

1/4/57

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



*Evening and Special Classes*  
*Twin Cities Area, 1956-1957*

General Extension Division

# UNIVERSITY OF MINNESOTA

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Eleanor M. Salisbury, M.A., Assistant to the Dean and Secretary of Committee on Student Scholastic Standing

## GENERAL EXTENSION DIVISION OFFICES

*University Campus:* Southeast entrance, Nicholson Hall, University of Minnesota, Minneapolis 14, Federal 8-8791.

*Minneapolis:* 690 Northwestern Bank Building, Marquette Avenue and Sixth Street South, Minneapolis 2, Federal 2-0624.

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

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

## TWIN CITIES OFFICE HOURS

The University campus office hours are as follows: Monday through Thursday, 8 a.m. to 8 p.m.; Friday, 8 a.m. to 5 p.m.; closed Saturday. During the Christmas recess and the spring recess, the office will close at 5 p.m. daily. During the summer recess, the office is open Monday through Friday from 7:45 a.m. to 4:30 p.m.

The Minneapolis and St. Paul office hours are as follows: Monday through Friday, 8 a.m. to 1 p.m. and 2 p.m. to 5 p.m.; closed Saturday.

Special hours are in effect at all offices during semester registration periods (see Calendar).

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## GENERAL EXTENSION DEPARTMENT HEADS AND DIRECTORS

Audio-Visual Extension Service, Erwin C. Welke, 121 Temporary, First South of Mines

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 of Minnesota Program Service, James S. Lombard, 229 Northrop Memorial Auditorium

## CALENDAR

1956			
September	17	Monday	<b>Fall quarter and semester registration begins.</b> (On Monday, September 17, all offices will be open from 8 a.m. to 8 p.m. Beginning with Tuesday, September 18, and continuing through Saturday, September 29, week day hours will be from 12 noon until 8 p.m., Saturday hours from 9 a.m. to 1 p.m.)
September	29	Saturday	Registration closes, all fees due.
October	1	Monday	<b>Fall quarter and semester classes begin;</b> special fees for late registration in effect. (All offices resume regular hours, listed on page 3.)
November	22	Thursday	Thanksgiving day, holiday.
December	17-21	Monday-Friday	Final examinations for fall quarter.
December	22	Saturday	Fall quarter closes; Christmas recess begins for all classes.
December	31	Monday	<b>Winter quarter registration begins.</b> (No special office hours in effect.)
1957			
January	1	Tuesday	New Year's Day, holiday.
January	7	Monday	Christmas recess closes; registration closes, all fees due; <b>winter quarter classes begin;</b> fall semester classes resume.
January	9	Wednesday	Special fee for late registration in effect.
February	4	Monday	<b>Spring semester registration begins.</b> (On Monday, February 4, all offices will be open from 8 a.m. to 8 p.m. Beginning with Tuesday, February 5, and continuing through Saturday, February 16, week day hours will be from 12 noon until 8 p.m., Saturday hours from 9 a.m. to 1 p.m.)
February	4-8	Monday-Friday	Final examinations for fall semester.
February	9	Saturday	Fall semester closes; semester recess begins for semester classes <i>only</i> .
February	16	Saturday	Registration closes; all fees due.
February	18	Monday	Semester recess closes; <b>spring semester classes begin;</b> special fee for late registration in effect. (All offices resume regular hours, listed on page 3.)
February	22	Friday	Washington's Birthday, holiday.
March	18-22	Monday-Friday	Final examinations for winter quarter.
March	23	Saturday	Winter quarter closes; spring recess begins for quarter classes <i>only</i> .
March	25	Monday	<b>Spring quarter registration begins.</b> (No special office hours in effect.)
April	1	Monday	Spring recess closes; registration closes, all fees due; <b>spring quarter classes begin.</b>
April	3	Wednesday	Special fee for late registration in effect.
May	30	Thursday	Memorial Day, holiday.
June	10-14	Monday-Friday	Final examinations for spring quarter and spring semester.
June	15	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 2 weeks preceding the opening of such classes. See page 17 for registration regulations.

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# EVENING AND SPECIAL CLASSES

## Twin Cities Area

(An index will be found on pages 118-120)

### 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 6 headings: Agriculture, Arts and Sciences, Business Administration, Education, Engineering and Technical Sciences, Recreation. Faculty, 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 15. Service veterans may register under Public Laws 16, 346, 550, and 894. See Special Information for Veterans, page 21.

##### 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 93.) (See also Graduate paragraph under Credits, page 14.)

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. In order to fulfill Senior College residence requirements, a student must apply for admission to the college of his choice as soon as he has completed the equivalent of 2 full years of daytime Junior College work. 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 17), 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.

## Evening and Special Classes

### *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 1 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 1 of the following fields \*\* or in any approved combination thereof to make a minimum of 45 credits for the certificate:

Accounting  
Child Welfare  
Economics and Finance  
Engineering  
Industrial Relations  
Insurance  
Nursing Education

Political Science  
Psychology  
Recreation  
Social Work  
Sociology  
Traffic and Transportation

### *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.

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



**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

**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 3 of the following 5 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

## Evening and Special Classes

**Concentration requirement:** at least 18 additional credits in 1 or 2 of the following fields, in addition to credits earned under core and spread requirement:

Accounting  
Advertising  
Economics and Finance  
Industrial Management  
Industrial Relations

Insurance  
Marketing and Merchandising  
Real Estate  
Traffic and Transportation

**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. 163—Union Government and Policies  
Econ. 166—Settlement of Industrial Disputes  
Econ. 169—Labor Legislation: Economic Security  
E.A. 86—Survey of Office Management  
B.A. 89—Production Management  
B.A. 180-181-182D—Senior Topics in Industrial Relations  
Pol. 64—Employee Training Techniques  
Pol. 68—Administrative Communication  
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  
Advanced Work Simplification  
Economics of Collective Bargaining  
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:**

Basic Technical Writing I; or Engineering Engl. 85; or Comp. 4; or Comm. 1a; 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  
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:

Basic Technical Writing I and II; 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 1 of the following fields, or approved combination thereof:

Aeronautical Engineering

Agricultural Engineering

Chemical Engineering

Chemistry

Civil Engineering

Electrical Engineering

Mathematics

Mechanical Engineering

Mining 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:

Basic Technical Writing I; or Engineering Engl. 85; or Comp. 4; or Comm. 1a; or exemption

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:

Basic Technical Writing I and II; 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

## Evening and Special Classes

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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

### Engineering Aid Program

The Engineering Aid program has been developed by the General Extension Division in co-operation with the Institute of Technology, the Relations with Industry Committee of the American Society for Engineering Education, and the Minnesota Highway Department. It is a terminal program designed to qualify the student as an engineering technician capable of performing responsible design or supervisory assignments in his field of specialization. The program is particularly recommended for persons interested in engineering work who are unable to pursue the full-time day study necessary for an engineering degree. In Civil Engineering the certificate programs provide the supplementary education required for Minnesota Highway Department Engineering Aids. Persons interested in the program who are already employed or seeking employment in a Twin Cities area industry utilizing engineering aid technicians should consult their company's training or personnel officer for program counseling and registration information. Others may obtain program counseling and registration information from any General Extension Division office. Much of the work of this program is also available through the Correspondence Study Department.

#### Basic Engineering Aid Certificate (44 credits)

*Prerequisite:* high school graduate or equivalent, higher algebra, solid geometry, and satisfactory completion of English Placement Test.

The Basic Engineering Aid Certificate Program is designed to provide the student with the fundamentals of mathematics, drawing, physics, and English which will enable him to handle intelligently basic engineering and drafting assignments on the job in any engineering field and will give him the necessary background for more specialized or advanced study. The required classes are listed below. No electives or substitutions are permitted in this program nor will any prerequisite be waived. The Basic Engineering Aid Certificate program may reasonably be completed in 2½ years of 2 to 3 evenings' class attendance per semester or quarter. Certificates are awarded to students who complete with a minimum C average the prescribed program of study.

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

G.E. 70—The Slide Rule

Comp. 4-5-6—Freshman Composition

Engl. 85—Advanced Technical Communication

Phys. 11-12—General Physics for Engineers

### Senior Engineering Aid Certificates (46 credits)

*Prerequisite:* Basic Engineering Aid Certificate.

The Senior Engineering Aid Certificate provides a concentration in a specialized engineering field and prepares the student for responsible design, and supervisory assignments in the area of concentration. The total program (Basic Engineering Aid and Senior Engineering Aid Certificates) may reasonably be completed in 5 years of 2 to 3 evenings' class attendance per semester or quarter.

Senior Certificates are awarded to students who complete with a minimum C average the prescribed program of study and are presented at regular University commencement exercises during the academic year.

### Senior Civil Engineering Aid

Survey of Calculus

M.M. 26—Engineering Statics

M.M. 128—Engineering Solid Mechanics

Soil Engineering

Beginning Practical Speech Making

Elementary Structural Design

Highways and Pavements I-II

Surveying I-II

Pol. 65—Government of Minnesota

Technical Electives (5½ credits, approved by the Committee on Student Scholastic Standing)

### Senior Electrical Engineering Aid

Survey of Calculus

Elements of Electric Circuits A

Elements of Electronics

Elements of Electric Machines A

Beginning Practical Speech Making

Psy. 155—Industrial Psychology

Human Relations in Industry

Elements of Industrial Engineering and Management

Technical Electives (11 credits, approved by the Committee on Student Scholastic Standing)

### Senior Mechanical Engineering Aid

Draw. 20—Advanced Mechanical Drawing

Survey of Calculus

Machine Tool Operation I and II

Machine Design I and II

Beginning Practical Speech Making

Psy. 155—Industrial Psychology

Human Relations in Industry

Elements of Industrial Engineering and Management

Technical Electives (11 credits, approved by the Committee on Student Scholastic Standing)

### 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 "certificate" credits, it is understood that they may be valid toward a degree in the appropriate college of the University of Minnesota, provided other conditions are met; certificate credits may be used only in Extension certificate programs.

## *Evening and Special Classes*

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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.

**Class Numbering**—Courses carrying University credit are numbered as follows: Junior College courses, numbered 1 through 49, are intended primarily for freshmen and sophomores; Senior College courses, numbered 50 through 99, are intended primarily for juniors and seniors; courses numbered 100 through 199 are considered Senior College and graduate level; courses numbered above 200 are graduate level only. If you wish to take a course numbered above 100 and get graduate credit for it, be sure to ask at the registration office for the appropriate form at the time of registration.

**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 provided he is an Extension student at the time he takes the examination. The fee for such special examination is \$5. In the same way, a student may establish credit for work done at a nonaccredited 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.

**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). A student registering for graduate credit must ask at the registration office for the appropriate special form at the time of registration. 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 93 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. If you are in doubt as to your qualifications for a course, but believe you are qualified, register for the course and consult the instructor at the first class session. 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 the first class session. If the instructor decides that you are not qualified, or that the course does not meet your needs, your class card properly validated will permit you to transfer to another class or to cancel (see Cancellations and Refunds, page 20).

### Continuation Classes

Unless otherwise indicated (see, for instance, special notes under History and Art headings) units of classes which run for 2 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 2 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 register for the class and must then consult the instructor at the first class session to be sure they have the necessary background to qualify for the advanced unit. If the instructor decides that you are not qualified, your class card properly validated will permit you to transfer to another class or to cancel.

A dagger (†) after a course number indicates that all units of the course preceding the dagger must be completed before credit will be granted for any unit of the course.

### 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 curriculums 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

## Evening and Special Classes

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. Requests for transcripts should be made directly to the Transcripts Department.

### **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 21.

Registration dates, offices, and office hours are indicated on pages 3 and 4; registration may also be made by mail except where specified and *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.

## ***Evening and Special Classes***

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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 "certificate 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 15).

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 15.)

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 and fees paid during the 2 weeks *preceding* the opening of a term (semester, quarter, or special). Registration will be permitted through the first week of a semester, 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. Absolutely no registrations may be made after the third week of classes.

### **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. Ask for appropriate form at registration office.

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.

### **Work Load**

Any person wishing to carry more than 12 credits must have permission from a member of the Committee on Student Scholastic Standing.

### Limited Classes

Some evening classes are limited to a specific number of students. In order to supply the quality of instruction needed in certain courses, a special Limited Class fee will be added. The fee will vary according to the limitation.

*There will be no refunds made for limited classes, unless the Extension Division itself cancels the class or changes the hour, the day, or the location; or for reasons beyond the control of the student, in which case the student must petition in order to have the regular refund policy apply (see Cancellations and Refunds). A student may not transfer out of a limited class.*

Registration in all limited classes must be made in person.

### Additions

There will be a penalty fee for each class added to an initial registration, as of the opening day of classes. The fee for additions will be \$1 per class during the first week, \$2 per class during the second and third weeks; no additions will be permitted after the third week of classes. After the first week of classes, additions will be permitted only in unusual circumstances or 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.

### Transfers

Students may transfer without penalty during the first week of classes; there will be a \$2 fee per class for transferring during the second and third weeks. No transfers will be allowed after the third week. After the first week of classes, transfers will be permitted only in unusual circumstances or 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.

### Fees

The full amount of the tuition and other special fees is payable at the time of registration. Fees do not cover books. A student is not registered until his fees are paid. 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 25.

Special fees may be added to basic tuition fees for some courses. Laboratory fees are for the use of equipment. Materials fees may include mimeographed material given to the students, audio-visual aids, art, construction or other materials. Limited Class fees are for the special instruction, individual attention, and, in some cases, special facilities necessary to certain types of courses. Registration fees are for special administrative costs where they may occur.

## Evening and Special Classes

### **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 late fee. During the first week of a term, the late fee will be \$2 for 1 class plus \$1 for each additional class. During the second and third weeks of a term, the late fee will be \$3 for 1 class plus \$1 for each additional class. No registrations will be accepted after the third week. The late fee applies whether a class carries University credit, certificate credit, or no credit. 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 must 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 and filed in the registration office, regardless of date of last attendance. No refunds will be approved unless a fee statement is submitted with the cancellation.

In case of cancellation before the opening date of each semester, quarter, or special term, a registration fee of \$3 will be retained, regardless of the amount of tuition.

*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 his class card, properly validated by his instructor, to the registration office.

*Pro-rata refunds* of tuition, laboratory, materials, and registration fees will be made as follows (late registration fees are not refunded except as part of a full refund):

Semester classes—After the second class session, 80 per cent (unless, on this basis, the amount retained by the General Extension Division would be less than \$3, in which case \$3 will be retained); after the fourth class session, 70 per cent; after the sixth class session, 60 per cent; after the eighth class session, 50 per cent; after the ninth class session there will be no refund.

Quarter classes—After the second class session, 80 per cent (unless, on this basis, the amount retained by the General Extension Division would be less than \$3, in which case \$3 will be retained); after the third class session, 70 per cent; after the fourth class session, 60 per cent; after the fifth class session, 50 per cent; after the sixth 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.

In the unusual circumstance that a fee refund is made on a limited class, the above schedule applies.

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 are 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

All World War II veterans are herewith advised that their educational benefits under Public Law 346 terminated July 25, 1956. As of this date the only exceptions are those veterans who enlisted or re-enlisted between the dates of October 6, 1945, and October 5, 1946, provided, of course, that they initiated their training within 4 years from their date of separation from military service, and, further, provided that they have been in continuous educational training since that time. Educational benefits for these veterans will be terminated 9 years from the end of their first period of enlistment or re-enlistment.

Tuition, fees, book and supply costs for all classes in which these World War II veterans are enrolled will be paid by the Veterans Administration only through their termination date. The General Extension Division will bill each veteran for such costs not paid by the Veterans Administration.

World War II veterans whose educational benefits terminated July 25, 1956, who were in service in the Korean War may be eligible for educational benefits under Public Law 550. Any veteran who thinks he is eligible for such benefits should contact the Veterans Office for further information. Applications for Korean educational benefits must be completed and training initiated within 12 calendar months from the termination date of the last semester or quarter class in which previously enrolled.

The Veterans Office, 56 Nicholson Hall, Minneapolis Campus, 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.

### Korean War Veterans

A Korean veteran who wishes to initiate his educational training, resume his educational training, or make changes in his educational training program under Public Law 550 is urged to keep the following information in mind: (a) A Korean veteran initiating his training for the first time must be actually enrolled in and attending classes on or before his delimiting date, which date is 3 years from his date of separation from active duty. The Veterans Administration makes no exception to this rule. The mere registration for classes

## Evening and Special Classes

does not constitute initiation of a training program. (b) A Korean veteran can interrupt his educational program for a period not to exceed 12 calendar months. He must re-enroll so that he will be actually attending class 12 months from the last day of the last semester, quarter, or term in which he enrolled except that if his delimiting date has not been reached the interruption may be extended to the delimiting date. This means that if a term closed June 9, 1956, a veteran must be enrolled in and attending class on or before June 9, 1957. The Veterans Administration makes no exception to this rule. The mere registration for classes does not satisfy the re-enrollment requirement. (c) Any Korean veteran who has initiated his educational training and then decides that he would like to change his objective can do so without restriction if the change is requested and the new program initiated prior to his delimiting date. However, if he wishes to change his program after his delimiting date, the Veterans Administration will approve the change only if the change requested represents "normal progression." The Veterans Administration has defined normal progression as being a continuing educational program leading from one degree to a higher degree.

For all practical purposes the foregoing provisions of Public Law 550 mean that (a) a Korean veteran who has not yet initiated a program of education and training must do so during fall semester 1956 if his delimiting date falls on or before February 17, 1957; (b) a Korean veteran who has previously initiated a program of education and training must resume active pursuit of his program during fall semester 1956 if the termination date of his last completed enrollment period was on February 4, 1956; or (c) a Korean veteran who was enrolled in a program of education and training during spring semester or quarter 1956 has the option of re-entering fall semester or quarter 1956 or of suspending his training for a period not to exceed 12 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, Federal 8-8791.

It is urgent that registration be made during the normal 2-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 (a) his Certificate for Education and Training (VA Form 7-1993) must designate an educational, professional, or vocational objective or goal; (b) his registration will be accepted in only those evening classes which are in keeping with this objective or goal; and (c) 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 for evening classes. The following chart shows how payments are determined by the Veterans Administration.

	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

## Evening and Special Classes

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. This means that final examinations must be taken. Any veteran who receives a grade of Y or Z (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 2 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.

Korean veterans are strongly advised to remember that signing monthly certifications is not a mere perfunctory act. Since all moneys paid a Korean veteran by the Veterans Administration are based on said monthly certification, the General Extension Division emphasizes that by signing a certification a Korean veteran is making a legal affidavit that he is still in attendance and completing assignments in all classes in which originally enrolled unless there has been an official cancellation submitted to the Veterans Office, 56 Nicholson Hall.

### **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, Federal 8-8791, 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.

## **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 to 5:30 p.m. and from 6:30 to 8 p.m., Monday through Friday, and from 9 a.m. to 1 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 *1 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.

## ***Evening and Special Classes***

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### **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 Theater, 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 Theater 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 1 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. If classes are canceled, athletic books must be returned to athletic office. 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 a.m.-4:30 p.m.—Williams Arena Lobby  
Wednesday, September 26  
Friday, September 28  
Tuesday, October 2

9 a.m.-9 p.m.—Williams Arena Lobby  
Thursday, September 27  
Monday, October 1

Ticket books will be issued in Williams Arena lobby on Thursday, October 4, and in Cooke Hall lobby on Friday, October 5, from 9 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<sup>3</sup> 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

#### 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 Certificate 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 18-April 22*

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

## ARTS AND SCIENCES

### Anthropology (Anth.)

#### 2A. Introduction to Anthropology: Cultural Anthropology. 3 credits. \$18.

The varieties and range of human behavior as revealed through the study of primitive societies in all parts of the world. A scientific analysis of the ways in which primitive men organize their lives, directed toward a deeper and broader understanding of human capacities and purposes. (No prerequisite. Not open to students who have received credit in old course 1. Such students should register for 1A)

*Fall Semester*

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

#### 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, Reining

### 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. Unless otherwise indicated, 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, Torbert

#### \*\*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 6:20-8:50, Jones 200, Young  
T 7:00-9:30, Walker Art Center, Anderson  
Th 6:20-8:50, Jones 200, Young

*Spring Semester*

T 6:20-8:50, Jones 200, Young  
T 7:00-9:30, Walker Art Center, Anderson  
Th 6:20-8:50, Jones 200, Young

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\*\* Registration must be made in person.

## Course Offerings—Arts and Sciences

### 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. (No prerequisite)

#### *Fall Semester*

M 6:20-8:50, Jones 104, Sussman

#### *Spring Semester*

M 6:20-8:50, Jones 104, Sussman

### \*\*45-94-95. Ceramics. 2 credits each semester. \$18, plus \$4.50 limited class fee, 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

Th 6:30-9:00, 2035 University Ave. S.E.,  
MacKenzie

#### *Spring Semester*

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

Th 6:30-9:00, 2035 University Ave. S.E.,  
MacKenzie

### 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 6:20-8:50, 2035 University Ave. S.E., Gates

#### *Spring Semester*

T 6:20-8:50, 2035 University Ave. S.E.,  
Schmidt

### 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*

Th 7:00-9:30, Walker Art Center, Kilbride

#### *Spring Semester*

Th 7:00-9:30, Walker Art Center, Kilbride

### 68. Modern Art: Contemporary Art in Europe and America. 3 credits. \$18.

Development of painting, sculpture, and architecture in Europe and the United States during the 20th century. (Prerequisite: Art 1 or 50 or 64, or consent of instructor. Ten weekly meetings)

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

#### *Winter Quarter*

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

### 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.

\*\* Registration must be made in person.

## Evening and Special Classes

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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

T 8:05-9:45, Nicholson 209, Lewis  
W 6:20-8:00, Nicholson 209, Lewis

### 103-104. Seminar in Interior Design. 3 credits. \$18, plus \$4.50 limited class fee, plus 50 cents laboratory fee.

A further expansion of subjects studied in Art 83-84. Students will work on individual projects under supervision. (Prerequisite: For 103, Art 84; for 104, 103. Class limited to 20 students. No auditors)

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

### Fall Semester

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

### Contemporary Jewelry Design I-II-III. 3 Certificate credits each semester. \$18, plus \$4.50 limited class fee, 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, 2035 University Ave. S.E.,  
Morton

### Spring Semester

W 6:20-8:45, 2035 University Ave. S.E.,  
Morton

**Art Education.** See page 91.

**Gardening and Landscaping.** See page 29.

**Modern Home Planning.** See page 41.

**Photography.** See page 55.

**Engineering Drawing.** See page 96.



## Course Offerings—Arts and Sciences

### Courses at Minneapolis School of Art

Registrations for University credit for these courses will be taken only at one of the Extension offices. The Minneapolis School of Art is located at 200 East 25th Street.

#### 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

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

##### February 11-June 6

B Th 7:00-9:30, Mpls. School of Art,  
Youngquist

#### 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 students who have taken 20B without 20A, who now wish to take 20A, must register in Mr. Olsen's section on MW. Spring term students who wish to take 20B without 20A must register in Mr. Olsen's section on MW)

##### Fall Semester

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

##### February 11-June 6

B MW 7:00-9:30, Mpls. School of Art 206,  
Olsen  
B MW 7:00-9:30, Mpls. School of Art 206,  
Ratner  
B 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 figure. Special emphasis on surface anatomy and shape characteristics of the individual model. (No prerequisite)

##### Fall Semester

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

##### February 11-June 6

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

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

##### February 11-June 6

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

## Evening and Special Classes

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### 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)

<i>Fall Semester</i>		<i>February 11-June 6</i>	
A T	7:00-9:30, Mpls. School of Art 201, Bradley	B T	7:00-9:30, Mpls. School of Art 201, Bradley
A Th	7:00-9:30, Mpls. School of Art 201, Bradley	B Th	7:00-9:30, Mpls. School of Art 201, Bradley

### 54A-B. Life Drawing. 2 credits each semester. \$18.

Continuation of head and figure study; construction interpretation, movement. Figure composition. (Prerequisite: 21A-B)

<i>Fall Semester</i>		<i>February 11-June 6</i>	
A Th	7:00-9:30, Mpls. School of Art 202, Olsen	B Th	7:00-9:30, Mpls. School of Art 202, Olsen

### 55A-B. Life Drawing. 2 credits each semester. \$18.

An advanced class designed to acquaint the student with the relationships between abstract and realistic forms as related to those observed shapes in the human figures. (Prerequisite: 54A-B Life Drawing)

<i>Fall Semester</i>		<i>February 11-June 6</i>	
A T	7:00-9:30, Mpls. School of Art 205, Ratner	B T	7:00-9:30, Mpls. School of Art 205, Ratner

### 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)

<i>Fall Semester</i>		<i>February 11-June 6</i>	
A M	7:00-9:30, Mpls. School of Art 205, Havens	B 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)

<i>Fall Semester</i>		<i>February 11-June 6</i>	
A MW	7:00-9:30, Mpls. School of Art 204, Quick	B 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)

<i>Fall Semester</i>		<i>February 11-June 6</i>	
A T	7:00-9:30, Mpls. School of Art 105, Newhouse	B T	7:00-9:30, Mpls. School of Art 105, Newhouse

### 75A-B. Graphic Arts (Layout). 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)

<i>Fall Semester</i>		<i>February 11-June 6</i>	
A Th	7:00-9:30, Mpls. School of Art 105, Tweton	B Th	7:00-9:30, Mpls. School of Art 105, Tweton

## Course Offerings—Arts and Sciences

### 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

A W 7:00-9:30, Mpls. School of Art 105,  
Rutili

#### February 11-June 6

B W 7:00-9:30, Mpls. School of Art 105,  
Rutili

### Courses at St. Paul Gallery and School of Art

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. The St. Paul Gallery is located at 476 Summit Avenue.

