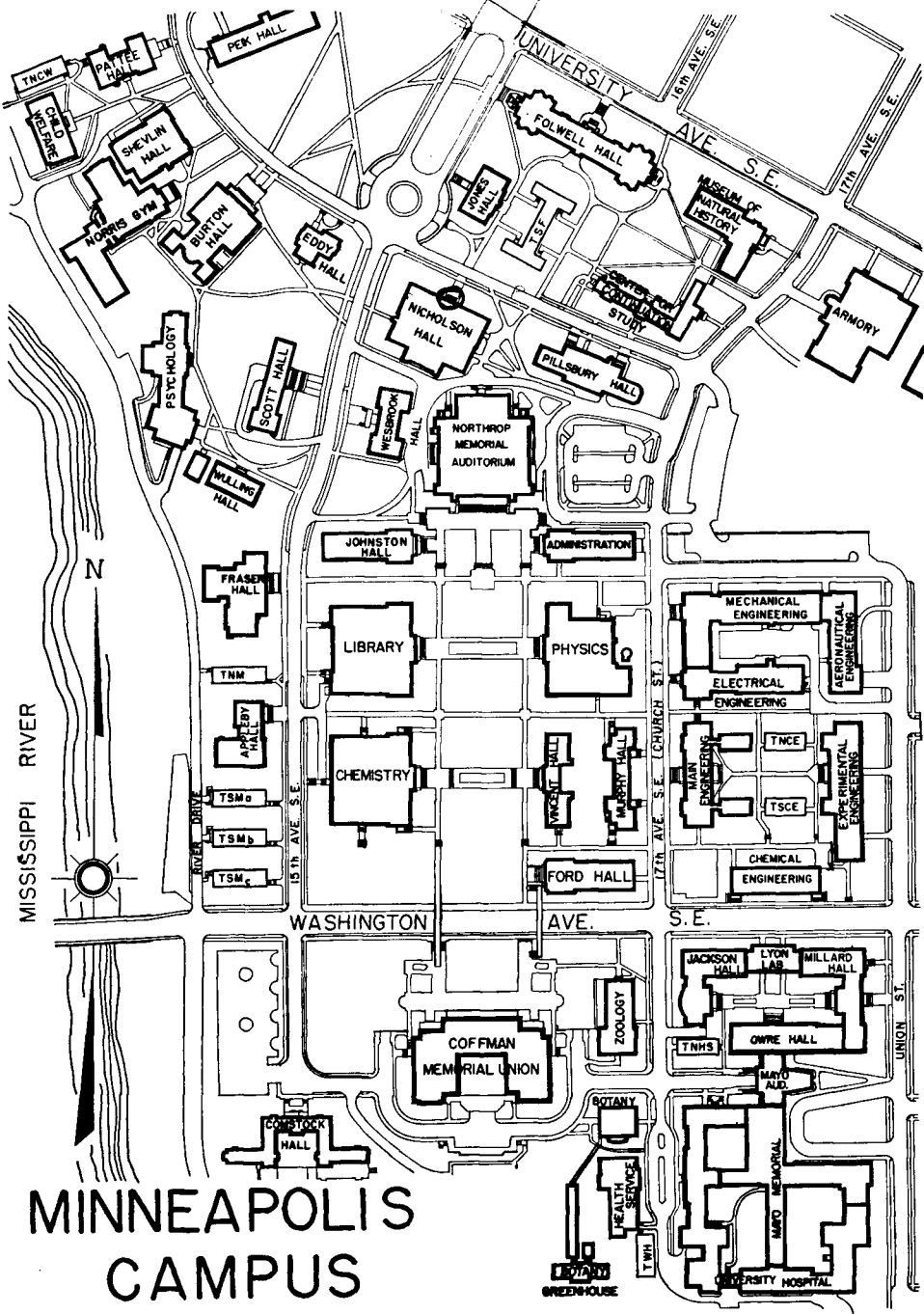
For information concerning telephone numbers for faculty personnel, please call the campus office of the General Extension Division, LI 8791.