### 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

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

#### Spring Semester

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

### 33-34-35. Textile Design: Weaving. 2 credits each semester. \$18 plus \$2 laboratory fee.

33: 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) 34: Continuation of beginning course 33 into four-harness weaving including the designing and weaving of the finished fabric. 35: Extension of course 34 with emphasis on the designing and weaving of four-harness over-shot 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 above.

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 above.

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

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

#### Spring Semester

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

## Evening and Special Classes

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### 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

See Engineering and Technical Sciences, page 94.

## 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*

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

## Course Offerings—Arts and Sciences

### 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*

M 8:05-9:45, 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 101, 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*

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

### 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*

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

## Education

See page 91.

## English

### Composition (Comp.)

#### English Placement Tests.

Admission to English Composition classes (Comp. 4-5-6 and Comm. 1a-2a-3a) is based on satisfactory score in the English Placement Test or satisfactory completion of Preparatory Composition. *Please note:* (a) If you are uncertain regarding your eligibility but desire to be enrolled in Comp. 4 if eligible, *register for Comp. 4*; (b) if you took the Placement Test in a Minnesota high school within the last 3 years, you must, at least 1 week before the first meeting of the class, contact the campus office of the General Extension Division giving your name, the name of your high school, and the date of your graduation. *You need not take the test again.* (c) 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 Quarter*

7:00 Thursday, September 20, Nicholson Hall 211

7:00 Wednesday, September 26, Nicholson Hall 211

7:00 Wednesday, September 26, St. Paul Extension Center 206

#### *Winter Quarter*

7:00 Thursday, January 3, Nicholson Hall 211

#### *Spring Quarter*

7:00 Wednesday, March 27, Nicholson Hall 211

## Evening and Special Classes

### **Grammar Review. 3 Certificate credits. \$18.**

An intensive review of grammar (parts of speech, inflections, syntax), punctuation, and spelling for those who want a "refresher" before going into other English courses or who feel the need of a basic course in the fundamentals of English usage; designed to develop the ability to compose correct and effective sentences. (No prerequisite. This is not a substitute for Preparatory Composition—see English Placement Tests, above. Repeated spring semester)

#### *Fall Semester*

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

#### *Spring Semester*

T 7:50-9:30, St. P. Ext. Center 207, 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 41. Repeated winter and spring quarters)

#### *Fall Quarter*

T 5:30-8:00, Folwell 105

F 6:00-8:30, St. P. Ext. Center 202

#### *Winter Quarter*

T 5:30-8:00, Folwell 105

#### *Spring Quarter*

W 5:30-8:00, Folwell 105

### **Writing Projects. 3 Certificate credits. \$18.**

A course for those who are interested in writing fiction or book-length nonfiction but who lack the necessary prerequisites for the advanced composition courses or are not interested in accumulating credits for a degree. Class discussion will center on the short story and novel, with reference to biography and other non-fiction forms as appropriate. There will be individual and group criticism of work in progress. Students may submit projects already begun or may develop new projects during the semester. (No prerequisite. Repeated spring semester)

#### *Fall Semester*

W 7:50-9:30, St. P. Ext Center 207, Alford

#### *Spring Semester*

W 7:50-9:30, St. P. Ext Center 207, Alford

### **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 37)

#### *Fall Quarter*

4 T 5:30-8:00, Folwell 107,  
delPlaine

4 F 6:00-8:30, St. P. Ext.  
Center 204, Jobses

5 W 5:30-8:00, Folwell 107,  
Lufkin

#### *Winter Quarter*

4 T 5:30-8:00, Folwell 102,  
Herreshoff

5 T 5:30-8:00, Folwell 107,  
delPlaine

5 F 6:00-8:30, St. P. Ext.  
Center 204, Jobses

6 W 5:30-8:00, Folwell 107,  
Lufkin

#### *Spring Quarter*

4 W 5:30-8:00, Folwell 107,  
Lufkin

5 T 5:30-8:00, Folwell 102,  
Jobses

6 T 5:30-8:00, Folwell 107,  
delPlaine

6 F 6:00-8:30, St. P. Ext.  
Center 204

### **Communication 1a-2a-3a. See page 41.**

### **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 W 6:20-8:00, Folwell 205, Macdonald

#### *Spring Semester*

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

## Course Offerings—Arts and Sciences

**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 205, Macdonald

*Spring Semester*

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

**Business English.** See page 75.

**Engineering English.** See page 98.

### Literature (Engl.)

**Modern Drama.** 3 Certificate credits. \$18.

A course for those interested in literature but lacking prerequisites for regular literature courses or not interested in accumulating credits toward a degree. American, British, and (in translation) Continental plays, by such dramatists as O'Neill and Williams; Galsworthy, Maugham, O'Casey, and Synge; and Chekov, Ibsen, Schnitzler, and Strindberg. (No prerequisite)

*Fall Semester*

W 6:20-8:00, Folwell 207, Rathburn

**Modern Poetry.** 3 Certificate credits. \$18.

A course for those interested in literature but lacking prerequisites for regular literature courses or not interested in accumulating credits toward a degree. American and British poetry by such poets as Eliot, Frost, and Stevens; and Auden, Hopkins, and Yeats. (No prerequisite)

*Spring Semester*

W 6:20-8:00, Folwell 207, Rice

**22-23. Introduction to Literature.** 5 credits each semester. \$30.

A chronological study of English literature with historical background. An introduction to types of literature and literary ideas. 22: The Restoration and the 18th century. Pope, Swift, Addison and Steele, Johnson, Boswell, Fielding, and Sheridan. 23: The Romantic Movement and the Victorians. Wordsworth, Byron, Shelley, Keats, Carlyle, Tennyson, Browning, and Arnold. (Prerequisite: Engl. A-B-C or Comp. 4-5-6 or Comm. 1-2-3, or exemption from requirement)

*Fall Semester*

22 Th 6:20-8:50, Folwell 205, Blum

*Spring Semester*

23 Th 6:20-8:50, Folwell 205, Blum

**73-74. American Literature.** 3 credits each semester. \$18.

Notable American authors from the 17th century to the present. (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)

*Fall Semester*

73 W 6:20-8:00, Folwell 101, Bluestein

*Spring Semester*

74 W 6:20-8:00, Folwell 101, Bluestein

**75. Chaucer.** 3 credits. \$18.

The reading of selections from *The Canterbury Tales* with introduction dealing with the grammar and literary forms of 14th-century English. (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)

*Fall Semester*

T 6:20-8:00, Folwell 113, Rice

## Evening and Special Classes

### **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  
1 W 7:50-9:30, St. P. Ext. Center 203  
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  
2 W 7:50-9:30, St. P. Ext. Center 203

### **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, Falk

#### *Spring Semester*

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

### **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 and Related Courses

### 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 37)

	Fall Quarter	Winter Quarter	Spring Quarter
1a	T 5:30-8:00, Folwell 203, O'Hara	2a (Same schedule as fall)	3a (same schedule as fall)

### Family Life (F.L.)

1A. 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	Spring Semester
T	6:20-8:00, Johnston 306, Luckey	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: Pope, 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
T	8:05-9:45, Johnston 106, Bryan
Th	6:20-8:00, Johnston 106, Ramsland

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, Dostoyevsky. (No prerequisite)

## Evening and Special Classes

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*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

T 8:05-9:45, Johnston 106, Bryan  
Th 6:20-8:00, Johnston 106, Ramsland

### 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: the evolutionists, Kierkegaard, Nietzsche, Chekhov, Thomas 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 6:20-8:00, Johnston 106, Kliger  
M 7:50-9:30, St. P. Ext. Center 202,  
Vogelbaum

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

Civilization between two wars: the impact of psychoanalysis, communism, 20th-century liberalism, new problems of human value and authority. Authors: Freud, Lenin, T. S. Eliot, Kafka, and others. (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 6:20-8:00, Johnston 106, Kliger  
M 7:50-9:30, St. P. Ext. Center 202,  
Vogelbaum

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

The Trojan War, the Golden Age in Athens, the fourth-century philosophers. The idea of the hero, tragedy and the human condition, concepts of beauty, goodness, reason, and justice. Readings from Homer, Aeschylus, Sophocles, Euripides, Plato, Aristotle.

*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 7:50-9:30, St. P. Ext. Center 207, Ames

### 12. The Medieval Heritage. 3 credits. \$18.

The decline of Rome, epicureanism, stoicism, and the emergence of Christianity. Political, ethical, aesthetic, and intellectual content of the age of faith. Readings from Lucretius, Marcus Aurelius, New Testament, St. Augustine, Dante.

*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 7:50-9:30, St. P. Ext. Center 202, Ames

### 13a. Renaissance Heritage. 3 credits. \$18 plus \$1 materials fee.

The 14th and 15th centuries in Italy: the age of Lorenzo the Magnificent in Florence; Tuscan art, architecture, literary and political life. Readings from Petrarch, Alberti, Pico, Machiavelli, Cellini, and others. Color slides, films, and reproductions.

### Fall Semester

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

## Course Offerings—Arts and Sciences

### 13b. Renaissance Heritage. 3 credits. \$18 plus \$1 materials fee.

The high renaissance, the Reformation in Germany, the Counter-reformation—16th and 17th centuries. Readings from Luther, Calvin, Loyola, Cervantes, Descartes, Pascal, Montaigne. Color slides, films, and reproductions of high renaissance and baroque art and architecture.

*Spring Semester*

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

### Invitation to Mathematics. 3 Certificate 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

## Natural Science (N.Sci.)

### 1-2.† Orientation in the Natural Sciences (The Physical World). 5 credits each semester. \$30 plus \$1 laboratory fee.

A study of modern man's fundamental concepts of the physical world, the basic experiments and the method by which these concepts were attained. A largely nontechnical and nonmathematical analysis of the pivotal theories and data of astronomy, physics, chemistry, and geology. Special stress is laid on the historical approach toward the development of modern science, its relation to the times, to the prevailing belief patterns and its impact upon contemporary social and philosophical beliefs. Abundant experimental demonstrations with each lecture, as well as some individual laboratory work. (No prerequisite)

*Fall Semester*

1 Th 6:20-9:20, Physics 133, Graubard

*Spring Semester*

2 Th 6:20-9:20, Physics 133, Graubard

## Personal Orientation (P.O.).

### \*\*1. How to Study. 2 credits (see below). \$18, plus \$4.50 limited class fee.

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 20 students. Repeated spring semester)

*Fall Semester*

T 8:05-9:45, Johnston 306, Luckey  
Th 6:20-8:00, Johnston 306, Walz

*Spring Semester*

T 8:05-9:45, Johnston 306, Luckey  
Th 6:20-8:00, Johnston 306, Walz

### \*\*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

† See Information, page 15.

\*\* Registration must be made in person.

## Evening and Special Classes

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  
M 8:05-9:45, 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 6:00-7:40, St. P. Ext. Center 206  
Th 7:50-9:30, St. P. Ext. Center 206

### Spring Semester

M 6:20-8:00, Ford 80  
M 8:05-9:45, 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 6:00-7:40, St. P. Ext. Center 206  
Th 7:50-9:30, St. P. Ext. Center 206

### Efficient Listening. 3 Certificate 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

### Vocabulary Building: How to Expand Your Word Power. 3 Certificate 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 7:50-9:30, St. P. Ext. Center 203  
T 6:20-8:00, Nicholson 216, Draxten  
T 6:20-8:00, Nicholson 207, Kivits  
W 8:05-9:45, Nicholson 207, Stockdale  
W 8:05-9:45, Nicholson 211, Sheldon

### Spring Semester

M 7:50-9:30, St. P. Ext. Center 203  
T 6:20-8:00, Nicholson 216, Sheldon  
T 6:20-8:00, Nicholson 207, Stockdale  
W 8:05-9:45, Nicholson 207

## Social Science (S.Sci.)

### 1-2. Introduction to Social Science. 4 credits each semester. \$24.

An integrated study of the factors—historical, political, economic, social, psychological, and cultural—that influence and are influenced by man's conduct. 1: Development of personality. 2: Work as a central aspect of modern life.

### Fall Semester

1 M 5:45-8:00, Johnston 114, Cooperman

### Spring Semester

2 M 5:45-8:00, Johnston 114, Cooperman

## Geography (Geog.)

### 1. Geography of Natural Resources. 5 credits. \$30.

The physical characteristics and geographic distribution of the world's natural resources; major regional differences in the problems of physical resource development. (No prerequisite. Not open to students who have taken the old course 11)

### Fall Semester

W 6:20-8:50, Ford 285, Borchert

**109. Middle America. 3 credits. \$18.**

Analysis of the physical environment, exploration, and settlement of Mexico, Central America, and the West Indies. Regional interpretation of Middle American agriculture, mining, and manufacturing. (Prerequisite: 5 credits in geography or consent of instructor)

*Fall Semester*

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

**112. Western Anglo-America. 3 credits. \$18.**

A regional examination of the physical and human geographic patterns of the western portions of the United States and Canada. (Prerequisite: 5 credits in geography or consent of instructor. Not open to students who have taken the old course 71)

*Spring Semester*

T 6:20-8:00, Ford 285, Lukermann

## 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

A T 8:05-9:45, Pillsbury 22

*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

**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

**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

## Evening and Special Classes

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### 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, Wood  
1 Th 6:20-8:00, Folwell 207, Weiss  
2 M 6:20-8:00, Folwell 209, Prottegeier

##### *Spring Semester*

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

#### 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 209, Prottegeier

##### *Spring Semester*

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

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

Modern narrative prose. (Prerequisite: Ger. 3)

##### *Spring Semester*

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

#### 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, Menze  
17b M 6:20-8:00, Folwell 208, Sommer

##### *Spring Semester*

- 17a M 6:20-8:00, Folwell 208, Menze  
17b M 6:20-8:00, Folwell 205, Sommer

### Health

See page 63.

### 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

## Course Offerings—Arts and Sciences

industrialism upon Western and world civilization, the origins and backgrounds of the 20th-century world. (No prerequisite)

<i>Fall Quarter</i>	<i>Winter Quarter</i>	<i>Spring Quarter</i>
1 T 5:30-8:00, Ford 30, Jensen	2 (same schedule as fall)	3 (same schedule as fall)
1 W 6:00-8:30, St. P. Ext. Center 202, Jensen		

### 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.*

<i>Fall Quarter</i>	<i>Winter Quarter</i>	<i>Spring Quarter</i>
14 Th 5:30-8:00, Ford 115, Jones	15 (same schedule as fall)	16 (same schedule as fall)

### 22-20. 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. 22: Modern America. 20: Colonial and Early National Period. (No prerequisite)

*Note—Hist. 21-22 will be offered in 1957-58.*

<i>Fall Semester</i>	<i>Spring Semester</i>
22 M 5:45-8:00, Ford 30, Beatty	20 M 5:45-8:00, Ford 30, 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)

<i>Fall Semester</i>	<i>Spring Semester</i>
79 M 6:20-8:00, Ford 115, Chambers	80 M 6:20-8:00, Ford 115, Chambers

### 93-94. American Diplomatic History. 3 credits each semester. \$18.

93: American diplomacy, 1776-1848. 94: The period of national development, 1848-1898.

<i>Fall Semester</i>	<i>Spring Semester</i>
93 M 8:05-9:45, Ford 30, Beatty	94 M 8:05-9:45, Ford 30, Beatty

## Evening and Special Classes

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### 109-110. Europe in the 20th 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 4 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

### 138a-139a. American History, 1865-1900. 3 credits each semester. \$18.

Completes a 3-semester sequence 137a-138a-139a, covering the period 1850-1900. 138a: Reconstruction and the South; the Grant regime; growth of segregation; industrialization and labor problems; cultural developments. 139a: Party struggles in national politics; effect of economic depressions; money and other problems; the Spanish-American War; the Far East.

*Fall Semester*

138a T 6:20-8:00, Ford 175, Loehr

*Spring Semester*

139a T 6:20-8:00, Ford 175, Loehr

### 146-147-148. American Economic and Social History. (Not offered 1956-57)

### 146a-147a. History of the South. 3 credits each semester. \$18.

146a: Covers the period 1607-1840. 147a: Covers the period 1840-1890.

*Fall Semester*

146a W 6:20-8:00, Ford 130, Noble

*Spring Semester*

147a W 6:20-8:00, Ford 130, Noble

## Housing (Hous.)

### Planning Your Modern Home. 2 Certificate 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, Ford 55, Bliss

## Humanities

See page 41.



## 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, Haigh

*Spring Semester*

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

## Journalism (Jour.)

**13. Introduction to Journalistic Writing.** 3 credits. \$18.

Lectures and assignments in journalistic media and audiences; fundamentals of fact-gathering and fact-writing for newspapers, periodicals, broadcasting, and advertising. (Prerequisite: 9 credits college composition or equivalent; or consent of instructor)

*Fall Semester*

M 6:20-8:00, Murphy 308

**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 6:20-8:00, Murphy 311, Perry

**\*\*55. Typography for Publications and Advertising.** 3 credits. \$18, plus \$4.50 limited class fee, plus \$5 laboratory fee.

Study of typefaces in current usage. Choosing typefaces for headline forms and text. Copyfitting projects. Practice in hand composition in typography laboratory. (No prerequisite. Class limited to 20 students)

*Spring Semester*

T 6:20-8:00, Murphy 315-320, Wilson

**\*\*65. Graphic Processes and Layout Techniques for Publications and Advertising.** 3 credits. \$18, plus \$4.50 limited class fee, plus \$5 laboratory fee.

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

*Fall Semester*

M 6:20-8:00, Murphy 212, Wilson

**\*\*73. Magazine Writing I.** 3 credits. \$18, plus \$6 limited class fee.

The theory and techniques of the nonfiction magazine article for general and specialized periodicals; subjects and materials, practice assignments, manuscript criticism, editorial

\*\* Registration must be made in person.

## Evening and Special Classes

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principles, basic instruction for beginners in this field of writing. (Prerequisite: Comp. 4-5-6, or consent of instructor. Class limited to 18 students. Repeated spring semester)

*Fall Semester*

Th 6:20-8:00, Murphy 308, Edgerton

*Spring Semester*

Th 6:20-8:00, Murphy 311, Edgerton

### 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

### 86. Advertising Copy Writing. 3 credits. \$18.

Techniques of writing advertising copy for newspapers, magazines, direct mail, posters, brochures; planning advertising campaigns. (Prerequisite: Jour. 18 or consent of instructor)

*Fall Semester*

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

## Library Science (Lib.)

*The Library School is offering three evening courses in 1956-57. Each of these courses is prerequisite for the Master's Degree in library science and is also acceptable by the State Department of Education for certification of school librarians. All three courses will be on the quarter basis.*

### 62. Reference I. 3 credits. \$18.

Introduces students to the field of general reference books; gives some of the principles and practices of reference work which can be applied to all types of libraries. (No prerequisite)

*Fall Quarter*

T 6:30-9:00, Library 4B

### 55. Library Administration. 3 credits. \$18.

Introduction to principles of library administration, organization, and management. To orient students in the library profession and help them discover the principles of library administration. (No prerequisite)

*Winter Quarter*

W 6:30-9:00, Library 4B, Berninghausen

### 70. Reading Guidance—Book Selection. 3 credits. \$18.

The library user, his personality and background, the matching of book and user. Basic techniques and aids in the selection of books and other library materials such as films and records. (No prerequisite)

*Spring Quarter*

W 6:30-9:00, Library 4B, Wezeman

## Mathematics

See pages 43 and 101.

## 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. A \$4 registration fee will be charged for each applied music course in addition to the regular tuition and fees. The usual fee for late registrations will also be charged.*

### 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 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 Certificate credits. \$18.

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)

*Fall Semester*  
T 6:20-8:00, Scott 4, Ivory

*Spring Semester*  
T 6:20-8:00, Scott 4, Ivory

### 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)

*Fall Quarter*  
1T Th 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.

Continuation of 1T-2T-3T with greater emphasis on harmonic analysis, part-writing, and clef reading. (Prerequisite: 3T; for 5T and 6T: the previous quarter)

*Fall Quarter*  
4T M 6:20-8:50, Scott 103, Fetler

*Winter Quarter*  
5T (same schedule as fall)

*Spring Quarter*  
6T (same schedule as fall)

### \*\*Piano Playing for Pleasure (Group Piano) I-II. 2 Certificate credits each semester. \$18, plus \$6 limited class fee.

Practical piano for the classroom teacher and the person who wishes to play the piano for pleasure. Emphasis on sight reading, transposition, harmonization, improvisation, accompanying. Students will learn to chord and to play simple tunes. (No prerequisite for I; prerequisite for II is I or consent of instructor. Each section limited to 15 students)

*Fall Semester*  
I T 7:00-9:00, Mus.Ed. 103, Duckworth  
II Th 7:00-9:00, Mus.Ed. 103, Duckworth

*Spring Semester*  
I T 7:00-9:00, Mus.Ed. 103, Duckworth  
II Th 7:00-9:00, Mus.Ed. 103, Duckworth

### \*\*Singing for Pleasure (Group Singing). 2 Certificate credits. \$18, plus \$6 limited class fee.

The class vocalizes as a group and individually. Special emphasis is given to problems of tone, production, diction, breathing, interpretation, and literature. The class is

\*\* Registration must be made in person.

## Evening and Special Classes

designed for both beginning and advanced students who have varying degrees of proficiency. (Class limited to 14 students.)

### *Fall Semester*

T 6:20-8:00, Mus.Ed. 4, Paige

### **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

### *Spring Semester*

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

### **40-41-42. University Symphony Orchestra.** 1½ credits each semester. \$9.

Standard orchestral literature performed. Open to players of orchestral instruments from Twin Cities area. Those enrolled with consent of chairman of Music Department are given the opportunity of rehearsing with the University Symphony and participating in three annual concerts given in Northrop Auditorium. (Prerequisite: consent of instructor)

### *Fall Semester*

40-41 T 7:30-9:00, Northrop Aud., Oberg

### *Spring Semester*

41-42 T 7:30-9:00, Northrop Aud., Oberg

### **43. 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 only 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

### **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 4

### *Spring Semester*

74-75 W 6:20-8:00, Scott 4

## **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

## Course Offerings—Arts and Sciences

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.** No credit. \$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, Miller

### *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, Owre 111, Grainger

### *Spring Semester*

T 6:00-7:40, St. P. Ext. Center 202, 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)

### *Spring Semester*

Th 6:20-8:00, Millard 116, Miller

### **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)

### *Fall Semester*

M 6:20-8:00, Owre 111, Harris

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

### *Nursing Education*

See page 92.

## **Parliamentary Procedures**

See page 70.

## **Personal Orientation**

**Efficient Listening.** See General Studies, page 44.

**Efficient Reading.** See General Studies, page 43.

**How to Study.** See General Studies, page 43.

**Preparation for Marriage.** See General Studies, page 41.

**Vocabulary Building.** See General Studies, page 44.

## **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. Repeated spring semester)

*Fall Semester*

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

*Spring Semester*

W 6:00-7:40, St. P. Ext. Center 207, Magel

### **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*

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

*Spring Semester*

W 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*

Th 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)

*Spring Semester*

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

## Course Offerings—Arts and Sciences

### 51A. Medieval Philosophy. 3 credits.†† \$18.

European thought from the final period of Greek philosophy to the close of the Middle Ages. The early church Fathers; philosophy during and after the "Dark Ages," scholastic philosophy and St. Thomas Aquinas; philosophical thought on the brink of the scientific revolution. (No prerequisite)

#### *Fall Semester*

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

### 52A. Modern Philosophy. 3 credits.†† \$18.

Rise and development of modern philosophy. The scientific revolution of Copernicus and Galileo; attempts at a new philosophy by Descartes, Spinoza, Leibniz, Locke, Berkeley, Hume; criticism of these earlier attempts by Kant and Hegel. (No prerequisite)

#### *Spring Semester*

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

### 59-151.§§ Principles of Aesthetics. 3 credits. \$18.

The nature of the aesthetic experience; standards of aesthetic evaluation; beauty in art and beauty in nature; the status of subject matter in the arts; the relation of form and content; the concepts of representation, expression, style, meaning, and truth in the arts; the use of symbols in art; the relation of the arts to knowledge, and to society; the relation of aesthetics to ethics. (No prerequisite)

#### *Fall Semester*

T 6:20-8:00, Johnston 105, Hospers

## Photography (Phot.)

*Students in all photography classes must furnish their own cameras.*

### \*\*Art 10. Basic Photography I. 3 credits. \$18, plus \$4.50 limited class fee, 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. Limited to 24 students)

#### *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 \$4.50 limited class fee, 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.

\*\* Registration must be made in person.

†† These courses, offered only in the Extension Division, are somewhat abridged counterparts of the corresponding portions of Phil. 50-51-52. They carry 3 academic credits instead of 5, and may be offered in fulfillment of the requirements for a major in philosophy or the prerequisite for advanced courses in philosophy only under exceptional circumstances and by special arrangement with the Department of Philosophy.

§§ Students registering for Phil. 151 must make special arrangements with the instructor no later than the third week of classes.

## Evening and Special Classes

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(Prerequisite: Art 10 or equivalent with instructor's consent. Repeated spring semester. Limited to 24 students)

*Fall Semester*  
W 6:20-8:00, Murphy 20, Agar

*Spring Semester*  
W 6:20-8:00, Murphy 20, Agar

### **Color Photography I.** 3 Certificate 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 Certificate 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)

*Spring Semester*  
W 6:20-8:00, Wesbrook 206, Webb

## Physics

See Engineering and Technical Sciences, page 109.

## 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

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† See Information, page 15.



## Course Offerings—Arts and Sciences

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 185, Flom

### **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 185, Christensen

### **A.† The State in the Modern World. 3 credits. \$18.**

An examination of principles, structure, and operation of the modern state. Emphasis on nation state; historical development; democratic government: United States, Great Britain; totalitarian government: Nazi Germany, Soviet Russia; conflict between states. (No prerequisite. To receive credit for Pol. A or B a student must complete both Pol. A and B)

### *Fall Semester*

M 8:05-9:45, Ford 185, McClosky

### **B.† The State in the Modern World. 3 credits. \$18.**

See Pol. A. (No prerequisite. To receive credit for Pol. A or B, a student must complete both Pol. A and B)

### *Spring Semester*

M 8:05-9:45, Ford 185, Turner

### **7. Government and Politics of Western Europe. 3 credits. \$18. (Not offered 1956-57)**

### **15. Elements of Political Science. 3 credits. \$18. (Offered 1957-58 and alternate years)**

### **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

### **50. Political Behavior } 167. §§ Political Behavior } 3 credits. \$18.**

More and more attention is being turned to such matters as why people prefer one candidate or political party to another; how political attitudes and public opinions are formed and changed; and what factors influence elections. This course takes up these and such related matters as the psychological aspects of leadership; the nature of political organization, the effect of campaigns; opinion surveys; interest and pressure groups; and the role of personality. (No prerequisite)

### *Spring Semester*

M 8:05-9:45, Ford 160, McClosky

† See Information, page 15.

§§ See Note at beginning of Political Science section.

## Evening and Special Classes

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**52. American Political Parties** }  
**137.§§ American Political Parties** } 3 credits. \$18.

The role and functions of the party in American government; party composition and organization; the process of nomination and policy formulation; the regulation of party organization and activities. (No prerequisite)

*Fall Semester*

Th 6:20-8:00, Ford 185, Christensen

**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)

*Fall Semester*

M 8:05-9:45, Ford 160, Turner

**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. Qualified students may register for B.A. 158. Consult instructor. See page 74)

*Spring Semester*

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

**60. Introduction to Public Administration** }  
**131.§§ Public Administration: Organization and Areas** } 3 credits. \$18.

Forms and trends of public administration; working concepts of organization, with some attention to the sociology of organization; techniques of operations analysis; methods employed by administrators to achieve administrative objectives; controls over administration, including intervention by political parties and pressure groups. (No prerequisite)

*Fall Semester*

T 6:20-8:00, Ford 160, Warp

**61. Municipal Law and Administration** }  
**121.§§ Municipal Administration** } 3 credits. \$18. (Offered 1957-58 and }  
alternately years)

**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

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§§ See Note at beginning of Political Science section.

## Course Offerings—Arts and Sciences

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**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. (Not offered 1956-57)

**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 7:50-9:30, St. P. Ext. Center 202, Tucker

**66. Problems of Public Administration.** 3 credits. \$18.

Through the study of actual cases in administration, basic problems are identified and analyzed in the processes of organization, policy formulation, and program execution. (No prerequisite)

*Spring Semester*

T 6:20-8:00, Ford 170, Warp

**67. Administrative Analysis** (see B.A. 182A, page 74). 3 credits. \$18 plus \$2 laboratory fee.

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 170, Magraw and others

**68. Administrative Communication.** 3 credits. \$18. (Not offered 1956-57)

**69. Problems in Tax Administration.** 3 credits. \$18. (Not offered 1956-57)

**73. City and County Planning.** 3 credits. \$18. (Not offered 1956-57)

**75. Local Government in the United States.** 3 credits. \$18.

The status and importance of local government in the United States; city governmental, administrative, and political organization; city and county politics and "bosses"; the problem of city government reorganization with special reference to the Twin Cities; the campaign for the council-manager type of city government; the functions of local government—law enforcement, public welfare, housing and city planning, etc.; city financial organization and problems; threats to municipal home rule. (No prerequisite)

*Fall Semester*

Th 7:50-9:30, St. P. Ext. Center 204, Tucker

## Evening and Special Classes

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76. Business and Government } 3 credits. \$18. (Not offered  
126.§§ Government and the Economic Order } 1956-57)

77. Administrative Regulation } 3 credits. \$18. (Not offered  
127.§§ Government and the Economic Order } 1956-57)

78. The Administration of Justice } 3 credits. \$18. (Not offered 1956-57)  
136.§§ The Administration of Justice }

80. American National Government. 3 credits. \$18. (Offered 1957-58 and alternate years)

A study of the organization, functions, processes, and problems of the national government—the determination of its policies and their administration. (No prerequisite)

84. Problems of World Organization } 3 credits. \$18.  
184.§§ International Organization I }

The fundamental factors underlying the organization of the world community. The nature of the United Nations and its successes and failures. (No prerequisite)

### Fall Semester

M 6:20-8:00, Ford 160, Levi

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

The prewar and postwar political and economic problems of Southeast Asia; nationalism and communism; interests and policies of the Western and Asiatic powers. (No prerequisite)

### Fall Semester

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

87. Problems of European Unification } 3 credits. \$18. (Not offered 1956-  
187.§§ Problems of European Organization } 57)

90. Chinese Government and Politics } 3 credits. \$18. (Not offered 1956-57)  
154.§§ Chinese Government and Politics }

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

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

97. The Mediterranean Area in World Affairs } 3 credits. \$18. (Not offered  
197.§§ The Mediterranean Area in World Affairs } 1956-57)

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

Powers of the President and the Congress in foreign relations; the treaty power, executive agreements, and the "Bricker Amendment"; organization and work of the De-

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§§ See Note at beginning of Political Science section.

partment 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 150, McLaughlin

**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, McLaughlin

**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 6:00-7:40, St. P. Ext. Center 205, White  
 Th 8:05-9:45, Nicholson 216, White

*Spring Semester*

M 8:05-9:45, Nicholson 216, White  
 T 7:50-9:30, St. P. Ext. Center 206, 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  
 1 Th 6:00-7:40, St. P. Ext. Center 207, Mink  
 2 W 6:20-8:00, Nicholson 216

*Spring Semester*

2 W 6:20-8:00, Nicholson Aud., White  
 2 Th 6:00-7:40, St. P. Ext. Center 201, Mink  
 1 W 6:20-8:00, Nicholson 216

**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

† See Information, page 15.

§§ See Note at beginning of Political Science section.

## Evening and Special Classes

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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, Norman

### 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, Nelson

### 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, England

### Spring Semester

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

### 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 Th 6:20-8:00, Psychology 115, Holt

### Spring Semester

145 Th 6:20-8:00, Psychology 115, Holt

### 155. Industrial Psychology. 3 credits. \$18.

Psychological problems in industrial production with special reference to biomechanics (the adaptation of the machine to the capacities and limitations of the operator), work and effort, and the role of communication in an industrial organization. (Prerequisite: Psy. 1-2 and Math. 15-16 or equivalent or 10 credits of statistics)

### Fall Semester

T 8:05-9:45, Ford 150, Dunnette

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† See Information, page 15.

**156. Psychology of Advertising.** 3 credits. \$18.

Psychological analysis of the basic principles underlying advertising and selling. Consumer research is stressed. Research techniques for investigating advertising problems and the analysis of consumer wants are considered in detail. (Prerequisite: Psy. 1-2 and Economics 6-7)

*Spring Semester*

W 6:20-8:00, Johnston 106

## 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, Mayo 1250, Thomson

**62. Public Health Nursing I.** 3 credits. \$18.

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)

*Winter Quarter*

W 6:00-8:50, Mayo 1250, Murphy

**74. Industrial Safety and Health.** 3 credits. \$18.

Study of mechanical, electrical, and other hazards frequently found in industrial plants, and means for eliminating hazards and educating employees on safe practices. Field and laboratory methods used in the study and control of occupational disease hazards created by toxic dusts, fumes, gases, vapors, mists, noise, and ionizing radiation. Organization and administration of safety and health programs. (No prerequisite)

*Fall Semester*

W 6:20-8:00, Mech. Engineering 114, Michael-  
sen and others

**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, Mayo 1250, 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

## Evening and Special Classes

### **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, Mayo 1250, Cline

## **Radio and Television**

See page 69.

## **Recreation**

See page 110.

## **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 Swedish 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

### **11-12. Advanced Swedish.** 3 credits each semester. \$18.

Designed for students who have had one year of Swedish (or its equivalent) or more. The course will be adjusted to the level of the particular interests of those enrolled, with special emphasis on pronunciation based on readings in selected modern prose and conversation exercises in present-day Swedish.

*Fall Semester*

11 T 8:05-9:45, Folwell 12, Gustafson

*Spring Semester*

12 T 8:05-9:45, Folwell 12, Gustafson

### **17-18. Beginning Finnish.** 3 credits each semester. \$18.

Intended for beginners with little or no previous knowledge of Finnish; stresses fundamentals of grammar, correct pronunciation, reading, practice in conversation and simple composition. (No prerequisite)

*Fall Semester*

17 T 6:20-8:00, Folwell 208, Halonen

*Spring Semester*

18 T 6:20-8:00, Folwell 208, Halonen



## Slavic and Oriental Languages

### Polish

#### 1. Beginning Polish. 3 credits. \$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)

*Fall Semester*

T 6:20-8:00, Folwell 226

### 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, Niemi

*Spring Semester*

2 M 6:20-8:00, Folwell 113, Niemi

## Social Work (S.W.)

#### 93. Supervision of Staff. 3 credits. \$18.

A course which examines the process of social group work supervision, particularly of volunteers, in informal educational, recreational, and institutional agencies. (Prerequisite: current employment in a social group work agency)

*Spring Semester*

W 9:30 a.m.-11:20 a.m., Ford 70, Pernel

#### 201. Casework in Authoritative Settings. 3 credits. \$18.

An analysis of the application of the social casework process to personal and social adjustment problems of delinquents. (Prerequisite: current employment in a social agency)

*Fall Semester*

M 6:20-8:00, Ford 175, Compton

#### 202. Changing Cultural Patterns As They Affect Social Work Practice. 3 credits. \$18.

A course designed for professional social workers to examine cultural patterns so as to improve social work practice in casework and group work agencies. (Prerequisite: MSW degree)

*Spring Semester*

M 6:20-8:00, Ford 175, Konopka

#### 203. Supervision in Social Work. 3 credits. \$18.

A course designed for professional social workers who are, or plan to become, supervisors. (Prerequisite: MSW degree)

*Fall Semester*

W 6:20-8:00, Ford 175

## Sociology (Soc.)

*Note—Students who expect to receive graduate credit for courses numbered 100 or above will be requested to do additional work.*

### 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*

T 6:00-7:40, St. P. Ext. Center 202, Kanun  
Th 6:20-8:00, Ford 80, Kanun

*Spring Semester*

T 6:20-8:00, Ford 120, Kanun

### 3. Social Problems. (Formerly Soc. 49) 3 credits. \$18.

A survey course in contemporary social problems with special emphasis on personal demoralization and social disorganization. (No prerequisite. Repeated spring semester)

*Fall Semester*

Th 6:20-8:00, Ford 130, Johnson

*Spring Semester*

Th 6:00-7:40, St. P. Ext. Center 207, Johnson

### 53. Elements of Criminology. 3 credits. \$18.

A general survey of the field of criminology. (Prerequisite: Soc. 1 or equivalent experience with consent of instructor)

*Fall Semester*

W 6:20-8:00, Ford 50, Donohue

### 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 equivalent experience with consent of instructor)

*Spring Semester*

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

### 120. Social Psychology. 3 credits. \$18.

Research and theory regarding the relation of the individual to social groups. Emphasis on the socialization processes; effects of social interaction and isolation; individual behavior under conditions of social organization and disorganization; cultural influence and its limits. (Prerequisite: Soc. 1 or equivalent experience with consent of instructor)

*Fall Semester*

T 6:20-8:00, Ford 130, Stone

### 141. The Family. 3 credits. \$18.

The evolution of the family: development of family unity or disunity, the roles of the several members of the family, methods of investigation of the family. (Prerequisite: Soc. 1 or equivalent experience with consent of instructor)

*Fall Semester*

Th 8:05-9:45, Ford 130, Johnson

## Course Offerings—Arts and Sciences

### 144. Social Stratification. 3 credits. \$18.

Social stratification as a phase of social organization. Analysis of caste, estates, and social classes. Analysis of social stratification in contemporary societies with special reference to the United States. Socio-economic status and social stratification. (Prerequisite: Soc. 1 or equivalent experience with consent of instructor)

*Spring Semester*

T 6:20-8:00, Ford 130, Stone

### 171. Social Life and Cultural Change. 3 credits. \$18.

Examination of theories of social change, with particular attention to their methodological problems. Materials drawn from the comparative social thought and structure of antiquity utilized as basic data for analysis. (Prerequisite: Soc. 1 or equivalent experience with consent of instructor)

*Fall Semester*

Th 6:20-8:00, Ford 70, Francis

### 180. Methods of Social Research. 3 credits. \$18.

A survey of major methods employed in social research, including a consideration of their advantages and limitations when applied to specific types of problems. (Prerequisite: Soc. 45, Econ. 5, Ed.Psy. 60 Intro. to Measurements and Statistics, or equivalent experience with consent of instructor)

*Spring Semester*

Th 6:20-8:00, Ford 75, Francis

## 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  
1 M 6:00-7:40, St. P. Ext. Center 206,  
Mousolite  
1 Th 6:20-8:00, Folwell 202, Rundorff  
2 Th 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  
2 M 7:50-9:30, 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 W 6:20-8:00, Folwell 204, Vazquez

*Spring Semester*

4 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

## Evening and Special Classes

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### 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)

#### *Fall Semester*

T 6:20-8:00, Folwell 202, Cuneo

### 83. Spanish-American Novel and Social Problems. 3 credits. \$18.

This course deals with some of the outstanding social problems of Latin-America as presented in the novels of its leading authors. These books not only capture the essence and dramatize in epic tones the social problems that characterize the Latin-American countries but also suggest possible solutions for them. Some of the basic problems to be studied are: the national integration of the Indian, the Latin-American dictator, man in the jungle, civilization vs. barbarism, the Mexican Revolution, foreign economic exploitation, and the new immigrants. This course will be conducted entirely in Spanish. (Prerequisite: consent of instructor)

#### *Spring Semester*

T 6:20-8:00, Folwell 202, Cuneo

## Speech and Theater Arts (Spch.)

### \*\*Beginning Practical Speech Making. 3 Certificate credits. \$18 plus \$6 limited class fee plus \$2.50 materials 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 5:30-7:10, Folwell 5, Fulton  
W 6:20-8:00, Folwell 5, Fulton  
Th 6:00-7:40, St. P. Ext. Center 202,  
Seymour

#### *Spring Semester*

M 5:30-7:10, Folwell 5, Fulton  
W 6:20-8:00, Folwell 5, Fulton  
Th 6:00-7:40, St. P. Ext. Center 202,  
Seymour

### \*\*Advanced Practical Speech Making. 3 Certificate credits. \$18 plus \$6 limited class fee plus \$2.50 materials 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*

M 7:20-9:00, Folwell 8, Fulton

#### *Spring Semester*

M 7:20-9:00, Folwell 8, Fulton

### \*\*The Practice of Logic and Semantics in Speaking. 3 Certificate credits. \$18 plus \$6 limited class fee plus \$3.50 laboratory fee.

A discussion class designed to promote more effective spoken communication by analyzing and illustrating the factors that lead to misunderstanding and trouble when people talk together. A series of six films: *Do You Know How to Make a Statement*

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\*\* Registration must be made in person.

## Course Offerings—Arts and Sciences

of Fact? Just What Is General Semantics? The Difference Between Words and Things, The Man Who Knows it All, What Is a Good Observer? Why Do People Misunderstand Each Other? will be the basis of the discussions. All members of the class will participate each class session. (Prerequisite: Advanced Practical Speech Making. Class limited to 15 students)

### Winter Quarter

T 6:20-8:50, Folwell 5, Fulton

**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  
2 M 6:20-8:00, Folwell 305  
3 M 6:20-8:00, Folwell 305

#### Spring Semester

1 M 6:20-8:00, Folwell 308, Fletcher  
2 M 6:20-8:00, Folwell 305  
3 M 6:20-8:00, Folwell 305

**31. Introduction to the Theater.** 3 credits. \$18.

An orientation in the great dramatic tradition through a consideration of plays and playwrights from Sophocles to Tennessee Williams. It covers the history of theatrical customs, conventions and traditions as they affect modern stage production, and includes a view of the highlights of theater architecture, scenic design, stagecraft, lighting, costumes, make-up, and special effects. (No prerequisite)

#### Fall Semester

W 6:20-8:00, Shevlin 110, Ballet

**32. Beginning Acting: Creative Approach.** 3 credits. \$18.

The creative approach to acting. Emphasis is placed upon honest and effective response to imaginary situations. Students examine the basic texts of Stanislavsky, Boleslavsky, and McGaw, and present original scenes and skits. Freedom from self, sensitivity to environment, and appreciation of the arts of acting are the primary objectives. (Prerequisite: Spch. 31)

#### Spring Semester

W 6:20-8:00, Nicholson 304, Benson

**\*\*39. Parliamentary Procedures.** 2 credits. \$18 plus \$4.50 limited class fee.

This is a course designed for the individual who expects to participate in groups using conventional parliamentary procedures. It is designed both for the individual who wishes to become more effective as a group member as well as the person who will assume a position as group leader or chairman. Particular emphasis is placed on the development of leadership within the group. The course stresses practice in the class situation, and a goal of the course is to give every student an opportunity to serve in a position of leadership at each meeting of the class. (No prerequisite. Class limited to 20 students. Repeated spring semester)

#### Fall Semester

T 6:20-8:00, Folwell 308, Cashman

#### Spring Semester

T 6:20-8:00, Folwell 308, Cashman

**61. Personality Development Through Speech I.** 3 credits. \$18.

A study of: behavior as indicated through speech; basic elements in the development of unsocial and inadequate emotional patterns; speech symptoms evaluated from cause and effect relations; psychologic and social factors in speech. (Prerequisite: Spch. 1-2, 5 or Beginning Practical Speech Making, Psy. 1-2)

#### Fall Semester

T 6:20-8:00, Folwell 305, Moody

† See Information, page 15.

\*\* Registration must be made in person.

## Evening and Special Classes

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### **Personality Development Through Speech II.** 3 Certificate credits. \$18.

Therapy; analysis of each student's problems of self-consciousness, stage fright and general ineffective conversational speech; speech as a means of self and social control in daily living. (Prerequisite: Spch. 61)

*Spring Semester*

T 6 20-8:00, Folwell 305, Moody

### **\*\*65. Radio and Television Speech.** 3 credits. \$18 plus \$4.50 limited class fee 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*

T 6:20-8:00, Murphy 302, Schinske

### **\*\*66. Radio and Television Drama.** 3 credits. \$18 plus \$4.50 limited class fee 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*

T 6:20-8:00, Murphy 302, McGraw

### **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 or equivalent speech experience with consent of instructor)

*Fall Semester*

M 6:20-8:00, Folwell 404, Smith

### **\*\*Speech Correction for Stutterers.** No credit. \$18 plus \$6 limited class fee plus \$1 laboratory fee.

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

### **\*\*Speech for the Foreign-Born.** No credit. \$18 plus \$6 limited class fee plus \$1 laboratory fee.

A course in speech improvement for persons with foreign-dialect speech. The purpose of the course is to (a) provide information about the peculiarities of American English speech, (b) increase the student's awareness of the important differences between his own speech and American speech, (c) supply supervised drill designed to alter existing speech patterns, and (d) establish the foundation for a program of continuing self-training following termination of the course. (Prerequisite: Conversational ability in the English language. Class limited to 15 students. Repeated spring semester)

*Fall Semester*

Th 6:20-8:00, Folwell 404, Fletcher

*Spring Semester*

Th 6:20-8:00, Folwell 404, Fletcher

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\*\* Registration must be made in person.

# BUSINESS ADMINISTRATION

## Accounting

### First Year Accounting Courses

**Principles of Accounting (Econ. 24, 25, and 26)** is the first year introductory course based on standard college texts and laboratory materials. There is no prerequisite course for Econ. 24, but students should be capable of college level work. Students with some accounting background may be admitted with instructor's consent to Econ. 25 and 26.

**Econ. 24** covers the basic procedures of adjusting entries, work sheets, closing the books, preparation of statements, special journals, and control accounts.

**Econ. 25** distinguishes the problems peculiar to individual, partnership, and corporate accounting.

**Econ. 26** deals with elementary procedures for cash, receivables, inventories, fixed assets, vouchers, payrolls, and taxes, cost accounting and analysis of financial statements. Completion of a laboratory set required.

These three courses correlate with the regular classes in the College of S.L.A. in content and credit. To meet the needs of evening students the three courses are scheduled on three plans:

1. Regular semester class schedule, for 3 credits each semester requires three semesters for full first year course.
2. Quarter basis, 2½-hour classes, 3 credits each quarter, requires three terms for one year course completion.
3. Combined course, meeting twice weekly in 2½-hour sessions, spring semester only, one year course completed in one semester.

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. Students who find this schedule too rapid are in a position to change to the semester basis.

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 the plan under which the particular class is scheduled.*

**Econ. 24-25-26. Principles of Accounting.** 3 credits each semester. \$18 each unit.

The first-year University course in accounting, semester basis. (No prerequisite for 24; prerequisite for 25 and 26, previous unit)

*Fall Semester*  
24 M 6:00-7:40, St. P. Ext. Center 201,  
Creviere  
24 T 6:20-8:00, Vincent 306  
25 M 7:50-9:30, St. P. Ext. Center 201,  
Creviere  
26 T 6:20-8:00, Vincent 307

*Spring Semester*  
25 M 6:00-7:40, St. P. Ext. Center 201,  
Creviere  
25 T 6:20-8:00, Vincent 306  
26 M 7:50-9:30, St. P. Ext. Center 201,  
Creviere

## Evening and Special Classes

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### 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)

	<i>Fall Quarter</i>	<i>Winter Quarter</i>	<i>Spring Quarter</i>
24 M	5:30-8:00, Vincent 301, Lund	25 (same schedule as fall)	26 (same schedule as fall)
24 W	5:15-7:45, St. P. Ext. Center 206, Powell		
24 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	6:20-8:50, Vincent 306
MF	6:00-8:30, St. P. Ext. Center 206

## Second Year Accounting Courses

### 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. No credit if student has B.A. 151 or 150B)

#### *Spring Semester*

T	6:20-8:00, Vincent 301
Th	7:50-9:30, St. P. Ext. Center 207

### B.A. 66. Managerial Costs. 3 credits. \$18.

A general survey of cost accounting from the point of view of the executive who must use cost information in the conduct of his business. (Prerequisite: Econ. 26 or equivalent)

#### *Spring Semester*

Th	6:20-8:00, Vincent 301, Meyers
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### B.A. 150A-150B. Intermediate Accounting. 3 credits each semester. \$18.

Second-year accounting for students intending to specialize in accounting or in business finance. Standard text and problems designed to build on principles of the first year course, developing accepted accounting practices in determination of periodic income and valuation of assets. B.A. 150C will be offered in the fall semester of 1957-58. (Prerequisite: Econ. 26 or equivalent with consent of instructor)

#### *Fall Semester*

150A M	6:20-8:00, Vincent 307, Nelson
150A W	6:20-8:00, Vincent 307, Lund
150A W	6:00-7:40, St. P. Ext. Center 204, Johnson

#### *Spring Semester*

150B M	6:20-8:00, Vincent 307, Nelson
150B W	6:20-8:00, Vincent 307, Lund
150B W	6:00-7:40, St. P. Ext. Center 203, 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



## Course Offerings—Business Administration

equivalent with instructor's consent. With special permission students may substitute B.A. 152 for B.A. 66 to meet core group requirements)

### Fall Semester

152 W 7:50-9:30, St. P. Ext. Center 204,  
Tuttle

152 Th 8:05-9:45, Vincent 306, Meyers

### Spring Semester

153 W 7:50-9:30, St. P. Ext. Center 204,  
Tuttle

153 Th 8:05-9:45, Vincent 306, Meyers

## Special Interest and Advanced Accounting Courses

**Elementary Functional Wiring for Punched Card Equipment.** 3 Certificate 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 Certificate 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 Certificate 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 W 6:20-8:00, Vincent 306

### Spring Semester

135 W 6:20-8:00, Vincent 306

**B.A. 133. Advanced Cost Accounting.** 3 credits. \$18.

Various methods of standard costs; analysis of and accounting for variations; application of cost accounting to problems of control, budgeting, administrative policy in manufacturing and distribution. (Prerequisite: B.A. 153 or consent of instructor)

### Fall Semester

T 7:50-9:30, St. P. Ext. Center 203, Tuttle

**B.A. 134A-134B. Income Tax Accounting.** 3 Certificate credits each semester. \$18. (4 University credits on completion of both courses consecutively.)

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

134A M 8:05-9:45, Vincent 307, Nelson  
134A T 6:00-7:40, St. P. Ext. Center 201,  
Daly

### Spring Semester

134B M 8:05-9:45, Vincent 307, Nelson  
134B T 6:00-7:40, St. P. Ext. Center 201,  
Daly

## Evening and Special Classes

**Constructive Accounting and Accounting Systems A-B.** 3 Certificate credits each semester. \$18 each semester.

*Fall semester:* Constructive Accounting. Design and installation of a modern accounting system; the makeup of various forms for use in the system—purchase orders, receiving slips, invoices, requisitions, shop tickets, etc.; design and ruling of books of original entry; ledgers of various kinds. *Spring semester:* Accounting Systems. Classification of industry according to types of accounting problems; special features of each, constructive, operative, interpretative features. Case method used. (Prerequisite: consent of instructor)

*Fall Semester*

A T 6:00-7:40, St. P. Ext. Center 206, Tuttle

*Spring Semester*

B T 6:00-7:40, St. P. Ext. Center 206, Tuttle

**B.A. 158. Governmental Accounting.** 2 credits plus 1 Certificate credit. \$18. (See Pol. 58, page 58)

**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 7:50-9:30, St. P. Ext. Center 206, Johnson

**B.A. 181A. Internal Auditing.** 3 credits. \$18.

Comprehensive course in internal auditing taught jointly with members of the Twin Cities Chapter of the Institute of Internal Auditors. The principles of internal auditing, organization of the internal auditors' functions, and detailed discussion of the performance of particular activities will be covered. (Prerequisite: 6 credits senior college accounting)

*Fall Semester*

W 6:20-8:00, Vincent 301, Meyers, others

**B.A. 182A. Systems and Procedures.** (See Pol. 67) 3 credits. \$18 plus \$2 laboratory fee.

This course is a survey course of systems and procedures. It is a joint offering of Business Administration and Public Administration and is sponsored by the Twin Cities Chapter, Systems and Procedures Association. Topics include techniques of management surveys, evaluation of organization structure, charting, forms design and control, integrated data processing, office work measurement and quality control, preparation of reports, use of costs and statistics in systems analysis, evaluation of reporting systems, administration of a systems program. Instructors in this coordinated program include University faculty members and members of the Systems and Procedures Association.