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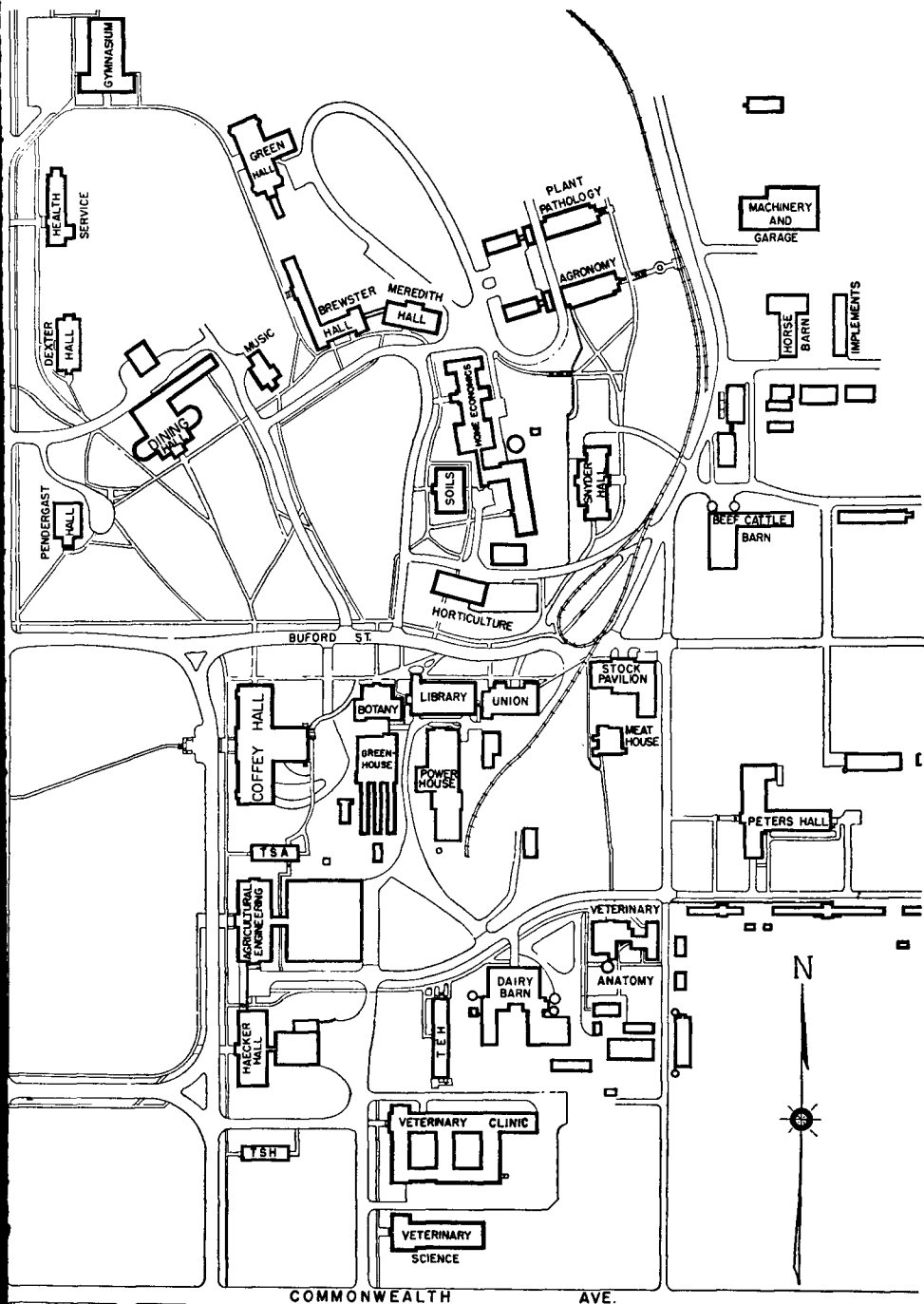
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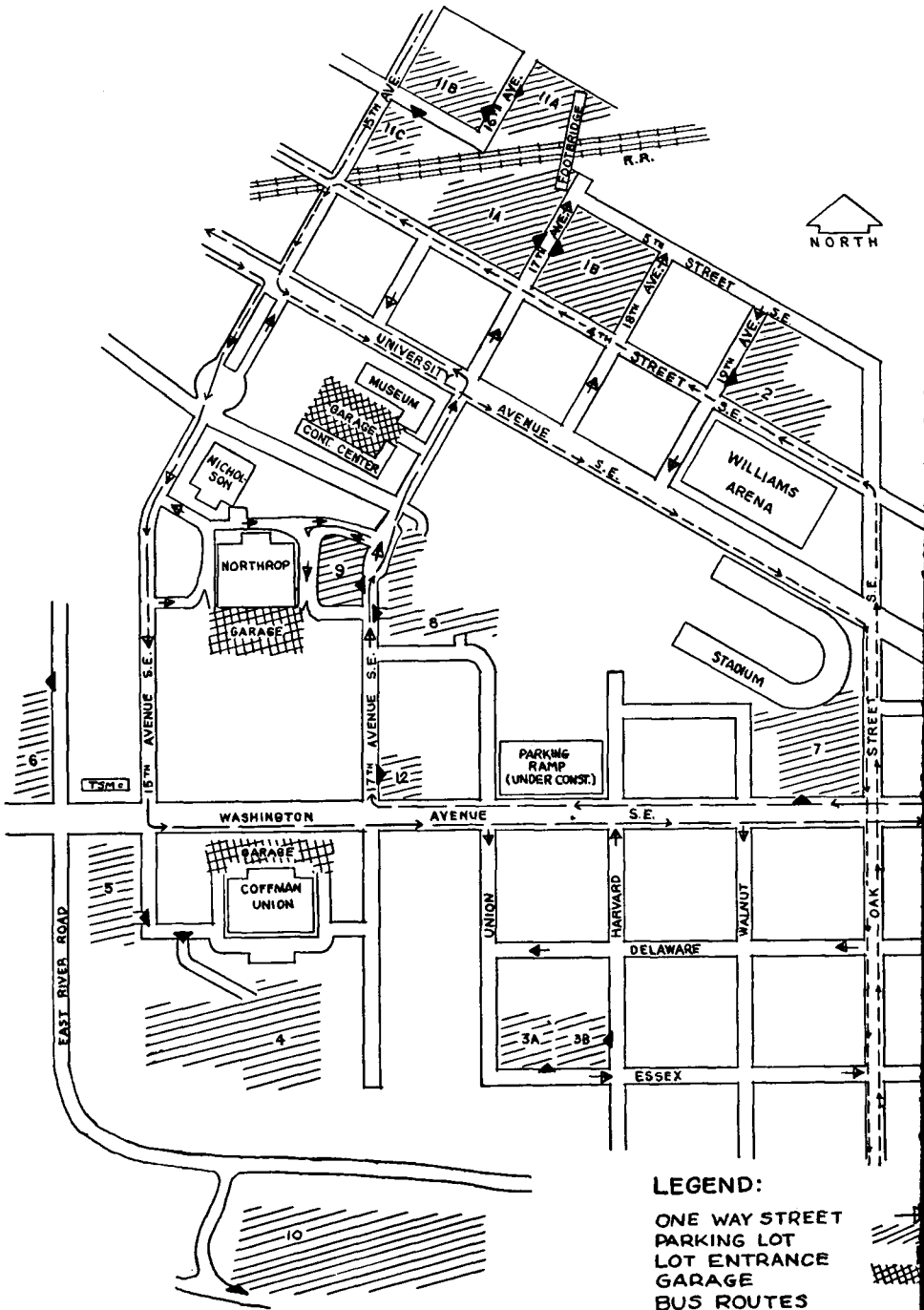