*Fall Semester*

Th 6:20-8:00, Ford 170, Magraw and others

**Income Tax Review.** 3 Certificate credits. \$18.

This course is designed for those involved in preparing tax returns for others, presumes a knowledge of principles of federal and state income tax requirements for different classes of taxpayers and kinds of taxable income transactions and reviews the field and procedures to bring those concerned up to date. (Prerequisite: B.A. 134 or consent of instructor)

*Fall Semester*

W 8:05-9:45, Vincent 301

**Business Data Processing by Electronics.** See Office Management, page 86.

## Advertising

See pages 49 and 85.

## Business English

### Review of Business English. 3 Certificate 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 6:00-7:40, St. P. Ext. Center 204, Lippert  
W 6:20-8:00, Ford 150, Lippert  
Th 6:20-8:00, Ford 150

#### Spring Semester

M 6:20-8:00, Ford 150, Lippert  
W 6:00-7:40, St. P. Ext. Center 204, Lippert  
Th 6:20-8:00, Ford 150

### Business Correspondence. 3 Certificate 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 215, Haga

#### Spring Semester

T 6:00-7:40, St. P. Ext. Center 204, Lippert  
W 6:20-8:00, Main Engineering 227, Haga

### Communication in Management. 3 Certificate 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 227, Haga

## Business Law

### B.A. 51-52-53, 56. Business Law. 3 credits each semester. \$18.

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 7:50-9:30, St. P. Ext. Center 206,  
Thomas  
51 W 6:20-8:00, Ford 120, Moss  
52 M 6:00-7:40, St. P. Ext. Center 205,  
Thomas  
52 W 8:05-9:45, Ford 120, Moss  
53 T 6:20-8:00, Vincent 113,  
VanValkenburg

#### Spring Semester

51 M 6:00-7:40, St. P. Ext. Center 204,  
Thomas  
51 W 8:05-9:45, Ford 120, Moss  
52 M 7:50-9:30, St. P. Ext. Center 204,  
Thomas  
52 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

## Evening and Special Classes

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### Common Legal Problems I. 3 Certificate 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*

M 6:00-7:40, St. P. Ext. Center 202, Clay  
W 6:20-8:00, Ford 170, Thorfinnson

#### *Spring Semester*

M 7:50-9:30, St. P. Ext. Center 207, Clay  
W 6:20-8:00, Ford 50, Thorfinnson

### Common Legal Problems II. 3 Certificate credits. \$18.

This will be a course in everyday legal principles for the layman similar to the course offered in Common Legal Problems I, but dealing specifically with the following matters not considered in the Common Legal Problems I: domestic relations, rights and liabilities of husband and wife, parent and child; the rules of the road as they pertain to operation of motor vehicles and a discussion of the law pertaining to automobile accidents; crimes and the prosecution of accused persons; insurance; proceedings for the adoption of children; the law applying to principals and agents; a discussion of forms of business organizations, including partnerships, corporations and sole proprietorships; negotiable instruments. Consideration will also be given to Social Security, Railroad Retirement and Sickness Benefit laws, Old Age Assistance legislation, and the Workmen's Compensation Act. (No prerequisite. Repeated spring semester)

#### *Fall Semester*

W 8:05-9:45, Ford 170, Thorfinnson

#### *Spring Semester*

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

**Parliamentary Law.** See page 70.

## 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 6:00-7:40, St. P. Ext. Center 204  
W 6:20-8:00, Vincent 207

#### *Spring Semester*

M 6:00-7:40, St. P. Ext. Center 207  
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 7:50-9:30, St. P. Ext. Center 205, Erickson  
T 8:20-8:00, Vincent 2, Neter  
W 6:20-8:00, Vincent 113  
W 8:05-9:45, Vincent 113

#### *Spring Semester*

M 6:00-7:40, St. P. Ext. Center 205, Erickson  
Th 6:20-8:00, Vincent 2

## Course Offerings—Business Administration

### **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  
6 M 7:50-9:30, St. P. Ext. Center 204  
6 T 6:20-8:00, Vincent 1, Borak  
6 W 6:20-8:00, Vincent 1, Borak  
6 W 8:05-9:45, Vincent 207  
7 Th 6:20-8:00, Vincent 207, Smith

#### *Spring Semester*

6 W 6:20-8:00, Vincent 1, Borak  
6 Th 8:05-9:45, Vincent 1  
7 M 6:20-8:00, Vincent 207  
7 M 7:50-9:30, St. P. Ext. Center 201  
7 T 6:20-8:00, Vincent 207  
7 W 6:20-8:00, Vincent 113  
7 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)

#### *Fall Semester*

Th 8:05-9:45, Vincent 6, Smith

### **Econ. 73. Manpower Economics and Labor Problems.** See Industrial Relations, page 79.

### **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*

T 8:05-9:45, Vincent 6, Neter

### **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, Coen

## Evening and Special Classes

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### **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, Coen

### **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 non-majors 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)

*Spring Semester*

Th 8:05-9:45, Vincent 207, Smith

### **Econ. 176.§§ International Economics.** 3 credits. \$18.

An introduction to the techniques of international economic analysis with special consideration to Minnesota's economy. The relevance of the theory to current problems; the balance of payments; the foreign exchanges; free trade versus protection; techniques of trade control; international commercial policies; contemporary international economic problems and institutions. (Prerequisite: Econ. 7)

*Spring Semester*

Th 6:20-8:00, Vincent 207, Smith

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§§ Econ. 129 and 176 are listed for same hour and day. The course for which there is the greater demand will be given.

**Fundamentals of Investment Banking I-II.** 3 Certificate 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 99.

## 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*

M 7:50-9:30, St. P. Ext. Center 207, Mahoney  
W 6:20-8:00, Vincent 2, Heneman

*Spring Semester*

W 6:20-8:00, Vincent 207

**Econ. 162. Labor Movements.** 3 credits. \$18.

Presents an analysis of the development of labor movements in Europe and the United States. It provides an examination of the origins of labor movements, their growth, the

## Evening and Special Classes

problems faced under various sorts of governments, and an analysis of the economic and social consequences of these developments. (Prerequisite: Econ. 73 or 161)

### *Fall Semester*

Th 6:20-8:00, Vincent 205

### **Econ. 163. Union Government and Policies.** 3 credits. \$18.

An analysis of (a) the structural nature, and (b) the operation of contemporary American labor unions. Nature of internal administration and government of unions, and the economic and social issues arising out of relationships with managements as found in matters of hours, wages, and other conditions of employment.

### *Spring Semester*

Th 6:20-8:00, Vincent 6

### **Econ. 164. Labor Legislation: Collective Bargaining.** (Offered 1957-58)

### **Econ. 166. Settlement of Industrial Disputes.** (Offered 1957-58)

### **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*

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. 181D. 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. The manpower development function is considered in this offering; specific projects concern the determination of development needs, establishment, operation and evaluation of development programs for rank and file, technical, supervisory and managerial employees in the plant and office.

### *Spring Semester*

W 8:05-9:45, Vincent 2, Heneman

### **Personnel Methods.** 3 Certificate 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 8:05-9:45, Ford 70, England

### **Psy. 122-123.† Vocational and Personnel Psychology.** See page 62.

† See Information, page 15.



**Psy. 125-126.† Psychology of Individual Differences.** See page 62.

**Psy. 155. Industrial Psychology.** See page 62.

**Survey of Current Problems in Industrial Relations.** 3 Certificate 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 sources of information about modern industrial relations concepts, policies and practices; the nature and operation of labor markets, collective bargaining, labor legislation and social insurance; selection and training, wages and hours, and other related topics. Each session will consist of a short lecture by a specialist in the specific topic under consideration, followed by a conference-type discussion period led by the guest speaker and the instructor. (Prerequisite: consent of the instructor. Course open to experienced union officers and business agents, personnel and industrial relations managers, and government officials in industrial relations work. A limited number of students who cannot meet these requirements, but 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 and other members of the Industrial Relations Center staff

**Supervision I: Elements of Supervision.** 3 Certificate 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*

M 6:00-7:40, St. P. Ext. Center 207  
T 6:20-8:00, Ford 170

*Spring Semester*

M 6:20-8:00, Ford 70  
T 6:00-7:40, St. P. Ext. Center 207

**Supervision II: Advanced Techniques of Supervision.** 3 Certificate 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 6:20-8:00, Ford 70, Lindbom

**Supervision III: Techniques of Employee Training.** 3 Certificate 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 15.

## Evening and Special Classes

**Problems of Union Administration.** (Offered 1957-58)

**Economics of Collective Bargaining.** 3 Certificate credits. \$18.

An analysis of the process of collective bargaining. Appraises the bargaining situation, examines the economic basis of different stands and arguments, and analyzes implications of different bargaining settlements. Consideration is also given to procedural aspects of collective bargaining. Provides a framework and method of analysis of collective bargaining in terms of economic implications. (Prerequisite: Econ. 73 or 161 or consent of the instructor)

*Spring Semester*

Th 8:05-9:45, Vincent 6, Turnbull

**Human Relations in Industry.** 3 Certificate 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*

T 8:05-9:45, Ford 170, England

**Manpower Development I: Problems of Manpower Development.** (Offered 1957-58)

**Manpower Development II: Management Administrative Practices.** (Offered 1957-58)

## **Insurance**

**Econ. 50. Insurance Principles.** 3 credits. \$18.

An analysis of the role insurance plays in combating risk; fundamentals of life, property, and liability insurance contracts; sales, underwriting, actuarial, finance, and claims functions of insurers; types of insurers; 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)

*Fall Semester*

M 8:05-9:45, Vincent 6, Goldstucker

**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 1956-57 will be Bernard C. Bengtson, Ca 4-3737)

**I.I.A. Parts A, B, and C.** 3 Certificate 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; legal principles important to property and liability insurance; historical development of insurance; rate-making; types of

## Course Offerings—Business Administration

insurers and their organization; underwriting and reinsurance; method for analysis of insurance contracts; regulation; and an 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 highly recommended, but not required, that Part A be taken before Parts B-C.

### *Fall Semester*

A M 6:20-8:00, Vincent 6, Howard

### *Spring Semester*

B-C M 6:20-8:00, Vincent 6, Howard

### **C.P.C.U. Part I. Insurance Principles and Practices, A-B.** 3 Certificate 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, Bengtson

### *Spring Semester*

B M 6:20-8:00, Ford 180, Bengtson

### **C.P.C.U. Part II. Insurance Principles and Practices, A-B.** 3 Certificate 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, Bengtson

### *Spring Semester*

B M 8:05-9:45, Ford 180, Bengtson

### **C.P.C.U. Part IV. Law, A-B.** 3 Certificate credits each semester. \$18. "

This course is designed as preparation for examination IV for the Chartered Property Casualty Underwriter (C.P.C.U.) award. The subject matter covers (1) general commercial law pertaining to: contracts, agency, partnerships, corporations, personal property, real estate and mortgages, negotiable instruments, bankruptcy, bailments, common and private carriers, negligence; (2) insurance law, including construction of insurance contracts. (Prerequisite: consult any Extension office)

### *Fall Semester*

A M 6:20-8:00, Ford 120, Warlich

### *Spring Semester*

B M 6:20-8:00, Ford 120, Warlich

### **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 Parts I and II 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—Donald L. Bennett, 560 Northwestern Bank Building, FE 9-8317  
St. Paul—W. F. Stone, 1300 Pioneer Building, Ca 2-3703

### **C.L.U. Part I. Fundamentals of Life Insurance and Annuities, A-B.** 3 Certificate credits each semester. \$18.

This course is designed as preparation for the annual C.L.U. examination in Part I, Fundamentals of Life Insurance and Annuities. The subject matter will cover such topics as: basic life insurance principles, the life insurance contract, functions of life insurance,

## Evening and Special Classes

mortality tables, premiums, selection of risk, types of insurance companies and associations, fundamentals of life insurance and annuity contracts.

For information concerning the C.L.U. educational program and its requirements see notice above.

### *Fall Semester*

A M 4:00-5:40, 430 Oak Grove, Preston

### *Spring Semester*

B M 4:00-5:40, 430 Oak Grove, Preston

### **C.L.U. Part II. Business Life Insurance, Accident and Sickness Insurance, Group Insurance and Pensions, A-B. 3 Certificate credits each semester. \$18.**

This course is designed as preparation for the annual C.L.U. examination in Part II, as conducted by the American College of Life Underwriters. The subject matter will cover life insurance for business purposes, problems of old age, unemployment and disability, accident and sickness insurance, group insurance, pensions, and deferred compensation.

### *Fall Semester*

A M 4:00-5:40, N.W. Bank Bldg. 690,  
Fredrikson  
B M 4:00-5:40, St. P. Ext. Center 202,  
Wheeler

### *Spring Semester*

B M 4:00-5:40, N.W. Bank Bldg. 690,  
Fredrikson  
B M 4:00-5:40, St. P. Ext. Center 202,  
Wheeler

### **Property and Casualty Claims Curriculum.**

In co-operation with the Twin City Casualty Claims Managers Council, the General Extension Division is offering Property and Casualty Claims courses covering the investigation, adjustment, settlement, and preparation for trial of direct damage and casualty claims. The courses are intended for those actively engaged in insurance claims handling as well as attorneys and others who deal with insurance claims problems in their everyday work. The fields covered will include automobile liability and direct damage, workmen's compensation, public liability, products liability, and other lines of insurance coverage. The lecturers will include insurance company personnel, lawyers, and doctors who are outstanding in their respective fields. (Co-ordinator will be C. A. Williams, Jr., Fe 2-8158, Ext. 7073)

### **P.C.C. Part I. Automobile Coverages. No credit. \$18 plus \$2 materials fee.**

An intensive course covering the forms of automobile policies; exclusions and conditions; general investigative procedure; automobile negligence—nature and proof; contributory negligence; legal liability of others than drivers; intersection, pedestrian and other types of accidents; third party liability; personal injury claims; property damage claims; evaluation of damages; settlement and releases.

### *Fall Semester*

M 6:20-8:00, Ford 155, Williams and others

## **Marketing and Merchandising**

### **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 Certificate 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;

## Course Offerings—Business Administration

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*

M 6:20-8:00, Vincent 2

### *Spring Semester*

M 8:05-9:45, Vincent 2

### **B.A. 111. Purchasing. 3 credits. \$18.**

Purchasing of materials, supplies, and equipment is considered as a major function in business. Basic principles of purchasing in industrial, governmental, and institutional organizations. Topics include quantity and quality decisions, forward buying, evaluation of purchasing procedures, and pricing policies. (Prerequisite: B.A. 77 or consent of instructor)

### *Fall Semester*

T 8:05-9:45, Vincent 207, Holloway

### **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. 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). \$18 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 demonstration, reports, group discussions, 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; merchandising 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., Burton 103,

Crisp

A Lab. T 6:30-10:00 p.m., Burton 103,

Crisp

### *Winter Quarter*

B (same schedule as fall quarter)

### *Spring Quarter*

C (same schedule as fall quarter)

## Evening and Special Classes

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### 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 FE 6-8356) 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*

##### **Associate Award**

Business Economics  
Basic Accounting  
Business Correspondence  
Credit and Collection Principles  
Advanced Credits

#### *††Approved Equivalent Extension Courses*

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

B.A. 51-52, Business Law  
B.A. 53, Business Law

Public Speaking  
Salesmanship or Marketing

Beginning Practical Speech Making  
Basic Salesmanship, or  
B.A. 77, Survey in Marketing

Credit Management Problems  
Financial Statement Analysis  
Psychology (Applied, General, or Business)

No equivalent course  
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

Techniques of Supervision  
Office Management or  
Personnel Management  
Electives

Supervision I  
B.A. 86, Office Management

See footnote below

## 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,

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†† 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 Mr. Lindholm in the Association office (Thorpe Building).

## Course Offerings—Business Administration

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 113, Locks

### *Winter Quarter*

II (Same schedule as fall)

### **Scientific Management in the Office.** No credit. \$18.

The office as a producing unit; organization and control of clerical services; selection of equipment and supplies; flow of work layout and working conditions; office personnel; relation of the office to operating divisions; work simplification; scientific management as applied to the office. (No prerequisite. Class limited to 30 students)

### *Fall Semester*

T 6:20-8:00, Vincent 301, Baillie

### **B.A. 86. Survey of Office Management.** 3 credits. \$18 plus \$6 limited class fee.

Lectures and conferences in Scientific Management in the Office (see above) plus written case problems in principles of office organization and management; office location and layout; furniture and equipment; flow of work; supplies, correspondence, records; job analysis, personnel training, compensation and promotion; supervision and quality control; work simplification; time measurement; budgets and costs. (Prerequisite: Econ. 7 or equivalent experience. Class limited to 20 students.)

### *Fall Semester*

T 6:20-8:00, Vincent 301, Donaldson

## 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 Certificate 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 55, Rice, co-ordinator

### **Real Estate Sales Brokerage.** 3 Certificate 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 Certificate 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

## Evening and Special Classes

### **Real Estate Financing and Insurance.** 3 Certificate 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 75.

**Planning Your Modern Home.** See page 48.

**Building Material Estimating.** See page 99.

## **Salesmanship**

### **Basic Salesmanship.** 3 Certificate credits. \$18.

Selling principles that influence people to buy; why people spend money for something. Presentation of the product or service; magic words, descriptive words; types of buyers; resistances that cause failures; the buyer's mind at time of close, closing techniques. (No prerequisite. Repeated spring semester)

*Fall Semester*

M 6:20-8:00, Ford 185, Stanchfield  
Th 6:00-7:40, St. P. Ext. Center 204,  
Stanchfield

*Spring Semester*

M 6:20-8:00, Ford 185, Stanchfield

### **Advanced Salesmanship.** 3 Certificate 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

### **The Making of a Retail Salesman.** 3 Certificate credits. \$18.

The nature of selling, qualifications for it, opportunities and rewards. What is involved in becoming a successful retail salesman; why people buy, how to find customers, how to complete sales interviews, how to make retail selling an avenue for specialized service in the interest of all better business relationships, and how to improve sales efforts through constant training methods. (No prerequisite)

*Fall Semester*

T 6:20-8:00, Ford 115, Blashfield

### **Successful Retail Selling.** 3 Certificate credits. \$18.

Successful and profitable retail selling, including laboratory experiences in sales techniques and study of different types of sales cases. The principles underlying creative selling, including personal preparation, how to change potential customers into buyers, how to organize your territory and how to manage others. A study is also made of service selling in stores, securing a job, how to make good, personal relationships, selling methods for increasing your sales and possibilities of advancement. (Prerequisite: The Making of a Retail Salesman, or consent of instructor)

*Spring Semester*

T 6:20-8:00, Ford 115, Blashfield



## Secretarial

**Refresher Course in Business Theory for Secretaries.** No credit. 4 units; each unit \$10.

This course is designed for secretaries having some background in business theory; and should be of particular value 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. Secretarial Procedures and Business English; III. Economics and Business Administration; IV. Business Law and Human Relations. (These units correspond with sections of the CPS examinations to be given May 3-4, 1957; candidates must be registered for the examinations before December 15, 1956. The order of the sections, as stated above, is not necessarily the order in which they will be offered.)

The refresher course will begin October 2 and conclude about the first of April. 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 each unit is \$10. Course co-ordinator is Miss Naomi Peterson, FE 2-8158, Extension 296. See also the Secretarial Certificate program, page 8.

*October 2-April 2*

T 6:20-8:50, Johnston 122, Peterson and staff

See B.A. 86, Office Management, page 87.

## Textiles

**Textiles.** 3 General College or Certificate 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 70

## 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. 180-181I. 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*

180I M 8:05-9:45, Vincent 1, Nightingale

*Spring Semester*

181I M 8:05-9:45, Vincent 1, Nightingale

## *Evening and Special Classes*

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**Interstate Commerce Practice and Procedure I-II.** 3 Certificate 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. 1801, or equivalent)

*Fall Semester*

I W 6:20-8:00, Vincent 6, Nightingale

*Spring Semester*

II W 6:20-8:00, Vincent 6, Nightingale

## EDUCATION

### Art Education (Ar.Ed.)

**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*

W 6:20-8:00, TSF 259, Gayne

**19. Functional Arts and Crafts 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*

W 6:20-8:00, TSF 259, 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

### 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

**159. Personality Development and Mental Hygiene.** 3 credits. \$18.

Survey course emphasizing understanding of personality development and mental hygiene for self and others. (Prerequisite: Consent of instructor)

*Fall Semester*

M 6:20-8:00, Johnston 303, Jones

*Spring Semester*

M 6:00-7:40, St. P. Ext. Center 202, Jones

**187. The Education of the Crippled Child.** 3 credits. \$18.

Study of the characteristics and abilities of crippled children, with discussion of methods and materials for their training, and observation of teaching situations involving these groups. (Prerequisite: E.Psy. 182 or equivalent. Personal consultation will be scheduled in addition to regular class hours)

*Fall Quarter*

M 6:20-8:00, Johnston 115, Schoenbohm

## **History and Philosophy of Education (H.Ed.)**

### **180. The School and Society. 3 credits. \$18.**

Selected readings in social science and philosophy give the student an opportunity to integrate points of view in thinking about the roles that the school plays in present-day society.

*Spring Semester*

Th 6:20-8:00, Johnston 115, Ellis

## **Nursing Education (Nu.Ed.)**

### **62. Introduction to Personnel Work in Nursing. 3 credits. \$18.**

Principles, techniques, and application of personnel point of view to nursing; psychological principles; individual differences; counseling techniques appropriate for nursing staff and faculty.

*Fall Semester*

W 6:00-7:40, St. P. Ext. Center 203, Johnston

### **72. Application of Principles of Learning to Clinical Instruction. 3 credits. \$18.**

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.

*Spring Semester*

M 6:00-7:40, St. P. Ext. Center 203, Dunning

Additional courses in the nursing field are listed under *Nursing* and *Nursing Administration*, page 53. See also *Child Welfare, Education, and Public Health*.

## ENGINEERING AND TECHNICAL SCIENCES

### 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 evening class 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 8 other fields may be completed through evening work over a 2-year period. Mathematics classes will be offered during the 1956-57 academic year; physics classes will be offered during the 1957-58 academic year. The balance of the classes needed for the major remains to be taken over a period approximating 1 full-time quarter of day classes. Thesis work will be done in the usual manner under the supervision of the departmental adviser.

A student who wishes to enroll in this program should present his credentials and make application for admission to the Graduate School, 316 Johnston Hall (FEderal 2-8158, Ext. 6293). If approved, the student will receive a letter of acceptance from the Graduate School. Upon presentation of this letter of acceptance to the campus office of the General Extension Division, the student may enroll provisionally, pending approval of his program on Graduate School Form 56 (available at time of registration) by an Institute of Technology adviser in his major field. Request for an adviser and appointment for counseling must be made through the appropriate Institute of Technology departmental office.

For further information about this program please contact the Office of the Assistant Dean, General Extension Division, FEderal 8-8791.

## Aeronautics

### Air Pilots' Ground School

The University Extension Division operates continuously, on a short-term basis, a ground school for any pilot who is 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. Three Certificate credits are awarded for each term satisfactorily completed.

The primary objective of the course is to prepare students for the Civil Aeronautics Administration's commercial-pilot written examination, but the course also covers most of the subject matter in the C.A.A. written examinations for the instrument rating and the flight-instructor rating. 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. (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

## Evening and Special Classes

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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 216 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 is \$18 per term, making a total of \$72 if all four terms are taken. 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: July 31, 1956, through August 30, 1956.

**Term II:** Navigation (other than Radio Navigation) and the Use of Computers.  
Dates: September 4, 1956, through October 4, 1956.

**Term III:** Aeronautical Meteorology.  
Dates: October 9, 1956, through November 8, 1956.

**Term IV:** Flight Theory, Analysis of Flight Maneuvers, and Aircraft Engines.  
Dates: November 13, 1956, through December 13, 1956.

**Term I:** Radio Aids to Navigation, Aircraft Instruments, and Civil Air Regulations.  
Dates: December 18, 1956, through January 17, 1957.

**Term II:** Navigation (other than Radio Navigation) and the Use of Computers.  
Dates: January 22, 1957, through February 21, 1957.

**Term III:** Aeronautical Meteorology.  
Dates: February 26, 1957, through March 28, 1957.

**Term IV:** Flight Theory, Analysis of Flight Maneuvers, and Aircraft Engines.  
Dates: April 2, 1957, through May 2, 1957.

**Term I:** Radio Aids to Navigation, Aircraft Instruments, and Civil Air Regulations.  
Dates: May 7, 1957, through June 6, 1957.

**Term II:** Navigation (other than Radio Navigation) and the Use of Computers.  
Dates: June 11, 1957, through July 11, 1957.

**Term III:** Aeronautical Meteorology.  
Dates: July 16, 1957, through August 15, 1957.

**Term IV:** Flight Theory, Analysis of Flight Maneuvers, and Aircraft Engines.  
Dates: August 20, 1957, through September 19, 1957.

## 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 6:00-10:00, Chemistry 310, Herr

## Course Offerings—Engineering and Technical Sciences

### 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 6:00-10:00, 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 6:00-10:00, Chemistry 310, Herr

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

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

#### Fall Semester

Lab. TTh 6:00-10:00, Chemistry 310, Herr

#### Spring Semester

Lab. TTh 6:00-10:00, Chemistry 310, Herr

### Inorganic Chemistry (In.Ch.)

### 24-25.† 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

24 Lab. T 6:00-9:00, Chemistry 325, Herr  
Lect. Th 6:00-8:00, Chemistry 325, Herr

#### Spring Semester

25 Lab. T 6:00-9:00, Chemistry 325, Herr  
Lect. Th 6:00-8:00, Chemistry 325, Herr

### 26. 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 6:00-10:00, Chemistry 325, Herr

## Civil Engineering (C.E.)

### Surveying I. 3 Certificate 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 Certificate 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

† See Information, page 15.

## Evening and Special Classes

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

### **Plain Concrete. 3 Certificate credits. \$18.**

The materials of concrete, concrete mixtures, and concrete construction procedure. The course includes the study of concrete aggregate and cements, the design of concrete mixtures, the computation of hatch volumes, and concrete cost, and a study of air entrained concrete with methods of measuring air in concrete. Some laboratory experiments in concrete mixtures will be included with the class participating as a group. No prerequisite, but knowledge of elementary algebra and physics is desirable.

### *Fall Semester*

T 6:20-8:00, Experimental Engineering 175,  
Thomas

### **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 305,  
Civil Engineering Staff

## **Drawing and Descriptive Geometry (Draw.)**

### **1. 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



## Course Offerings—Engineering and Technical Sciences

### 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

### Architectural Drafting I-II-III-IV. 3 Certificate credits each semester. \$18.

A basic course for those needing training for work in architecture. In general the main objectives for each unit will be: I, Drafting techniques. II, Construction details, house plans. III, Pictorial presentation, perspective. IV, Calculations for beams, etc. (Students may register for any unit in any semester, with consent of instructor)

#### *Fall Semester*

T 7:00-9:30, Main Engineering 101

#### *Spring Semester*

T 7:00-9:30, Main Engineering 101

## Electrical Engineering (E.E.)

### Elements of Electric Circuits I-II. 6 Certificate 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 representations of AC quantities, series and parallel AC circuits, polyphase AC circuits, power measurements in AC circuits. (Prerequisite: I.T.M. 12; or concurrent registration; or equivalent in experience with consent of instructor)

#### *Fall Semester*

I Lect. T 7:00-8:40, Electrical Engineering 237, Cartwright  
Lab. Th 7:00-9:30, Electrical Engineering 107a

#### *Spring Semester*

II Lect. T 7:00-8:40, Electrical Engineering 237, Cartwright  
Lab. Th 7:00-9:30, Electrical Engineering 107a

### Elements of Electronics I-II. 6 Certificate credits each semester. \$36.

Electronic emission, conduction, through vacuums and gases; characteristics of vacuum tubes, of gas and vapor tubes, and of mercury pool tubes; 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 7:00-8:40, Electrical Engineering 138  
Lab. Th 7:00-9:30, Electrical Engineering 207c

#### *Spring Semester*

II Lect. T 7:00-8:40, Electrical Engineering 138  
Lab. Th 7:00-9:30, Electrical Engineering 207c

### Elements of Electric Machines I-II. 6 Certificate credits each semester. \$36.

Theory of direct-current and alternating-current machines including transformers and magnetic amplifiers. Study of operating characteristics. Elementary control systems and equipment. (Prerequisite: Elements of Electric Circuits I-II)

#### *Fall Semester*

I Lect. M 7:00-8:40, Electrical Engineering 237  
Lab. W 7:00-9:30, Electrical Engineering 107

#### *Spring Semester*

II Lect. M 7:00-8:40, Electrical Engineering 237  
Lab. W 7:00-9:30, Electrical Engineering 107

## Evening and Special Classes

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### 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 degrees in the Institute of Technology. Prerequisite: Comp. 4-5-6)

#### Fall Semester

M 8:05-9:45, Main Engineering 4, 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 degrees in the Institute of Technology. Engl. 86 may be taken before or without Engl. 85, but the two make a well-integrated unit. Prerequisite: Comp. 4-5-6)

#### Spring Semester

M 8:05-9:45, Main Engineering 4, Lippert

### Basic Technical Writing I-II. 3 Certificate credits each semester. \$18.

Review of basic English and introduction to technical writing. Designed for people in the technical industries. Includes sentence design, spelling, and punctuation. Covers basic techniques of definition, description, process, procedure, and analysis writing. Organization and correlation into text of tables, diagrams, illustrations. Emphasis on accuracy, brevity, simplicity, and layout. Prepares students to write simple reports, specifications, procedures, material for manuals, supervisory materials, and basic letters of a technical nature. (Required course for General Engineering and Industrial Engineering Certificates. No prerequisite)

#### Fall Semester

I T 7:50-9:30, St. P. Ext. Center 204,  
Lippert  
I W 8:05-9:45, Main Engineering 4,  
Lippert

#### Spring Semester

II T 7:50-9:30, St. P. Ext. Center 204,  
Lippert  
II W 8:05-9:45, Main Engineering 4,  
Lippert

**Business English.** See page 75.

Other courses in English. See page 38.

## General Engineering (G.E.)

### 70. The Slide Rule. 1 credit. \$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 Certificate 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 Certificate credits. \$18.

A survey of 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*

M 6:20-8:00, Mech. Engineering 202, Lundy

#### *Spring Semester*

M 6:20-8:00, Mech. Engineering 202, Lundy

### Production Planning and Control. 5 Certificate 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*

T 6:20-9:20, Mech. Engineering 202, Block

### \*\*Elements of Work Simplification. 5 Certificate credits. \$30 plus \$7.50 limited class fee 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*

Th 6:20-9:20, Mech. Engineering 102, Mold

#### *Spring Semester*

T 6:20-9:20, Mech. Engineering 106

\*\* Registration must be made in person.

## Evening and Special Classes

### **Advanced Work Simplification.** 5 Certificate credits. \$30 plus \$5 laboratory fee.

The installation and administration of work simplification programs in business, industry, unions, and other types of organizations. (Prerequisite: Elements of Work Simplification, or equivalent experience. Limited to personnel in supervisory positions who wish to install and administer work simplification programs within their own departments or organizations)

*Spring Semester*

Th 6:20-9:20, Mech. Engineering 106, Mold

### **\*\*Work Measurement and Production Standards (Time Study).** 3 Certificate credits. \$18 plus \$4.50 limited class fee 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. 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*

W 6:20-8:00, Mech. Engineering 180,  
Gunderson

*Spring Semester*

W 6:20-8:00, Mech. Engineering 180,  
Gunderson

### **\*\*Industrial Plant Layout.** 5 Certificate credits. \$30 plus \$7.50 limited class fee 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 6:20-9:20, Mech. Engineering 102, Lundy

### **Elements of Quality Control.** 5 Certificate 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*

M 6:20-9:20, Mech. Engineering 110, McElrath

### **Advanced Topics in Quality Control.** 5 Certificate 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*

M 6:20-9:20, Mech. Engineering 110, McElrath

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\*\* Registration must be made in person.

## Course Offerings—Engineering and Technical Sciences

**\*\*Methods-Time Measurement (M.T.M.).** 5 Certificate credits. \$30 plus \$10 limited class fee 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 6:20-9:20, Mech. Engineering 102,  
Storeygard

**Industrial Safety and Health.** 3 Certificate credits. \$18.

Study of mechanical, electrical, and other hazards frequently found in industrial plants, and means for eliminating hazards and educating employees on safe practices. Field and laboratory methods used in the study and control of occupational disease hazards created by toxic dusts, fumes, gases, vapors, mists, noise, and ionizing radiation. Organization and administration of safety and health programs. (No prerequisite. Qualified students may receive credit in Pub.H. 74; consult instructor)

### *Fall Semester*

W 6:20-8:00, Mech. Engineering 114, Michael-  
sen and others

**Manufacturing Cost Analysis.** 3 Certificate credits. \$18.

A survey of sources and uses of cost data to make industrial engineering decisions and to reduce manufacturing costs. Covers basic accounting principles and procedures, accumulation and allocation of costs, and budgeting. (Prerequisite: Elements of Industrial Engineering and Management)

### *Fall Semester*

Th 6:20-8:00, Mech. Engineering 114, Rudell

## Mathematics (I.T.M.)

**Basic Mathematics.** 4½ Certificate 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. Repeated spring semester)

### *Fall Semester*

MTh 6:20-7:35, Main Engineering 227,  
Serbyn

### *Spring Semester*

MTh 6:20-7:35, Main Engineering 227,  
Serbyn

**Elementary Algebra A-B (Combined).** Entrance credit. \$36.

Elements of algebra to quadratic equations, equivalent to one year of 9th grade algebra. Entrance requirement for College of Agriculture, Forestry, and School of Veterinary Medicine, S.L.A., and Institute of Technology. (No prerequisite. Repeated spring semester)

### *Fall Semester*

MW 6:20-8:00, Main Engineering 205,  
Burgstahler

### *Spring Semester*

MW 6:20-8:00, Main Engineering 205,  
Burgstahler

TTh 6:20-8:00, Main Engineering 205, Rang

TTh 6:20-8:00, Main Engineering 205, Rang

\*\* Registration must be made in person.

## Evening and Special Classes

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### Plane Geometry A-B (Combined). Entrance credit. \$36.

Elements of plane geometry, equivalent to one year of high school plane geometry. (No prerequisite. Repeated spring semester. Entrance requirement for College of Agriculture, Forestry, and School of Veterinary Medicine, S.L.A., and Institute of Technology)

#### Fall Semester

MW 6:20-8:00, Main Engineering 206, Schuck

#### Spring Semester

MW 6:20-8:00, Main Engineering 206, Schuck

### 9. Higher Algebra. Entrance credit. \$30.

Fundamental operations, linear equations, factoring, fractions, simultaneous linear equations, exponents, radicals, graphical methods, quadratic equations, ratio, variation, binomial theorem and other topics. (Prerequisite: elementary algebra. Entrance requirement for Institute of Technology. Repeated spring semester)

#### Fall Semester

MW 6:20-7:45, Main Engineering 104,  
Juberg  
TTh 6:20-7:45, Main Engineering 104,  
Jorgensen  
TTh 6:00-7:25, St. P. Ext. Center 203,  
Wilcox

#### Spring Semester

MW 6:20-7:45, Main Engineering 104,  
Juberg  
TTh 6:20-7:45, Main Engineering 104,  
Jorgensen  
TTh 6:00-7:25, St. P. Ext. Center 203,  
Polansky

### 10. Solid Geometry. Entrance credit. \$18.

Standard theorems and exercises; practice in special proofs and original exercises. (Prerequisite: plane geometry. Entrance requirement for Institute of Technology. Repeated each quarter and given spring semester)

#### Fall Quarter

T 6:20-9:00, Main Engineering  
227, Schuck

#### Winter Quarter

(same schedule as fall)

#### Spring Quarter

(same schedule as fall)

#### Spring Semester

W 6:20-8:00, Main Engineering 215, Schuck

### Survey of Freshman Mathematics. 5 Certificate credits. \$30.

A survey of college algebra, trigonometry and part of analytic geometry, including factoring, fractions, rectangular co-ordinates, graphs, linear equations, exponents, radicals, quadratic equations, variation, binomial theorem, logs, right triangle, oblique triangles, identities, trigonometric equations, complex numbers and other topics. Valuable also as a refresher course over these subjects. (Prerequisite: higher algebra)

#### Fall Semester

T 6:20-9:20, Main Engineering 106

### Basic Industrial Statistics I. 5 Certificate 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 6:20-9:20, Mech. Engineering 110, McElrath

### Basic Industrial Statistics II. 5 Certificate 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 6:20-9:20, Mech. Engineering 110, McElrath

## Course Offerings—Engineering and Technical Sciences

### 11. College Algebra and Trigonometry I. 5 credits. \$30.

Review of elementary algebra, factoring, fractions, functions and graphs, linear equations, exponents and radicals, quadratic equations, inequalities, systems of quadratic equations, proportion and variation, mathematical induction, binomial theorem, trigonometric functions, right triangles, oblique triangles, radian measure, slide rule. (Prerequisite: higher algebra. Repeated spring semester)

#### Fall Semester

M 6:20-9:20, Main Engineering 106, Loye  
W 6:20-9:20, Main Engineering 106, Pederson  
W 6:00-9:00, St. P. Ext. Center 205, Polansky  
Th 6:20-9:20, Main Engineering 106, Harris

#### Spring Semester

M 6:20-9:20, Main Engineering 305, Culmer  
T 6:00-9:00, St. P. Ext. Center 205, Wilcox  
W 6:20-9:20, Main Engineering 203, Stenberg  
Th 6:20-9:20, Main Engineering 203, Harris

### 12. College Algebra and Trigonometry II. 5 credits. \$30.

Progressions, logarithms, trigonometric formulas and identities, trigonometric curves, inverse trigonometric functions, trigonometric equations, complex numbers. Theory of equations, partial fractions, hyperbolic functions. (Prerequisite: I.T.M. 11 or equivalent. Repeated spring semester)

#### Fall Semester

M 6:20-9:20, Main Engineering 203,  
Thompson  
W 6:20-9:20, Main Engineering 203,  
Stenberg  
Th 6:00-9:00, St. P. Ext. Center 205,  
Braden

#### Spring Semester

M 6:20-9:20, Main Engineering 106,  
Loye  
W 6:20-9:20, Main Engineering 106,  
Pederson  
W 6:00-9:00, St. P. Ext. Center 205,  
Polansky

### 13. Analytic Geometry. 5 credits. \$30.

Rectangular co-ordinate systems, locus and equation, straight line, conic sections. Transformation of co-ordinates. Polar co-ordinates, higher plane curves. Empirical equations, solid analytic geometry. (Prerequisite: I.T.M. 11 and 12 or equivalent)

#### Fall Semester

T 6:20-9:20, Main Engineering 203,  
Culmer

#### Spring Semester

M 6:20-9:20, Main Engineering 203, Thompson  
Th 6:00-9:00, St. P. Ext. Center 205, Braden

### Survey of Calculus. 5 Certificate credits. \$30.

A short course in calculus including derivative, slope, rates, maxima and minima, integration, definite integral, areas, volumes and other applications. (Prerequisite: I.T.M. 13 or Survey of Freshman Mathematics. Students wishing degree credit may register for I.T.M. 91, 4 credits)

#### Spring Semester

T 6:20-9:20, Main Engineering 106

### 24. Calculus I: Differential. 5 credits. \$30.

Limit, derivative, slope, maxima and minima, differentials, rates, radius of curvature, indeterminate forms, partial differentiation. (Prerequisite: I.T.M. 13 or equivalent)

#### Fall Semester

T 6:20-9:20, Main Engineering 215, Fischer  
F 6:00-9:00, St. P. Ext. Center 205, Wilcox

#### Spring Semester

T 6:20-9:20, Main Engineering 203, Fulks

### 25. Calculus II: Integral. 5 credits. \$30.

Integration, definite integral, geometric applications, liquid pressure, work, centroids, moments of inertia, multiple integrals, infinite series, expansion of functions. (Prerequisite: I.T.M. 24 or equivalent)

#### Fall Semester

T 6:20-9:20, Main Engineering 206, Fulks

#### Spring Semester

T 6:20-9:20, Main Engineering 215, Fischer  
F 6:00-9:00, St. P. Ext. Center 205, Wilcox

## Evening and Special Classes

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### 80. Elementary Differential Equations. 3 credits. \$18.

Equations of first order, singular solutions; linear equations with constant coefficients, simultaneous equations, integration in series, numerical solutions. (Prerequisite: I.T.M. 25 or equivalent)

*Spring Semester*

M 6:20-8:00, Main Engineering 215, Fischer

### 150. Calculus III: Intermediate Calculus. 3 credits. \$36.

Limit concept, derivative, definite integral. Fundamental theorem, mean value theorem, Taylor's expansion, L'Hospital's rule, continuity and partial differentiation. (Prerequisite: I.T.M. 25 or equivalent and admission to Graduate Extension Program in Engineering)

*Fall Quarter*

T 6:20-9:00, Main Eng. 305, Munro

### 152. Calculus IV: Advanced Calculus. 3 credits. \$36.

Implicit partial differentiation, change of co-ordinates, vectors and vector fields, multiple integrals, curves and surfaces, line and surface integrals, Green's and Stokes' theorems. (Prerequisite: I.T.M. 150 or equivalent and admission to Graduate Extension Program in Engineering)

*Winter Quarter*

T 6:20-9:00, Main Eng. 305, Munro

### 153. Calculus V: Advanced Calculus. 3 credits. \$36.

Infinite series, computation with series, series with variable terms, uniform convergence, power series. Fourier series and orthogonal functions, special functions. (Prerequisite: I.T.M. 150 or equivalent and admission to Graduate Extension Program in Engineering)

*Spring Quarter*

T 6:20-9:00, Main Eng. 305, Munro

## Mechanical Engineering (M.E.)

### \*\*Use of Mechanical Engineering Handbooks I-II. 4 Certificate credits each quarter. \$24 plus \$6 limited class fee.

The purpose of these courses is to train and acquaint those engaged in industrial work with the technical information available in mechanical engineering handbooks. Part I will include a review of the various types of mechanical engineering handbooks and a classification of these as to the type of technical data they contain. The plan of study will include the solution of a wide variety of practical problems with the use of handbook data alone. Typical problems included will be those dealing with material specifications, handbook tables, machine fastenings, standards for fits and screw threads, etc.

Part II is a continuation of Part I. It will include additional work on a variety of problems involved in mechanical work. In addition, the solution of a comprehensive problem requiring the use of a large variety of data in the handbook will be undertaken. The many shortcuts involved in problem solution with the aid of the handbook will be stressed. (No prerequisite. Class limited to 28 students)

*Fall Quarter*

I Th 6:40-10:00, Mech. Engineering 325,  
LaJoy

*Winter Quarter*

II Th 6:40-10:00, Mech. Engineering 325,  
LaJoy

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\*\* Registration must be made in person.



## Course Offerings—Engineering and Technical Sciences

**\*\*Instrumentation and Automatic Control I-II.† 4 Certificate credits. \$24 plus \$6 limited class fee 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. Class limited to 28 students)

### Fall Quarter

I M 6:40-10:00, Mech. Engineering 302,  
LaJoy

### Winter Quarter

II M 6:40-10:00, Mech. Engineering 302,  
LaJoy

**\*\*Servomechanisms. 4 Certificate credits. \$24 plus \$6 limited class fee 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)

### Spring Quarter

Th 6:40-10:00, Mech. Engineering 302, LaJoy

**Tool Design I-II. 5 Certificate 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 blueprints will be made to determine best sequences of manufacturing operation and estimating machining time to manufacture the parts. (No prerequisite)

### Fall Semester

I T 6:20-9:20, Mech. Engineering 325,  
Crowder

### Spring Semester

II T 6:20-9:20, Mech. Engineering 325,  
Crowder

**\*\*Machine Tool Operation I-II. 5 Certificate credits each semester. \$30 plus \$7.50 limited class fee 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-g geared head lathe with quick change gear box. (*Part I*: No prerequisite. *Part II*: Prerequisite: *Part I*. *Spring Semester*: One class only; registration open in both *Parts I* and *II*. Classes limited to 24 students accepted in order of registration)

### Fall Semester

I M 6:20-9:20, Mech. Engineering 114,  
Crowder

### Spring Semester

II M 6:20-9:20, Mech. Engineering 114,  
Crowder

† See Information, page 15.

\*\* Registration must be made in person.

## Evening and Special Classes

**Press Working of Metals I-II.** 3 Certificate 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. (No prerequisite)

*Fall Quarter*

I M 6:20-9:20, Mech. Engineering 214,  
Benson

*Winter Quarter*

II M 6:20-9:20, Mech. Engineering 214,  
Benson

**Heating, Ventilating, and Air Conditioning I-II.†** 4½ Certificate 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. Special emphasis on residential air conditioning. (Prerequisite: high school mathematics or consent of instructor)

*Fall Semester*

I W 6:20-9:00, Mech. Engineering 208,  
Borry

*Spring Semester*

II W 6:20-9:00, Mech. Engineering 208,  
Borry

**\*\*Heating, Ventilating, and Air Conditioning III-IV.†** 4½ Certificate credits each semester. \$27 plus \$9 limited class fee plus \$2 laboratory fee.

Continuation of Heating, Ventilating, and Air Conditioning I-II with combined lecture and laboratory practice. The laboratory work will cover the use of scientific instruments for measurement of heating efficiency, adjustment of gas and oil burners for best operation, measurement of air flow and fan testing, performance testing of warm air, hot water and steam heating equipment, and demonstrations of other residential and industrial equipment. The lectures will cover subject matter related to the laboratory work and additional topics including fundamentals of air flow and pressure loss, duct design, psychrometrics, heat gains and cooling load calculations, physiological principles, humidification and dehumidification. (Prerequisite: I-II or consent of instructor. Class limited to 20 students accepted in order of registration)

*Fall Semester*

III T 6:20-9:00, Mech. Engineering 302,  
McGough

*Spring Semester*

IV T 6:20-9:00, Mech. Engineering 302,  
McGough

**Machine Design I-II-III.** 4 Certificate credits each quarter. \$24.

Fundamental principles of design of machine elements: lubrication, theory, and application; friction drives, screws, gears, belts, connectors, flywheels, machine frames, shrink fits, stress concentration, vibration analysis, and application of velocity and acceleration analysis to machine design problems. The course will consist of a series of lectures and problems to be solved in class. Laboratory experiments will be used whenever possible. Special movies will be used. (Prerequisite: consult instructor)

*Fall Quarter*

I T 6:20-9:20, Mech. Engineering 308, Larsen

*Winter Quarter*

II (same schedule as fall)

*Spring Quarter*

III (same schedule as fall)

† See Information, page 15.

\*\* Registration must be made in person.

## Course Offerings—Engineering and Technical Sciences

### **Product Engineering I-II.** 3 Certificate credits each semester. \$18.

This course is designed to be of special value to men engaged in machine design, development, product design, and manufacturing. Lectures and demonstrations by instructors from the University and from the manufacturing field. *Part I:* plating processes, organic finishes, aluminum finishes, abrasives, plastics, adhesives, sketching, metal spinning, and industrial design. All lectures will be from a machine design viewpoint. *Part II:* casting problems, stainless steel, carbon steels, die casting, die forming, product design, and welding. (No prerequisite)

#### *Fall Semester*

I Th 7:00-9:30, Mech. Engineering 18,  
Larsen

#### *Spring Semester*

II Th 7:00-9:30, Mech. Engineering 18,  
Larsen

### **Refrigeration I-II.** 4½ Certificate 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. (No prerequisite)

#### *Fall Semester*

I Th 6:20-9:00, Mech. Engineering 208,  
Threlkeld

#### *Spring Semester*

II Th 6:20-9:00, Mech. Engineering 208,  
Threlkeld

### **Automotive Engines—Operation and Maintenance.** 3 Certificate 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*

Th 6:20-8:00, Mech. Engineering 321,  
Murphy

### **Aircraft Power Plants.** 3 Certificate 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. (No prerequisite)

#### *Spring Semester*

Th 6:20-8:00, Mech. Engineering 321, Murphy

### **Fundamentals of Foundry Practice.** 4½ Certificate 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. (No prerequisite)

#### *Fall Semester*

M 6:20-9:00, Mech. Engineering 102, Holtby

## Evening and Special Classes

**\*\*Beginning Plastics.** 4½ Certificate credits. \$27 plus \$7 limited class fee 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 6:20-9:00, 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*

W 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 206,  
Doeringsfeld

**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)

*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

## **Metallurgical Engineering (Met.E.)**

**Metallography and Heat Treatment I-II.** 3 Certificate 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, micro-structures, the iron-carbon diagram, surface hardening, cast iron

\*\* Registration must be made in person.

## Course Offerings—Engineering and Technical Sciences

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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 W 7:15-8:05, Appleby 315, Jerabek  
Lab. 1, 6:20-7:10 (Limited to 28)  
Lab. 2, 8:10-9:00 (Limited to 28)

### *Spring Semester*

II W 6:30-7:20, Appleby 315, Jerabek  
Lab. 7:20-8:10

## Physics (Phys.)

### 13. General Physics for Engineers. 5 credits. \$30.

The third unit in the sequence 11-12-13. This unit deals with electricity. (Prerequisite: I.T.M. 13 and the completion of Physics 11-12)

### *Fall Semester*

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

*Note*—Students must attend both nights.

## 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 swimming or tennis. Information about lockers will be given at first class meeting.

### Activities Open to Children

#### **\*\*Swimming for Small Girls. \$10 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; no one will be allowed in the pool without permit. 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  
S 11:00-11:45, 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  
S 11:00-11:45, 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. \$10 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. \$10 plus \$2 special fee.**

For those who have no previous experience. 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

\*\* Registration must be made in person.

## Course Offerings—Recreation

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, Lampe

### 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, Lampe  
W 6:15-7:00, Norris Gym 60, Lampe  
Th 5:30-6:15, Norris Gym 60, Reiter  
Th 6:15-7:00, Norris Gym 60, Reiter

### **\*\*Golf (Advanced Beginning)—for Women. \$10 plus \$2 special fee.**

For those who have had some experience. Review and improvement of strokes. Motion pictures and slides.