MINNEAPOLIS CAMPUS



COMMONWEALTH AVE.

ST. PAUL CAMPUS



PARKING AND BUS ROUTES

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Audio-Visual Extension Service

operates a large library of films, film strips, and slides available on a rental basis to schools, organizations, and individuals. For information, contact: Audio-Visual Extension Service, 230 Northrop Memorial Auditorium, University of Minnesota, Minneapolis 14.

Center for Continuation Study

presents institutes and short courses in professional and post-graduate, business, and cultural fields. For information, contact: Center for Continuation Study, University of Minnesota, Minneapolis 14.

Correspondence Study

offers some 300 high school, collegiate, and general courses by home study, designed to be used toward university degrees or certificates, for occupational advancement, or for development of special interests of the individual. For a bulletin, contact: Correspondence Study Department, 251 Nicholson Hall, University of Minnesota, Minneapolis 14.

Municipal Reference Bureau

co-operates with the League of Minnesota Municipalities in supplying information about city and village affairs to civic officials and others interested. For information, contact: Municipal Reference Bureau, 15 Library, University of Minnesota, Minneapolis 14.

State Organization Service

assists voluntary nonprofit associations on a community or state-wide basis by supplying them with secretarial, mimeograph, mailing, and general organizational services, subject matter aid, and space. For information, contact: State Organization Service, 15th and Washington Avenues Southeast, University of Minnesota, Minneapolis 14.

University Program Service

brings concerts, lectures, and assembly programs to audiences of the area and maintains a drama advisory service and loan play library. For information, contact: University Program Service, 229 Northrop Memorial Auditorium, University of Minnesota, Minneapolis 14.

University Radio KUOM

broadcasts educational, musical, news, and sports programs to the Upper Midwest; its staff produces educational telecasts which are shown on commercial stations. For a schedule, contact: KUOM, 1 Eddy Hall, University of Minnesota, Minneapolis 14.