#### Fall Semester

T 6:15-7:00, Norris Gym 60, Lampe

### **\*\*Golf (Intermediate)—for Women. \$10 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, Lampe  
W 7:00-7:45, Norris Gym 60, Lampe  
Th 7:00-7:45, Norris Gym 60, Reiter

### **\*\*Swimming (Beginning)—for Women. \$10 plus \$2 special fee.**

For those who have had no previous experience in swimming. A health examination will be given at the first class meeting. (Each section limited to 25 students. Repeated spring semester)

#### Fall Semester

T 6:00-6:45, Norris Gym 51, Larson  
T 6:50-7:35, Norris Gym 51, Tinker

#### Spring Semester

T 5:30-6:15, Norris Gym 51, Tinker  
T 6:15-7:00, Norris Gym 51, Larson  
W 5:30-6:15, Norris Gym 51, Larson

### **\*\*Swimming (Advanced Beginning)—for Women. \$10 plus \$2 special fee.**

For those able to float and swim slightly but who are not yet at home in deep water. A health examination will be given at the first class meeting. (Each section limited to 25 students. Repeated spring semester)

#### Fall Semester

T 6:00-6:45, Norris Gym 58, Tinker

#### Spring Semester

T 7:00-7:45, Norris Gym 51, Tinker  
T 7:00-7:45, Norris Gym 58, Larson  
W 6:15-7:00, Norris Gym 51, Larson

### **\*\*Swimming (Intermediate and Advanced)—for Women. \$10 plus \$2 special fee.**

A course for those who know how to swim but wish to learn new strokes or polish up on those they already know. Instruction in diving and water safety included. (Each section limited to 25 students. Repeated spring semester)

#### Fall Semester

T 6:50-7:35, Norris Gym 58, Larson

#### Spring Semester

T 6:15-7:00, Norris Gym 58, Tinker  
W 7:00-7:45, Norris Gym 58, Larson

\*\* Registration must be made in person.

## Evening and Special Classes

### **Tennis (Beginning)—for Women. \$10 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. \$10 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 18. Lessons or appointments with competent golf instructors in the golf gymnasium will be scheduled for Tuesday or Wednesday evenings February 19 to April 3. 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. \$10 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 October 1 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.*

Frank Agar, Lecturer in Photography  
Harold J. Alford, M.A., Instructor in English  
James Aliferis, Ph.D., Professor of Music  
Harold B. Allen, Ph.D., Associate Professor of English  
Robert J. Ames, Ph.D., Assistant Professor of General Studies  
John Anderson, Lecturer in Art  
Harold F. Arneman, Ph.D., Assistant Professor of Soils  
Woodrow J. Aunan, Ph.D., Associate Professor of Animal Husbandry  
James Baillie, Lecturer in Office Management  
Arthur H. Ballet, Ph.D., Assistant Professor of Speech and Theater Arts  
Robert A. Bassham, M.A., Instructor in Child Welfare  
W. Donald Beatty, Ph.D., Associate Professor of History  
Bernard C. Bengtson, Lecturer in Insurance  
Donald L. Bennett, Lecturer in Insurance  
Harland Benson, Lecturer in Mechanical Engineering  
Philip A. Benson, B.A., Teaching Assistant in Speech  
David K. Berninghausen, M.A., Associate Professor of Library Science  
Herbert W. Blashfield, Ph.D., Lecturer in Salesmanship  
Robert P. Bliss, B.Arch., Assistant Professor of Architecture  
Stanley M. Block, B.M.E., M.B.A., Lecturer in Mechanical Engineering  
Eugene Bluestein, M.A., Instructor in English  
Morgan Blum, M.A., Assistant Professor of General Studies  
Francis M. Boddy, Ph.D., Professor of Economics  
Clarence H. Boeck, Ph.D., Associate Professor of Education  
Lester H. Bolstad, B.A., Assistant Professor of Physical Education and Athletics  
Arthur M. Borak, Ph.D., Associate Professor of Economics  
Richard Bond, M.S., M.P.H., Associate Professor of Public Health  
John R. Borchert, Ph.D., Professor and Chairman of Geography  
John Borry, M.S., M.E., Lecturer in Mechanical Engineering  
Emmert M. Brackney, Ph.D., Associate Professor of Romance Languages  
Charles M. Braden, M.S., Assistant Professor of Mathematics  
Byron Bradley, Lecturer in Art  
Walter J. Breckenridge, Ph.D., Director, Museum of Natural History  
May Brodbeck, Ph.D., Associate Professor of Philosophy  
James I. Brown, Ph.D., Professor of Rhetoric  
Daniel V. Bryan, Ph.D., Assistant Professor of General Studies  
Paul W. Bullen, B.S.C.E., Assistant Professor of Drawing and Descriptive Geometry  
Sylvan Burgstahler, M.S., Instructor in Mathematics  
Harry L. Butler, Ph.D., Instructor in Romance Languages  
John L. Carroll, LL.B., Lecturer in Business Law  
Paul Cartwright, M.S.E.E., Assistant Professor of Electrical Engineering  
Paul H. Cashman, M.A., Instructor in Speech  
Clarke A. Chambers, Ph.D., Associate Professor of History  
Asher N. Christensen, B.A., Professor of Political Science  
Kenneth E. Clark, Ph.D., Professor of Psychology  
Charles H. Clay, LL.B., Lecturer in Business Law  
Nora F. Cline, R.N., B.S., M.L.N.Ed., Assistant Professor of Public Health  
Charles H. Clay, LL.B., Lecturer in Business Law  
Elsie M. Clubb, M.A., Lecturer in Speech Correction  
Beulah Compton, M.A.S.W., Instructor in Social Work  
David Cooperman, Ph.D., Assistant Professor of General Studies  
J. Orville Creviere, Lecturer in Accounting  
Bert Crowder, M.S.M.E., Assistant Professor of Mechanical Engineering  
William J. A. Culmer, M.A., Instructor in Mathematics  
James A. Cuneo, Ph.D., Associate Professor of Romance Languages  
Dennis D. Daly, LL.B., Lecturer in Accounting

## *Evening and Special Classes*

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Frances K. delPlaine, M.A., Assistant Professor of English  
Guy Desgranges, Ph.D., Associate Professor of Romance Languages  
Harold C. Deutsch, Ph.D., Professor of History  
Harry A. Doeringsfeld, C.E., Professor of Mechanics and Materials  
Alan Donagan, B.Phil., Assistant Professor of Philosophy  
Ernestine C. Donaldson, M.A., Associate Professor of Secretarial Training  
George A. Donohue, Ph.D., Assistant Professor of Sociology  
Nina Draxten, M.A., Instructor in Literature and Writing  
Gordon Duckworth, M.A., Assistant Professor of Music  
Marvin D. Dunnette, Ph.D., Lecturer in Industrial Relations  
Frances E. Dunning, M.Ed., Instructor in Nursing  
Jay Edgerton, Lecturer in Journalism  
Robert C. Eidt, Ph.D., Instructor in Geography  
Frederick Ellis, Ed.D., Associate Professor of Education  
Edwin Emery, Ph.D., Professor of Journalism  
George W. England, M.S., Research Fellow in Industrial Relations  
Austin Erickson, Lecturer in Art  
Gerald Erickson, M.A., Lecturer in Economics and Finance  
Eugene H. Falk, Ph.D., Associate Professor of Romance Languages  
Jesse E. Fant, M.S.C.E., Assistant Professor of Civil Engineering  
Paul Fetler, Ph.D., Assistant Professor of Music  
William Fletcher, Ph.D., Associate Professor of Speech  
Floyd O. Flom, M.A., Assistant Professor of Political Science  
Rodolfo O. Floripe, Ph.D., Associate Professor of Romance Languages  
Roy G. Francis, Ph.D., Assistant Professor of Sociology  
Watson B. Fuls, Ph.D., Associate Professor of Mathematics  
Jerome Gates, M.Ed., Instructor in Art  
Clifton A. Gayne, Jr., Ph.D., Professor of Art Education  
H. Robert Giles, M.A., Associate Professor of Physical Education  
Jac L. Goldstucker, M.B.A., Instructor in Economics  
Eugene Gollin, Ph.D., Assistant Professor of Child Welfare  
Margaret Grainger, M.A., Assistant Professor of Nursing Education  
Mark Graubard, Ph.D., Associate Professor of General Studies  
Raymond L. Grismer, Ph.D., Professor of Romance Languages  
Harvey L. Gunderson, M.S., Assistant Scientist, Museum of Natural History  
Robert B. Gunderson, B.B.A., Lecturer in Industrial Engineering  
Arik Gustafson, Ph.D., Professor and Chairman, Department of Scandinavian  
Clifford I. Haga, B.A., Assistant Professor of English  
Adriana Miretta Haigh, Lecturer in Romance Languages  
Arne Halonen, M.A., Lecturer in Scandinavian  
Sam R. Hamilton, B.E.E., M.A., Aeronautical Ground Instructor  
M. Isabel Harris, M.Ed., Lecturer and Assistant to the Director, School of Nursing  
William A. Harris, Jr., M.S., Instructor in Mathematics  
Keith Havens, Lecturer in Art  
Herbert G. Heneman, Jr., Ph.D., Lecturer in Industrial Relations  
Wesley N. Herr, Ph.D., Associate Professor of Chemistry  
David Herreshoff, B.A., Teaching Assistant in English  
Robert J. Holloway, M.B.A., Associate Professor of Marketing  
Shirley Holt, Ph.D., Assistant Professor of Psychology and Psychiatry  
Fulton Holtby, M.E., M.S., Associate Professor of Mechanical Engineering  
John J. Hospers, Ph.D., Associate Professor of Philosophy  
Frank Howard, Lecturer in Insurance  
Cyril J. Hoyt, Ph.D., Associate Professor, Bureau of Educational Research  
Paul S. Ivory, Ed.D., Associate Professor of Music  
John Jackson, M.S., Director of Minnesota Civil Service  
Henry S. Jerabek, Ph.D., Associate Professor of Metallurgy  
Thomas Jerdee, B.A., Research Assistant, Industrial Relations Center  
Donald N. Jobs, B.A., Teaching Assistant in English  
Armand S. Johnson, B.S., Instructor in Civil Engineering  
Arthur L. Johnson, Ph.D., Assistant Professor of Sociology  
Ruth V. Johnston, Ph.D., Associate Professor of Nursing  
Elvet G. Jones, M.A., Instructor in Education  
Tom B. Jones, Ph.D., Professor of History  
Robert M. Jordan, Ph.D., Assistant Professor of Animal Husbandry  
Roy A. Jorgensen, Jr., M.S., Instructor in Mathematics  
Richard K. Juberg, M.S., Instructor in Mathematics  
Clara Kanun, M.A., Instructor in Sociology  
Willis A. Kerns, B.B.A., Lecturer in Marketing  
Robert Kilbride, Lecturer in Art

Virginia M. Kivits, M.A., Assistant Professor of Literature and Writing  
 George Kliger, B.A., Instructor in General Studies  
 Delmar Kolb, Ph.B., J.D., Lecturer in Art  
 Gisela Konopka, M.S.S.A., Associate Professor of Social Work  
 Paul Kramer, Lecturer in Art  
 Millard H. LaJoy, LL.B., M.S., M.E., Associate Professor of Mechanical Engineering  
 Mary B. Lampe, M.A., Instructor in Physical Education  
 Otis M. Larsen, M.S.M.E., Assistant Professor of Mechanical Engineering  
 Louraine Larson, B.S., Instructor in Physical Education  
 Werner Levi, Ph.D., Professor of Political Science  
 Edwin H. Lewis, Ph.D., Professor of Economics and Marketing  
 Jerome Liebling, Assistant Professor of Art  
 Theodore R. Lindbom, Ph.D., Lecturer in Industrial Relations  
 John S. Lippert, B.S., Lecturer in English  
 Mitchell Locks, Ph.D., Lecturer in Office Management  
 Rodney C. Loehr, Ph.D., Associate Professor of History  
 Howard P. Longstaff, Ph.D., Professor of Psychology  
 Edward S. Loye, Ph.D., Associate Professor of Mathematics  
 Eleanor Luckey, M.A., Instructor in General Studies  
 James Lufkin, M.A., Instructor in English  
 Fred E. Lukermann, M.A., Instructor in Geography  
 Reuel I. Lund, Ph.D., C.P.A., Associate Professor of Accounting  
 James L. Lundy, M.S.I.E., Instructor in Mechanical Engineering  
 Willem J. Luyten, Ph.D., Professor of Astronomy  
 Agnes Macdonald, M.A., Lecturer in English  
 Alixindria MacKenzie, Lecturer in Art  
 Warren MacKenzie, Lecturer in Art  
 Charles R. Magel, B.S., Instructor in Philosophy  
 Daniel Magraw, M.A., Lecturer in Public Administration  
 Thomas A. Mahoney, Ph.D., Research Fellow and Instructor, Industrial Relations Center  
 Grover E. Maxwell, Ph.D., Teaching Assistant in Philosophy  
 Herbert McClosky, Ph.D., Associate Professor of Political Science  
 Gayle W. McElrath, M.S., Associate Professor of Mechanical Engineering  
 Jerome H. McGough, M.S.M.E., Instructor in Mechanical Engineering  
 William McGraw, M.A., Instructor in Speech  
 Charles McLaughlin, LL.B., Professor of Political Science  
 Edwin F. Menze, Ph.D., Associate Professor of German  
 George S. Michaelsen, M.S., Assistant Professor of Public Health and Industrial Health Engineering  
 Doris I. Miller, M.Ed., Instructor in Nursing  
 Lennox A. Mills, Ph.D., Professor of Political Science  
 Walter D. Mink, B.A., Instructor in Psychology  
 Howard P. Mold, M.A., Lecturer in Industrial Engineering  
 John G. Moody, M.A., Instructor in Speech  
 Philip C. Morton, B.A., Associate Professor of Art  
 Verne W. Moss, LL.B., Lecturer in Business Law  
 Peter Mousolite, Ph.D., Lecturer in Romance Languages  
 Clarence E. Mueller, Assistant Professor of Physical Education  
 William D. Munro, Ph.D., Assistant Professor of Mathematics  
 Marion Murphy, M.P.H., Professor of Public Health  
 Thomas E. Murphy, M.S. (Aero.E.), Associate Professor of Mechanical Engineering  
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 Marion Nelson, M.A., Instructor in Scandinavian  
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 John Neter, Ph.D., Associate Professor of Economics  
 June Newhouse, Lecturer in Art  
 Pearl Niemi, Ph.D., Assistant Professor of Linguistics  
 Edmund A. Nightingale, Ph.D., Professor of Economics and Transportation  
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 Paul Olsen, Lecturer in Art  
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 Ruby B. Pernel, M.S.S.A., Associate Professor of Social Work

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Elvin Peterson, B.B.A., Lecturer in Industrial Management  
Naomi M. Peterson, M.A., Assistant Professor of Secretarial Training  
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Frank J. Polansky, Ph.D., Assistant Professor of Mathematics  
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George Power, B.A., Lecturer in Economics and Finance  
Robert Preston, B.A., Lecturer in Insurance  
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Lloyd J. Quaid, B.S.E.E., Assistant Professor of Drawing and Descriptive Geometry  
Birney Quick, Lecturer in Art  
Francis V. Raab, Ph.D., Assistant Professor of Philosophy  
Herman Ramras, Ph.D., Associate Professor of German  
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Mary L. Rice, Ph.D., Instructor in English  
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Merrill Robinson, B.A., Lecturer in Industrial Relations  
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Allan L. Rudell, B.B.A., Lecturer in Industrial Engineering  
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Renato Rutili, Lecturer in Art  
Erhart Schinske, M.A., Instructor in Speech  
Christian Schmidt, B.A., Lecturer in Art  
Wilko Schoenbohm, M.A., Lecturer in Education  
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Michael Scriven, M.A., Research Fellow, Philosophy of Science Center  
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Paul J. Seymour, M.A., Instructor in Rhetoric  
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Robert E. Sloan, Ph.D., Assistant Professor of Geology  
Donald K. Smith, Ph.D., Associate Professor of Speech  
Harlan Smith, Ph.D., Associate Professor of Economics  
Herbert W. Sommer, B.A., Teaching Assistant in German  
Richard D. Springer, B.C.E., Assistant Professor of Drawing and Descriptive Geometry  
Warren B. Stenberg, Ph.D., Instructor in Mathematics  
William A. Stockdale, M.A., Instructor in Literature and Writing  
Gregory P. Stone, M.A., Instructor in Sociology  
Normann Storeygard, B.S.I.E., Lecturer in Industrial Engineering  
John M. Sullivan, M.A., Assistant Professor of Romance Languages  
Richard Sussman, Lecturer in Art  
Ben B. Sutton, Ph.D., Professor of Economics and Finance  
Frederick W. Thomas, LL.B., Lecturer in Business Law  
Theodor W. Thomas, M.S.C.E., Associate Professor of Civil Engineering  
James E. Thompson, Ph.D., Assistant Professor of Mathematics  
Stewart C. Thomson, M.P.H., M.D., Professor and Assistant Director, School of Public Health  
Ross L. Thorfinnson, LL.B., Lecturer in Business Law  
James L. Thelkeld, Ph.D., Associate Professor of Mechanical Engineering  
Suzanne S. Tinker, M.Ed., Assistant Professor of Physical Education  
Donald R. Torbert, Ph.D., Assistant Professor of Art  
William P. Tucker, Ph.D., Lecturer in Political Science  
John G. Turnbull, Ph.D., Professor of Economics and Industrial Relations  
John E. Turner, Ph.D., Assistant Professor of Political Science  
Edwin Tweton, Lecturer in Art  
Robert H. Tuttle, Lecturer in Accounting  
James VanValkenburg, LL.B., Lecturer in Business Law  
Angel Vazquez, M.A., Instructor in Romance Languages  
John W. Velz, M.A., Instructor in English  
Jay Vogelbaum, B.A., Assistant Professor of General Studies

## Faculty

---

Melvin Waldfogel, M.A., Instructor in Art  
Garry R. Walz, M.A., Instructor in General Studies  
George Warp, LL.B., Associate Professor of Political Science  
Henry C. Webb, M.A., Instructor in Photography  
Gerhard Weiss, Ph.D., Instructor in German  
Dorothy Westra, M.S.M., Instructor in Music  
Frederick Wezeman, M.E., Associate Professor of Library Science  
Roger Wheeler, C.L.U., Lecturer in Insurance  
Hugh B. Wilcox, M.S., Professor of Mathematics  
Harold W. Wilson, M.A., Associate Professor of Journalism  
Frank H. Wood, Ph.D., Associate Professor of German  
Eugene S. Wright, Ph.D., Instructor in Rhetoric  
Elmer Young, M.A., Associate Professor of Art  
John Youngquist, Lecturer in Art

*For information concerning telephone numbers for faculty personnel, please call the campus office of the General Extension Division, FE 8-8791.*

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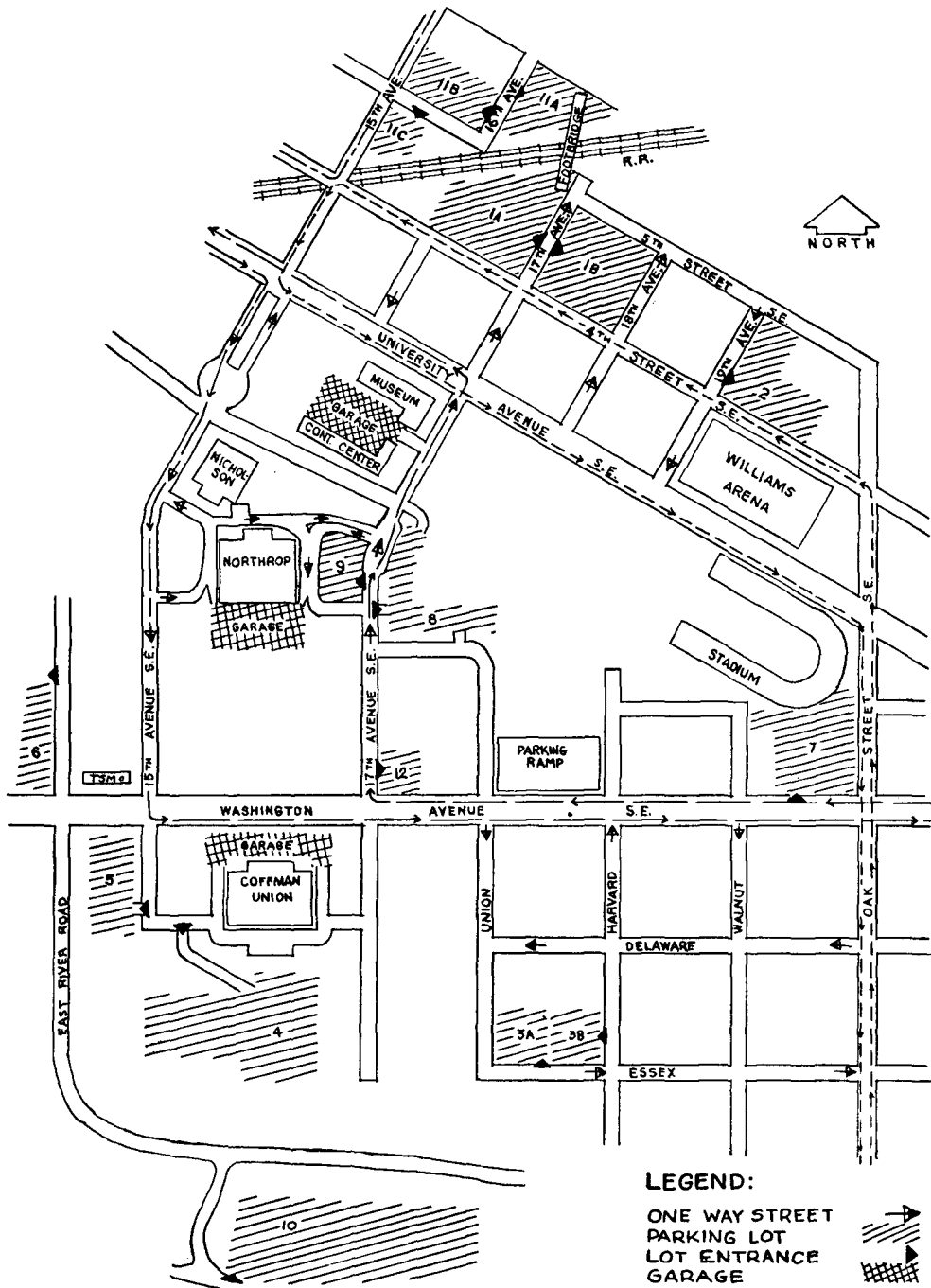
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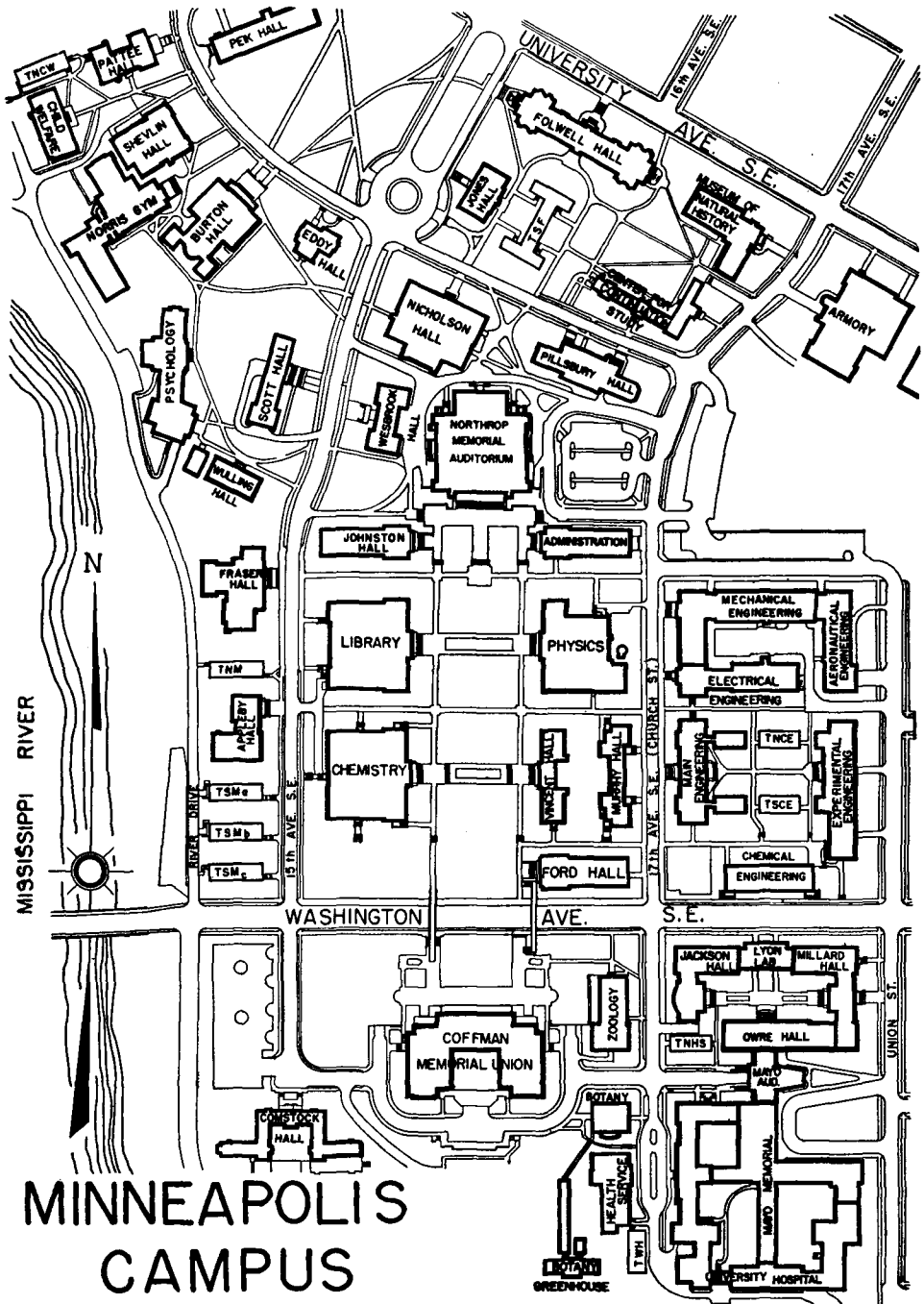
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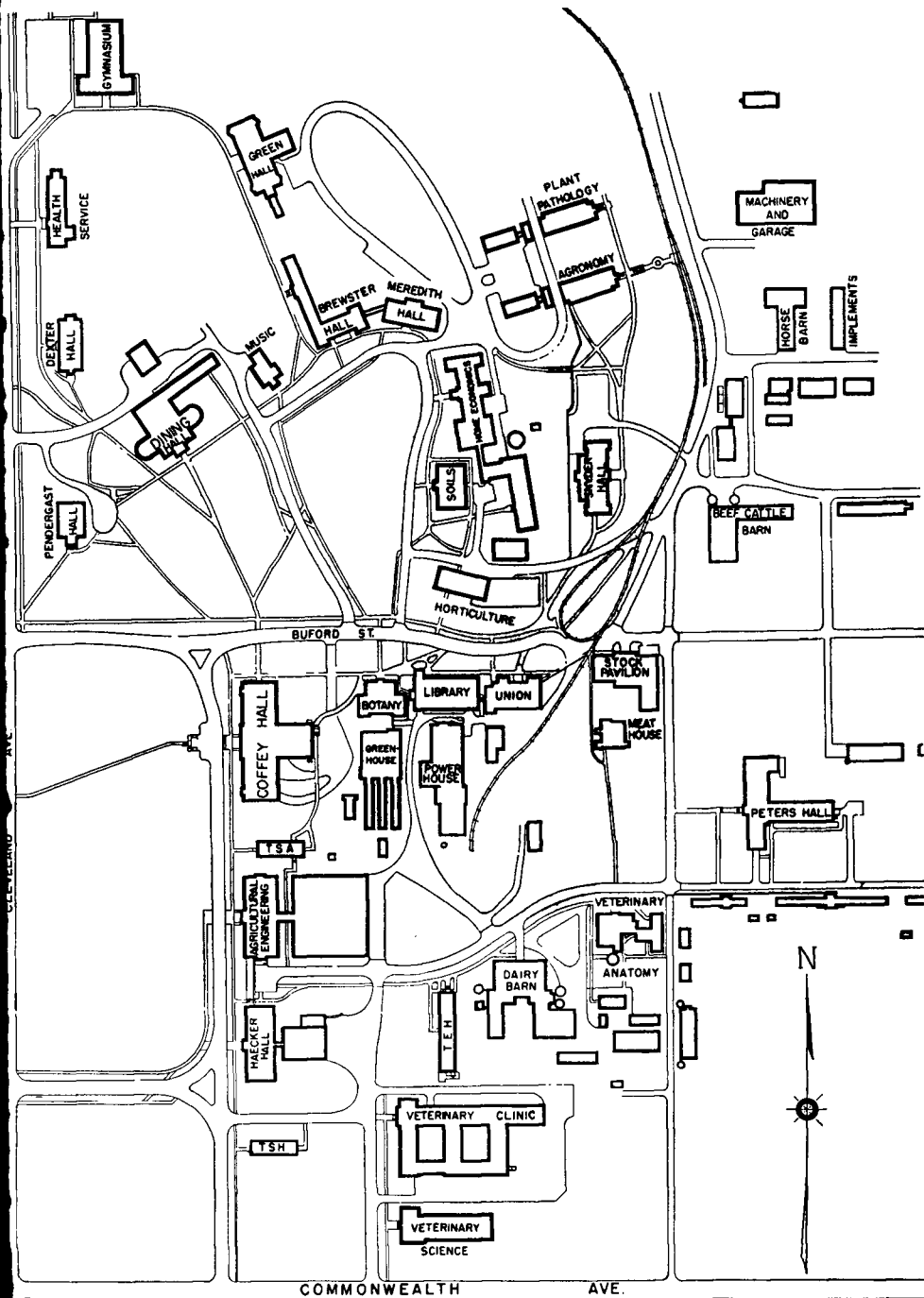


- LEGEND:**
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  - PARKING LOT
  - LOT ENTRANCE
  - GARAGE
  - BUS ROUTES
  - MINNEAPOLIS - ST PAUL
  - FRANKLIN - NORTH LYNDALE
  - COMO - XERXES - FRANCE

# PARKING AND BUS ROUTES



# MINNEAPOLIS CAMPUS



# ST. PAUL CAMPUS

## **Other Services of the General Extension Division . . .**

### **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, 115 TSMa, 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.

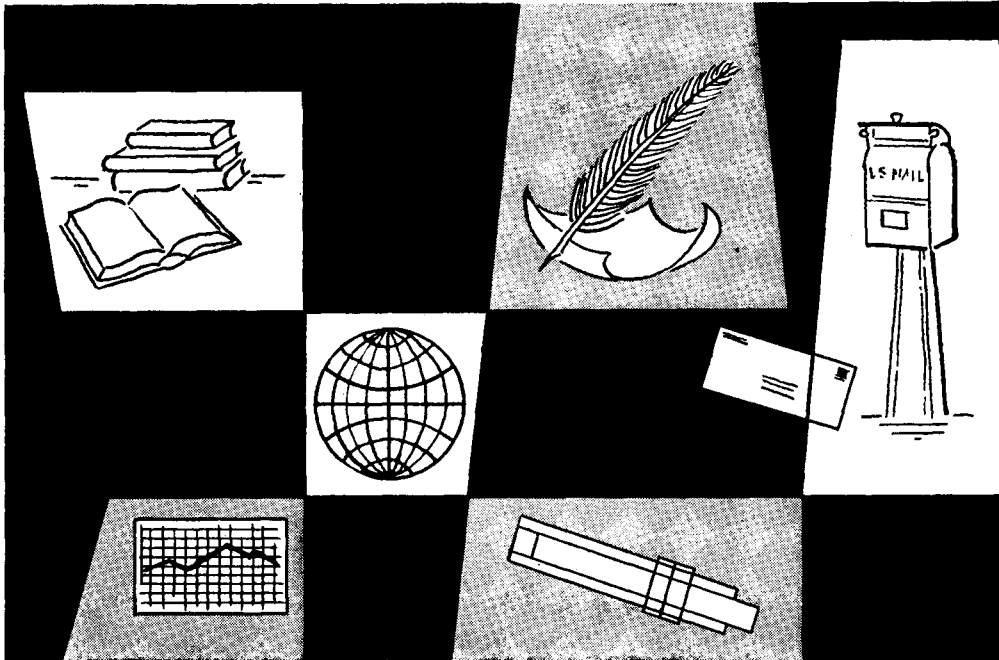
### **University Radio KUOM**

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.

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12/13/56

*Bulletin of the*

# UNIVERSITY OF MINNESOTA



*Correspondence Study Courses 1956-58*

General Extension Division

## Learn for Living

*"It has been said that there are at least three soundly tested ways through which an individual may initiate his education—by direct contact with superior minds; by direct and reflective contact with the great minds of history, through books, music and art; by singular attention to a subject of study, prompted by intellectual curiosity and continued without coercion. Correspondence study embraces all three ways of initiating and sustaining an educational program. Direct communication between teacher and pupil, directed reading and reflection, careful and necessary organization of ideas, the stimulus to seek and systemize knowledge, the voluntary assumption of those restrictions necessary for concentrated study of the subject-matter area, meaningful enlightenment—all are a part of the correspondence method of learning by mail."*

# UNIVERSITY OF MINNESOTA

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The Board of Regents is composed of The Honorable Ray J. Quinlivan, St. Cloud, First Vice President and Chairman; The Honorable George W. Lawson, St. Paul, Second Vice President; The Honorable James F. Bell, Minneapolis; The Honorable Edward B. Cosgrove, Le Sueur; The Honorable Daniel C. Gainey, Owatonna; The Honorable Richard L. Griggs, Duluth; The Honorable Marjorie J. Howard, Excelsior; The Honorable Lester A. Malkerson, Minneapolis; The Honorable Charles W. Mayo, Rochester; The Honorable Karl G. Neumeier, Stillwater; The Honorable A. J. Olson, Renville; and The Honorable Herman F. Skyberg, Fisher.

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## Correspondence Study Department

F. Lloyd Hansen, M.A., Director of Correspondence Study Department  
Jennie Williams, B.A., Office Supervisor, Correspondence Study Department

\* \* \* \* \*

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Correspondence Study Department, F. Lloyd Hansen, 251 Nicholson Hall (FEderal 8-8791)  
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Evening and Special Classes, Huntington Miller, 54 Nicholson Hall (FEderal 8-8791)  
Minneapolis Extension Office, William A. Porter, 690 Northwestern Bank Building (FEderal 2-0624)  
Municipal Reference Bureau, Clarence C. Ludwig, 15 Library Building  
Radio Station KUOM, Burton Paulu, 1 Eddy Hall  
St. Paul Extension Office, Harold J. Alford, 2nd floor, 555 Wabasha St. (CApital 2-6175)  
State Organization Service, William C. Rogers, 104 Third Temporary, South of Mines  
University Program Service, James S. Lombard, 229 Northrop Memorial Auditorium

# CORRESPONDENCE STUDY DEPARTMENT

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## General Information

### Location

The Correspondence Study Department is a part of the General Extension Division which is housed in the east wing of Nicholson Hall on the Minneapolis Campus. The main office is in room 251 Nicholson Hall. The telephone number is FEderal 8-8791.

### Eligibility

The University's correspondence courses are open to everyone who can handle them successfully.

### Cost

Tuition fees are \$6 per credit hour or equivalent. Most courses cost \$18 plus a \$2 per course nonresident fee. The fees for each course are stated in the course description sections of this bulletin. Some courses have a material fee. Textbooks are not included in tuition cost.

### Books

Students must purchase or have constant access to the required textbooks and materials.

The Nicholson Hall Bookstore, University of Minnesota, has made a special effort to stock books required in correspondence courses, but texts may be purchased at other campus bookstores. If you cannot locate the proper texts, write to this bookstore or to the Correspondence Study Department.

A list of the required books for any course will be sent on request. All textbook prices are approximate and subject to change without notice.

Under certain conditions used textbooks may be sent to the bookstore for partial refund of purchase price.

### Registration

Complete the application blank that is with this bulletin and send it with the proper fee to the Correspondence Study Department, University of Minnesota, Minneapolis 14. Payment should be made by post office or express money order, personal check, or draft. Make remittance payable to the University of Minnesota and for the exact amount of the fee.

With the acceptance of the application and the mailing of lesson materials, the student is enrolled.



## Beginning Date

A correspondence course may be started at any time, and the department operates throughout the calendar year. This is an advantage of home study.

## Completion Date

Courses of 16 lessons or more should not be completed in less than 6 weeks. Ordinarily no more than 3 lessons will be accepted in 1 week. You have 1 year for completion.

Students, teachers, and others working against a deadline for submission of credits must take full responsibility for arranging the work in such a manner as to allow ample time for completion, including examinations.

## Reinstatement

If, for valid reasons, a course is not completed in 1 year, a reinstatement for 6 months may be made for \$2 per course; a second approved 6-month extension will cost \$3 per course.

## Lesson Service

The department will make every effort to provide reasonable and prompt lesson service throughout the calendar year. Service may become delinquent, however, due to circumstances over which the department has no control. A critical period is the summer months when some faculty are off the campus.

See the General Directions card in your study guide for submitting lessons.

## Credit

Most of the courses in this bulletin are listed for credit, which means credit toward a degree in the appropriate college of the University of Minnesota, subject to limitations mentioned in the bulletin.

These credits are *quarter* credits: 3 quarter credits equal 2 semester credits.

The few courses listed for Extension credit only cannot be used for a degree from the University of Minnesota or for a teacher's certificate issued by the Minnesota State Department of Education. Extension credits may be used only in Extension certificate programs.

## Transfer of Credits

The Extension clerk in the University Office of Admissions and Records has an official record of credits earned through correspondence study. To transfer these credits to a college within the University or to another institution or to the State Department of Education, you should request the Extension clerk to send an official transcript. Final grades and credits are not automatically transferred.

Students completing courses listed in this bulletin to earn credit that is to be applied toward an educational program at another university or college should determine acceptance of such credit before registration. Many colleges and universities will accept credits earned through correspondence,

but the amount and application varies with each institution. You should check the credit policy of the institution from which you expect to receive transfer credit.

### **Program Advising**

Advisers in the department will assist in the selection of courses and programs of study leading to occupational or educational objectives. They will also assist in making contact with advisers in the resident colleges at the appropriate stage of the educational program.

When you write or call for such advice, please give full information about your past training, educational and occupational experience, and your objectives.

### **Examinations**

To earn credit in a correspondence course the student must pass the final examination.

All supervised examinations may be taken at the following offices or under the supervision of the following individuals:

1. Correspondence Study Department, 251 Nicholson Hall, University of Minnesota
2. General Extension offices in Minneapolis, St. Paul, or Duluth
3. School superintendent or principal; college instructor or administrator
4. Commissioned officers (for military personnel)

### **Refunds**

To receive a partial refund of tuition, the student must make application within 3 months from the date of registration. This application must be submitted prior to the completion of half of the lessons in the course.

Of the tuition fee, provided the student is eligible for a refund, 20 per cent of the cost and 90 cents for each lesson serviced are nonrefundable.

### **High School Courses**

This bulletin carries only a brief listing of high school courses (see page 60). A more complete course description is contained in a separate high school bulletin.

These courses, with the approval of the local school authorities, may be used toward the completion of requirements for graduation from high school. The diploma, however, is granted by the local school, not the University.

High school deficiencies for admission to universities and colleges can be rectified by approved correspondence courses. See the high school bulletin for details.

### **Military Personnel**

Most of the courses in this bulletin are offered under special contract with the United States Armed Forces Institute. Under this contract, eligible military personnel can save half or more of the cost of each course. Write to the Correspondence Study Department for special USAFI folder or to USAFI Headquarters, Madison 3, Wisconsin.

### **Veterans**

Courses in this bulletin have been approved under Public Law 550 (Korean). There are special limitations on the use of correspondence study and the veteran should write for information.

Note that correspondence study cannot be used to delay entrance into a resident program and if the veteran expects to enter a resident program, he must be enrolled in residence on or before his delimiting date.

### **Teachers' Certificates**

With some limitations, correspondence courses may be used to acquire and renew teachers' certificates. Note that the Correspondence Study Department can only provide the courses and cannot evaluate teaching or educational experience for a certificate. Questions concerning the regulations related to teachers' certificates should be directed to the State Department of Education or similar agency. (In Minnesota—Director of Teacher Personnel, State Office Building, St. Paul 1.)

### **Grades**

The grades A, B, C, and D indicate work of varying degrees of merit, D being the lowest passing grade. The grade F, failure, indicates marked deficiency and that the student must repeat the course to earn credit. A failure in a continuation course should be made up before proceeding with the sequence.

Official grade reports are sent by the Office of Admissions and Records.

### **Course Transfers**

A student may transfer from one correspondence course to another within 6 months from the date of registration. The transfer fee is \$2 per course, and the student pays 90 cents for each completed lesson. The balance of the original fee is applied to the tuition for the new course. The second course must be completed within a year from the original registration, or else be reinstated. Transfers recommended by the department are made without charge, except for lesson service.

Transfers cannot be made from one individual to another.

### **Permits**

Students, including University of Minnesota students, expecting to earn additional credit through correspondence instruction, should have the permission of their adviser or registrar. Submit approval with correspondence application or write for permit blank.

### **Tapes and Recordings**

For nearly all of the language courses in this bulletin special records and tapes have been prepared to cover basic pronunciation. The size and the content of each record varies. Recordings are sold on a cost basis. Generally the tape for a language can be supplied for about one-half the cost of the record or records. Rental of some tapes can be arranged.

### Miscellaneous Information

**Postage**—The student prepays postage on all mail sent to the University; return mail to the student is prepaid by the Correspondence Study Department.

**Maximum Load**—A student may enroll for not more than two courses at a time without special permission.

**Noncredit Registration**—A noncredit registration is made by writing "noncredit" in the credits column on the application blank. Noncredit students need not complete the examinations but must pay the regular fees.

**Course Numbers**—In general, courses listed for University credit numbered below 50 are completed during freshman and sophomore years, courses numbered 50 or above during the junior and senior years of college.

**Guide to Correspondence Study**—The Correspondence Study Department as a part of the General Extension Division is a member of the National University Extension Association. This association publishes *A Guide to Correspondence Study*. The booklet lists correspondence courses offered by 53 colleges, universities, and comparable educational agencies. It is available from the secretary of the National University Extension Association, 152 Nicholson Hall, University of Minnesota, Minneapolis 14. There is a cost of 25 cents to cover mailing.

### Working Toward a Degree by Correspondence

There are some limitations on the use of credits earned by correspondence for a degree from the University of Minnesota. No college of the University will grant a degree without a minimum of 1 year (45 quarter credits) of resident study. Moreover, many of the courses completed during the junior and senior years are not available by correspondence study. Credits earned by correspondence do not count as resident credits, nor do they apply toward a graduate degree.

Following are applications to some of the programs at the University. It is understood that a student who wishes to become a candidate for a degree must meet the admission requirements of the University and the entrance and degree requirements of the college in which the degree is sought. Consult the advisers in the department for assistance.

#### COLLEGE OF SCIENCE, LITERATURE, AND THE ARTS

Leading to a B.A. degree with a minimum of 180 quarter credits

All of the requirements (except the laboratory in Group D in Plan I) for the first 2 years (Junior College) could be accomplished by correspondence study. The courses to satisfy Plan II and most of Plan I are described in this bulletin.

**Note**—The requirements for Plans I and II are subject to change in the fall of 1957.

#### PLAN I

**A. English or Communication:** Engl. A-B-C (Freshman English, 15 credits) or Comp. 4-5-6 (Freshman Composition, 9 credits) or Comm. 1-2-3 (Communication, 12 credits) (only Comp. 4-5-6 offered by correspondence study)

**B. Foreign Language:** From 0 to 20 credits, according to the following schedule:

<i>Amount Presented for Entrance</i>	<i>Amount Required in Junior College</i>
4 years of one language	None
3 years of one language	5 credits in same language
2 years of one language	10 credits in same language
1 year of one language	15 credits in same language
Less than a year of one language	20 credits in one language

**C. Social Science:** 10 credits in 1 of the social sciences: anthropology, economics, geography, history, political science, sociology; or 12 credits in S.Sci. 1-2-3 (Introduction to Social Science)

**D. Natural Science:** 10 credits in 1 of the natural sciences: astronomy, botany (lab. required), chemistry, geology (lab. required), physics (lab. required), psychology (lab. required), zoology, or the general studies course N.Sci. 7-8-9 (General Biology) or N.Sci. 4-5-6 (The Physical World); or 15 credits in N.Sci. 1-2-3 (Orientation in the Natural Sciences)

**E. Health:** Pub.H 3 (Personal Health, 2 credits) or equivalent

**F. Electives:** to make a total of 90 quarter credits

## PLAN II

**A. English or Communication:** Engl. A-B-C (Freshman English, composition portion, 6 credits) or Comp. 4-5-6 (Freshman Composition, 9 credits) or Comm. 1-2-3 (Communication, 12 credits)

**C. Social Science:** 18 credits selected from at least 2 of the following social science fields: anthropology, economics,\*\* geography, history, political science, psychology, sociology, or S.Sci. 1-2-3 (Introduction to Social Science)

**D. Natural Science:** 18 credits selected from at least 2 of the following 5 fields:

1. Biological science: botany, zoology, N.Sci. 7-8-9 (General Biology)
2. Mathematics: any course above Math. 1
3. Natural science: N.Sci. 1-2-3 (Orientation in the Natural Sciences)
4. Physical science: astronomy, chemistry, geology (lab. required), physics (lab. required), N.Sci. 4-5-6 (The Physical World)
5. Psychology

**E. Health:** Pub.H. 3 (Personal Health, 2 credits) or equivalent

**F. Humanities:** 18 credits selected from at least 2 of the following 8 fields:

1. Art, music
2. Foreign language and literature: any course in Classics, German, Japanese, Linguistics, Romance Languages, Russian, Scandinavian
3. History
4. Humanities: Hum. 1-2-3; Hum. 11-12-13; Hum. 21-22-23
5. Literature: Engl. A-B-C (Freshman English, literature portion, 9 credits); American literature; English literature
6. Mathematics: any course above Math. 1
7. Philosophy
8. Speech

Any work in a department listed in 2 groups (history, mathematics, or psychology) may be used in satisfying 1 group requirement but not both.

**G. Electives:** to make a total of 90 credits

**Note—**Only 3 credits by correspondence in student's major sequence in courses numbered 50 or above.

## SCHOOL OF BUSINESS ADMINISTRATION

Leading to a B.B.A. degree with a minimum of 180 quarter credits

All of the requirements in the prebusiness curriculum can be satisfied by correspondence courses.

\*\* Econ. 24-25-26 may not be used to satisfy the social science requirement.

### PREBUSINESS CURRICULUM

1. Comp 4-5-6 (Freshman Composition), Engl. A-B-C (Freshman English). Twelve credits in Comm. 1-2-3 (Communication) or 9 credits in G.C. 31A, 31B, and 31C or 31D if ranked in the upper one-third (Writing Laboratory) will satisfy the English requirement. (Only Comp. 4-5-6 taught by correspondence study.)
2. Five credits in Math. 1 (Higher Algebra) or qualifying examination given by Department of Mathematics.
3. Nine credits in mathematics or one of the following laboratory sciences: botany, chemistry, geology, physics, zoology, or psychology with laboratory. Math. 1 and 4 additional credits in mathematics will satisfy this requirement.  
Fifteen credits in N.Sci. 1-2-3 (Orientation in the Natural Sciences) or 10 credits in N.Sci. 4-5-6 (The Physical World) or 10 credits in N.Sci. 7-8-9 (General Biology) will satisfy the science requirement.
4. Eight credits in one of the following social sciences: anthropology, geography, history, political science, or sociology.  
Twelve credits in S.Sci. 1-2-3 (Introduction to Social Science) taken at the University of Minnesota will satisfy this requirement.
5. Ten credits in Econ. 6-7 (Principles of Economics)
6. Sufficient electives to complete the minimum of 90 credits required for admission to the School of Business Administration.

The following courses should be taken as soon as possible, for most of them are prerequisites to advanced required courses.

- Econ. 3 (Elements of Money and Banking)  
Econ. 5 (Elements of Statistics)  
Econ. 24-25-26 (Principles of Accounting)

**Note**—Only 15 credits by correspondence in courses numbered 50 or above. (This means that a total of 105 credits toward the B.B.A. degree may be earned by correspondence study.)

### COLLEGE OF EDUCATION

Leading to B.S. degree with a minimum of 180 quarter credits

Because of the variety of programs offered in this college it is not feasible to present a specific curriculum and to indicate appropriate correspondence courses. Here are two general suggestions that may be helpful.

1. If you have had no college experience, the 2-year program listed under the College of Science, Literature, and the Arts could be used as a guide in completing many of the basic requirements in this college. Several credits must be earned in academic subjects, and these credits may be transferred to the College of Education.
2. Those with 2 or more years of college work should write to the College of Education or to the Correspondence Study Department for guidance. Some correspondence courses will apply on professional or academic requirements.

### INSTITUTE OF AGRICULTURE

#### *College of Agriculture, Forestry, and Home Economics and School of Veterinary Medicine*

Leading to B.S. degree or other Bachelor's degrees with a minimum of 180 quarter credits

There are a number of programs within this college and school and no specific curriculum can be listed. Correspondence courses, however, may satisfy several general academic requirements as well as provide elective credits. The English requirement, 18 credits in social science, 3 credits in personal health, and other conditions can be satisfied by correspondence courses. For additional information write to the Correspondence Study Department or to the Associate Dean, College of Agriculture, Forestry, and Home Economics, University of Minnesota, St. Paul 1.

## INSTITUTE OF TECHNOLOGY

### *College of Engineering; Schools of Chemistry, Architecture, Mines and Metallurgy, Physics*

Leading to degrees in aeronautical, agricultural, civil, electrical, industrial, and mechanical engineering; chemistry, chemical engineering; physics; mining engineering; architecture, etc. About 250 quarter credits are needed for a degree in the Institute of Technology

The first-year curriculum is about the same for all of the degrees mentioned above. It is listed here to assist in guiding those who must begin their work through correspondence study.

#### FIRST YEAR

(Credits shown in parentheses)

I.T.M. 11, 12, 13—College Algebra and Trigonometry I; College Algebra and Trigonometry II; Analytic Geometry (5f, 5w, 5s) Draw. 4, 5, 6—Engineering Drawing (3f, 3w, 3s)	Phys. 11, 12, 13—General Physics (5f, 5w, 5s) Engl. 14, 15, 16—Written and Spoken Communication (3f, 3w, 3s) G.E. 21—Orientation (1f) Total credits (17f, 16w, 16s)
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Note that most of the first-year subjects can be completed by correspondence. Following is a list of the correspondence courses that may be completed for full credit in the Institute of Technology.

Comp. 4, 5, 6—Freshman Composition Draw. 4, 6—Engineering Drawing 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—Differential Calculus I.T.M. 25—Integral Calculus I.T.M. 80—Differential Equations M.M. 26—Engineering Statics M.M. 127—Engineering Dynamics M.M. 128—Mechanics of Materials C.E. 146—Concrete and Concrete Materials
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**Note**—It is assumed that elementary and higher or advanced algebra and plane and solid geometry are prerequisites for the college level mathematics sequence that begins with I.T.M. 11. Any deficiencies in these preparatory subjects may be rectified by correspondence study.

The required 31 credits in the Social-Humanistic Area may be satisfied by selecting correspondence courses in history, psychology, economics, political science, philosophy, and English. Consult the *Bulletin of the Institute of Technology* or write to the Correspondence Study Department.

#### COLLEGES OF MEDICAL SCIENCES AND PHARMACY

No professional courses are offered by correspondence.

Several elective and some required courses in the premedical, pre dental, and prepharmacy curriculums could be done by correspondence instruction. Required courses in the basic sciences are ordinarily not offered by home study. Write to the Correspondence Study Department for additional details.

#### LAW SCHOOL

In Minnesota, correspondence study cannot be used to satisfy any portion of the requirements for a law degree. Students expecting to practice in other states should communicate with the State Bar Association to determine any restrictions on the use of home study courses.

No accredited college or university attempts to teach professional law courses by correspondence.

## SCHOOL OF NURSING

Leading to a B.S. degree with a minimum of 255 quarter credits

1. Those with no college experience and no professional training might use the 2-year curriculum in the College of Science, Literature, and the Arts as a guide in completing many of the requirements in prenursing. (Some of the required courses in chemistry, zoology, and physical education are not offered by correspondence study.) (See page 9.)
2. Graduate professional nurses seeking a degree can satisfy general requirements with the following correspondence courses:

(Credits shown in parentheses)

Comp. 4-5-6—Freshman Composition (9)

C.W. 40—Child Training (3)

Sociology (6)

(or) C.W. 80—Child Psychology (3)

Psy. 1-2—General Psychology (6)

**Note**—There are a number of nursing programs with a variety of requirements. It is recommended that the student contact the School of Nursing for details.

## GRADUATE SCHOOL

Credits earned by correspondence study do not count as graduate credit. The University of Minnesota will not accept correspondence courses for advanced degrees. But graduate students may use these courses to satisfy undergraduate deficiencies or for subject matter content.

## Extension Certificates

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, or a combination of the two methods. Moreover, credits earned in resident classes, including the Summer Session terms, may be utilized.

Some of the certificates cannot be earned entirely by correspondence courses listed in this bulletin. Students may, however, use credits earned from other approved correspondence study departments or substitute or transfer resident credits from accredited institutions. At least 25 per cent of the credits needed for a certificate must be earned from the University of Minnesota.

For advice or information on programs of study leading to certificates, including transfer of credits, write to the Correspondence Study Department. Certificates are awarded to students who complete with a C average any of the following programs of study.

### *Liberal Arts Certificate*

*English requirement* (9 credits):

Comp. 4-5-6—Freshman Composition, or equivalent

*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 1 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. 62—Public Personnel Administration |
| Pol. 60—Introduction to Public Administration | Pol. 63—Public Financial Administration |

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

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

*Concentration requirement:* at least 15 credits in 1 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. 36—Office Procedures          |
| Econ. 6-7—Principles of Economics   | Econ. 40-41—Secretarial Procedures  |
| Econ. 24-25—Principles of Accounting  | B.A. 51, 53—Business Law            |
|   | B.A. 86—Survey of Office Management |
|   | Psy. 1-2—General Psychology         |

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

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

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

### Business Administration Certificates

#### Junior Certificate

##### Core requirement:

Review of Business English; or Business Correspondence; or Comp. 4; or Comm. 1a; or equivalent  
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 (6 credits):** at least one 2-credit course in 2 of the following 5 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 1 of the following fields, in addition to credits earned under core and spread requirements:

Accounting  
Advertising  
Economics and Finance  
Industrial Management  
Industrial Relations

Insurance  
Marketing and Merchandising  
Real Estate  
Traffic and Transportation

#### Senior Certificate

##### Core requirement:

Business English (6 credits); or Comp. 4-5-6; or Comm. 1a-2a-3a; or equivalent  
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 1 or 2 of the following fields, in addition to credits earned under core and spread requirement:

Accounting  
Advertising  
Economics and Finance  
Industrial Management  
Industrial Relations

Insurance  
Marketing and Merchandising  
Real Estate  
Traffic and Transportation

**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 Psy-  
 chology

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

Econ. 163—Union Government and Policies  
 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. 180-181-182D—Senior Topics in Industrial Relations  
 Pol. 64—Employee Training Techniques  
 Pol. 68—Administrative Communication  
 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  
 Advanced Work Simplification  
 Economics of Collective Bargaining  
 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 Certificate

#### Junior Certificate

##### Core requirement:

Basic Technical Writing I; or 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

I.T.M. 13—Analytic Geometry  
 I.T.M. 24—Calculus I: Differential  
 I.T.M. 25—Calculus II: Integral  
 Draw. 4-6—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:

Basic Technical Writing I and II; or Engl.  
 85-86; or Comp. 4-5-6; or Comm. 1a-2a-3a;  
 or equivalent  
 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. 4-6—Engineering Drawing

*Concentration requirement:* at least 30 additional credits in 1 of the following fields, or approved combination thereof:

Aeronautical Engineering  
 Agricultural Engineering  
 Chemical Engineering  
 Chemistry  
 Civil Engineering

Electrical Engineering  
 Mathematics  
 Mechanical Engineering  
 Mining 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:

Basic Technical Writing I; or Engl. 85; or Comp. 4; or Comm. 1a; or equivalent	Machine Tool Operation I
I.T.M. 11—College Algebra and Trigonometry I	Econ. 6-7—Principles of Economics
I.T.M. 12—College Algebra and Trigonometry II	Elements of Industrial Engineering and Management
Draw. 4-6—Engineering Drawing	(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:

Basic Technical Writing I and II; or Engl. 85-86; or Comp. 4-5-6; or Comm. 1a-2a-3a; or equivalent	Econ. 73—Manpower Economics and Labor Problems
I.T.M. 11—College Algebra and Trigonometry I	Elements of Industrial Engineering and Management
I.T.M. 12—College Algebra and Trigonometry II	(or) B.A. 89—Production Management
I.T.M. 13—Analytic Geometry	B.A. 167—Introduction to Industrial Relations
Draw. 3—Descriptive Geometry	Production Planning and Control
Draw. 4-6—Engineering Drawing	Elements of Work Simplification
Machine Tool Operation I	Work Measurement and Production Standards
Econ. 5—Elements of Statistics	Industrial Plant Layout
(or) Basic Industrial Statistics I	Elements of Quality Control
Econ. 6-7—Principles of Economics	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	Advanced Work Simplification
Soc. 146—Industrial and Occupational Sociology	Advanced Topics in Quality Control
B.A. 133—Standard Cost Accounting	Methods-Time Measurement
Draw. 52—Alignment Charts	Beginning Practical Speech Making
Supervision I, II, III	Basic Salesmanship
Industrial Safety and Hygiene	Motion Picture Photography

#### Engineering Aid Program

The Engineering Aid program has been developed by the General Extension Division in co-operation with the Institute of Technology, the Relations with Industry Committee of the American Society for Engineering Education, and the Minnesota Highway Department. It is a terminal program designed to qualify the student as an engineering technician capable of performing responsible design or supervisory assignments in his field of specialization. The program is particularly recommended for persons interested in engineering work who are unable to pursue the full-time day study necessary for an engineering degree. In Civil Engineering the certificate programs

provide the supplementary education required for Minnesota Highway Department Engineering Aids. Persons interested in the program who are already employed or seeking employment in a Twin Cities area industry utilizing engineering aid technicians should consult their company's training or personnel officer for program counseling and registration information. Others may obtain program counseling and registration information from any General Extension Division office. Many of the required and elective courses, as well as the prerequisite subjects, are available through the Correspondence Study Department.

### *Basic Engineering Aid Certificate (44 credits)*

*Prerequisite:* high school graduate or equivalent, higher algebra, solid geometry, and satisfactory completion of English Placement Test.

The Basic Engineering Aid Certificate Program is designed to provide the student with the fundamentals of mathematics, drawing, physics, and English which will enable him to handle intelligently basic engineering and drafting assignments on the job in any engineering field and will give him the necessary background for more specialized or advanced study. The required courses are listed below. No electives or substitutions are permitted in this program nor will any prerequisite be waived. Certificates are awarded to students who complete with a minimum C average the prescribed program of study.

I.T.M. 11—College Algebra and Trigonometry I	Draw. 4-6—Engineering Drawing
I.T.M. 12—College Algebra and Trigonometry II	G.E. 70—The Slide Rule
I.T.M. 13—Analytic Geometry	Comp. 4-5-6—Freshman Composition
	Engl. 85—Advanced Technical Communication
	Phys. 11-12—General Physics for Engineers

### *Senior Engineering Aid Certificates (46 credits)*

*Prerequisite:* Basic Engineering Aid Certificate.

The Senior Engineering Aid Certificate provides a concentration in a specialized engineering field and prepares the student for responsible design and supervisory assignments in the area of concentration.

Senior Certificates are awarded to students who complete with a minimum C average the prescribed program of study. The program below is for the Senior Civil Engineering Aid. Other senior aid certificates are offered in electrical and mechanical engineering. Write for requirements.

#### SENIOR CIVIL ENGINEERING AID

Survey of Calculus	Highways and Pavements I-II
M.M. 26—Engineering Statics	Surveying I-II
M.M. 128—Engineering Solid Mechanics	Pol. 65—Government of Minnesota
Soil Engineering	Technical Electives (5½ credits approved by the Committee on Student Scholastic Standing)
Beginning Practical Speech Making	
Elementary Structural Design	

## College Courses\*\*

**Note**—There is a \$2 per course fee for nonresidents of Minnesota.

Prices of textbooks are approximate and subject to change without notice. Under certain conditions used books may be sent to the bookstore for resale.

### AGRICULTURE

Mykola H. Haydak, Ph.D., Associate Professor of Entomology and Economic Zoology  
Harry W. Kitts, Ph.D., Associate Professor of Agricultural Education  
Truman Nodland, Ph.D., Assistant Professor of Agricultural Economics  
Robert A. Phillips, M.S., Assistant Professor of Horticulture

**A4. Beekeeping.** Presents information on the subject of beekeeping in such a way that those who have had no experience with bees can start with one or more colonies in the spring and carry on with them successfully; also, presents enough fundamental information on bees and modern beekeeping practices to enable those who have had a few years of experience to add to their knowledge and improve their methods. Some of the more important topics to be considered are the study of the honey bee colony and of the individual bee, fundamentals of bee behavior, the value of bees in pollination, colony development, beekeeping equipment and practices, swarm control, package bees, supersedure, increase, queen rearing, apiary management, bee diseases and enemies and their control, methods of wintering, preparation of honey and wax for market. (No prerequisite and no credit toward a degree)

16 lessons, 3 Extension credits only, \$18, texts \$5, Haydak

**Ag.Ec. 80. Farm Accounting.** Forms and procedure for recording inventories, cash receipts and expenses, crop acreages and yields, feed consumed by livestock, family living secured from the farm, and other information concerning the farm business. Calculation of measures of farm earnings and factors affecting earnings. (No prerequisite)

16 lessons, 3 credits, \$18, texts \$6, Nodland

**Agricultural Education (Rural Education).** Kitts. See page 26.

**Home Economics (Textiles).** Babcock. See page 20.

**Horticulture.** Phillips. See page 43.

**Parliamentary Law.** Miller. See page 49.

### ANTHROPOLOGY (Anth.)

Elden Johnson, Ph.D., Instructor in Anthropology  
Clark Johnson, M.A., Teaching Assistant in Anthropology

**1. Introduction to Anthropology.** Characteristics of human races; fossil men; pre-history. The life of primitive peoples; economic, religious, social activities, and other phases of culture. The bearings of anthropology on present-day thought and problems. (No prerequisite)

27 lessons, 5 credits, \$30, texts \$12.50, C. Johnson

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\*\* The letter "c" after the number of a course means that there is no parallel campus course or that the correspondence course is a material modification of the campus course for extension purposes.

- 80. The American Indian.** A survey of the native cultures of the Americas. Descriptive accounts of the physical types, languages, prehistory, and cultures of North, Central, and South America. (No prerequisite)  
16 lessons, 3 credits \$18, texts \$8.50, E. Johnson

### ART (Art)

Clifton Gayne, Jr., Professor and Chairman, Department of Art Education  
Gladys Babcock, M.A., Associate Professor of Textiles, University of Texas  
Leah Lewis, B.S., Assistant Professor of Art  
Lucile S. Robinson, B.A., Instructor in Handcraft (Correspondence Study)

- 4(c). Design I.** Fundamental principles of design applied to a series of interesting and practical problems using a variety of techniques; a basic course that is useful in public school teaching and as a foundation for art courses. (No prerequisite)

16 lessons, 3 credits, \$18 plus \$1.50 materials fee, texts \$8.50, Lewis

- 43A(c). General Handcrafts I.** A practical course which includes chip carving, block printing, stenciling, and puppets. Also included are projects and gift suggestions to be made from scraps of material such as paper, tin, yarn, and wire. For teachers, occupational therapists, camp and playground workers, and home makers. (No prerequisite; may precede or follow General Handcrafts II)

16 lessons, 3 credits, \$18, texts and materials \$14, Robinson

- 43A(c). General Handcrafts II.** Similar to General Handcrafts I, but may precede or follow the first course. Lessons cover paper sculpture, stick printing, bead weaving, glass etching, clay craft, braiding, and simple book binding. Course may be taken for 1 or 2 credits. (No prerequisite)

6 lessons, 1 credit, \$6, texts \$3, Robinson  
12 lessons, 2 credits, \$12, texts \$3, Robinson

- 43B(c). Textile Crafts.** A practical course in needle work and other textile crafts suitable for use in homes, schools, camps, playgrounds, social service, and for those interested in adult education. (No prerequisite)

16 lessons, 3 credits, \$18, texts \$1.50, Robinson

- 83(c). Interior Design I.** (Interior Decoration) A study of traditional and modern furniture and how to combine various styles successfully. Additional subjects include floor coverings, wall treatment, how to build color schemes and general trends in home decoration. Of interest to teachers, homemakers, and home furnishings sales people. (No prerequisite)

16 lessons, 3 credits, \$18, texts \$7.50, Lewis

- 84(c). Interior Design II.** Trends in decorative fabrics and floor coverings including a study of the new fibers used in curtain, drapery, and upholstering fabrics. How to estimate. Major accessories such as picture selection, ceramics, and the use of metals in decoration are considered. Another major emphasis is on window treatment and planning room color schemes. (Prerequisite: Art 83(c) )

16 lessons, 3 credits, \$18, texts \$7, Lewis

- Ar.Ed. 19(c). Art Appreciation in Education.** An introductory survey of art to provide a background for personal growth and for effective co-operation in modern educational programs. The role of the artist, his ideas, materials, and techniques will be examined in terms of his contributions to enriched living. Painting, sculpture, architecture, city planning, personal appearance, and industrial design are some of the specific areas studied in relation to current personal and social problems. (No prerequisite; recommended for elementary

school teachers but of general interest; not open for credit to art majors or those who have completed Ar.Ed. 19)

21 lessons, 4 credits, \$24 plus \$1.25 materials fee, texts \$11, Gayne

**H.E. 2(c). Introduction to Textiles.** For consumers and people in the field of merchandising. A study of textiles commonly used in clothing and home furnishings including fiber identification and properties, yarn and fabric construction, fabric finishing, determination of fabric quality in relation to use, and care of fabrics. (No prerequisite)

16 lessons, 3 credits, \$18 plus \$1.50 for materials, texts \$10, Babcock

### ASTRONOMY (Ast.)

Willem J. Luyten, Ph.D., Professor and Chairman, Department of Astronomy

**11. Descriptive Astronomy.** A descriptive course designed to give accurate general information regarding the solar system and the stellar universe. Emphasizes the basic facts of the physical universe, rather than the technical details of the work of a professional astronomer. A small telescope or even a field glass will be helpful but not essential. (No prerequisite)

27 lessons, 5 credits, \$30, texts \$5, Luyten

### BUSINESS ADMINISTRATION (B.A.)

Herbert G. Heneman, Jr., Ph.D., Professor of Economics and Industrial Relations

Edwin H. Lewis, Ph.D., Professor of Economics and Marketing

Ben B. Sutton, Ph.D., Professor of Economics and Finance

Arthur M. Borak, Ph.D., Associate Professor of Economics

John A. Dettmann, M.S., C.P.A., Associate Professor of Economics and Business

Ernestine C. Donaldson, M.A., Associate Professor of Business Administration

Reuel I. Lund, Ph.D., C.P.A., Associate Professor of Accounting

John Neter, Ph.D., Associate Professor of Economics and Statistics

C. Arthur Williams, Jr., Ph.D., Associate Professor of Economics and Insurance

Donald H. Bruer, LL.B., Instructor in Business Law (Correspondence Study)

Clifford I. Haga, B.A., Instructor in English

Elvin L. Peterson, B.B.A., Instructor in Economics

Lawrence E. Rudberg, M.A., Instructor in Economics and Marketing

**Note**—See page 10 for limitation on amount of credit earned by correspondence courses toward B.B.A. degree.

**1(c). Business Correspondence.** A practical course for people in business or those preparing to enter it. The ways of developing effective letter-writing habits are analyzed and presented in a study of diction, grammar, and the mechanics of letter forms. (No prerequisite)

16 lessons, 3 Extension credits only, \$18, texts \$5, Haga

**51. Business Law—Contracts.** Deals with the basic law of contracts, the formation, operation, effect, and discharge of contracts. Inasmuch as a knowledge of the general rules of contract law is fundamental to all work in business law, this course must precede B.A. 52, 53 and 56. (No prerequisite)

16 lessons, 3 credits, \$18, texts \$11, Bruer

**52. Business Law—Agency, Partnerships, and Corporations.** The law of agency and a consideration of problems of partnerships and corporations, including business associations. Includes a study of the nature, creation, and terms of relationships, and rights and liabilities of the parties when doing business through agents, partnerships, and corporations. (Prerequisite: B.A. 51)

16 lessons, 3 credits, \$18, texts \$11, Bruer

**53. Business Law—Sales and Negotiable Instruments.** Law of sales of goods under the Uniform Sales Act and law of commercial paper under the Uniform Ne-



gotiable Instruments Law. Includes a study of negotiable notes, checks, drafts, etc., and rights of parties thereto. (Prerequisite: B.A. 51)

16 lessons, 3 credits, \$18, no texts, Bruer

**56. Business Law—Property Rights and Obligations.** Nature and classification of real and personal property; 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)

16 lessons, 3 credits, \$18, no texts, Bruer

**58. Elements of Public Finance.** Public expenditures, revenues, debts, fiscal policy, and financial administration. Includes a study of the nature of public expenditures, various kinds of nontax public revenues, various forms of taxation, shifting and incidence of taxation, budgetary and legislative control, and fiscal reforms. (Prerequisite: Econ. 6 and 7)

16 lessons, 3 credits, \$18, texts \$5, Borak

**64(c). Operation of a Small Business.** The practical problems of operating a small business. Covers all phases of organization and management including advertising, layout, financing, location, buying, pricing, personnel. Emphasis on retailing. (No prerequisite)

16 lessons, 3 credits in General College, \$18, texts \$3, Rudberg

**66. Cost Accounting.** The uses of cost information in modern industry, the accounting mechanism for costs, types of cost systems, the definition of cost terms; the use of the factory ledger; the accounting for materials, their purchase, storage, use, the stores ledger, and the calculation of materials costs; the accounting for labor with particular reference to applying labor costs to production; the accumulation and analysis of overhead and its application to product; cost reports and statements for the management. (Prerequisite: Econ. 26 or approximate equivalent)

16 lessons, 3 credits, \$18, texts \$6.50, Lund

**74. Business Statistics.** Includes three applications of statistical techniques to business: (a) measurement of time series, (b) index numbers, and (c) statistical quality control. (Prerequisite: Econ. 5 or equivalent)

16 lessons, 3 credits, \$18, texts \$12.50, Neter

**86. Survey of Office Management.** The office as a producing unit; organization and control of clerical services; selection of equipment and supplies; flow of work layout, and working conditions; office personnel; relation of the office to operating divisions; work simplification; scientific management as applied to the office. (Prerequisite for credit: Econ. 6 and 7)

16 lessons, 3 credits, \$18, texts \$6, Donaldson

**89. Production Management.** A survey course in the techniques of modern management of production. The basic principles of the techniques of scientific management are studied with particular emphasis on the need for the scientific method of approach to the solution of management problems. The following topics are considered: organization, the physical plant, product development, material control, quantity control, quality control, and production control. (Prerequisite: Econ. 6 and 7; recommended to businessmen to whom it is open without prerequisites)

16 lessons, 3 credits, \$18, texts \$6.50, Peterson

**115. Life Insurance.** Functions of life insurance, and the concept of a human life value; types of life insurance contracts, their interpretation and their uses; disability provisions in life insurance contracts; industrial, group, fraternal, and government insurance; underwriting; principles underlying rates and

reserves; investments. (Prerequisite: Econ. 6 and 7; Econ. 50 recommended but not required)

16 lessons, 3 credits, \$18, texts \$5, Williams

- 116. Property and Liability Insurance I.** A discussion of the nature and relative importance of losses covered under property and liability insurance contracts; a detailed analysis of the contract provisions in the most important fire, marine, and casualty insurance contracts and surety bonds. (Prerequisite: Econ. 6 and 7; Econ. 50 highly recommended but not required)

16 lessons, 3 credits, \$18, texts \$5.50, Williams

- 118. Auditing and Public Accounting.** The purposes and principles of auditing. Auditing "from the records" and investigations by independent, internal, and governmental auditors. Accounting principles, the S.E.C., and the verification and certification of published statements by public accountants. Specific procedures and particular working papers are interrelated by the audit of a laboratory set calling for actual examination of records and accounts, the preparation of complete working papers, and an audit report. (Prerequisite: Econ. 26 or approximate equivalent)

21 lessons, 4 credits, \$24, texts \$13.50, Lund

- 134. Income Tax Accounting.** The application of the federal income tax law to individuals and corporations. Begins with a consideration of what types of income are taxable and which are not. Consideration is then given to items which can be deducted from gross income. Exemptions and tax rates are then studied as the final step in calculation of tax. Practice is given in the preparation of returns. (Prerequisite: some knowledge of elementary accounting)

16 lessons, 3 credits, \$18, texts \$7, Dettmann

- 141. Real Estate.** The valuation of urban real estate with consideration of problems of real estate financing, rent control, housing land development, zoning and other factors affecting real estate values. (Prerequisite: Econ. 7 or equivalent; recommended to businessmen to whom it is open without prerequisite)

16 lessons, 3 credits, \$18, texts \$6, Sutton

- 146. Investments.** Study of the principles of investment and their application to actual cases. Lessons developed out of concrete examples to assist in a critical appraisal of specific securities and to add to working knowledge of investment issues. Principal emphasis on the most important groups of securities—railroad, industrial, public utility, and governmental issues. (Prerequisite: Econ. 3 and 75; recommended to businessmen to whom it is open without prerequisite)

16 lessons, 3 credits, \$18, texts \$6.50, Sutton

- 150. Intermediate Accounting.** Tangible fixed assets (problems of valuation, retirement, and appraisal); intangibles; investments; liabilities; comparative statements; vertical and horizontal analysis; significance of per cents and ratios; analysis of working capital; age of accounts receivable; book value per share of stock; causes of change in gross profit; changes in manufacturing costs; distortion in ratios; profit and loss analysis; a statement of variation in net profit; causes of variations in profits; changes in quantity volume; the breakeven point; use of breakeven computations in management; statement of application of funds; funds provided by profits; other sources of funds; and analysis of fixed asset and reserve accounts. (Prerequisite for credit: Econ. 26 or equivalent)

16 lessons, 3 credits, \$18, texts \$6, Lund

- 167. Introduction to Industrial Relations.** Evaluation of managerial policies and devices designed to secure the co-operation and efficient participation of employees in business, industry, and government. Attention is directed espe-

cially to the determination of labor needs, job analysis and classification, methods of recruiting workers, selection devices, training and safety programs, service rating, employment stabilization, collective bargaining, and compensation. (Prerequisite: Econ. 73 or concurrent registration)

16 lessons, 3 credits, \$18, texts \$7, Heneman

- 188. Advertising.** A survey course of advertising principles and techniques as related to the product and its market including the uses of advertising media: newspapers, magazines, direct mail, display, radio and television, and basic layout and copy techniques used in the construction of advertisements. (Prerequisite: students who are candidates for a degree at the University of Minnesota are required to have B.A. 77, Survey of Marketing, and Psy. 156, Psychology of Advertising; other students who have had business experience may have the prerequisites waived upon request)

16 lessons, 3 credits, \$18, texts \$8.50, Lewis

**Salesmanship.** See page 55.

**Industrial Supervision.** See page 44.

**Other business courses.** See Economics, page 24.

## CHILD WELFARE (C.W.)

Mildred C. Templin, Ph.D., Associate Professor of Child Welfare

Pearl T. Cummings, B.S., Assistant Professor and Extension Worker, Institute of Child Welfare

- 1(c). Child Care and Training.** Physical growth and care of young children. Mental development, personality, and behavior. The management of young children. Establishing desirable habits. Play, toys, games, stories, and music. Intended primarily for parents and others who work with young children. (No prerequisite; send registrations directly to the Institute of Child Welfare, University of Minnesota)

16 lessons, no credit, \$1, Cummings

- 2(c). The Older Child and Adolescent.** Physical, intellectual, emotional, personality, and social development of older children and adolescents. The guidance, vocational and educational interests, and the relations of sex, recreation, and friends to the process of growing up are discussed. (No prerequisite; send registrations directly to the Institute of Child Welfare, University of Minnesota)

16 lessons, no credit, \$1, Cummings

- 40. Child Training.** A brief survey of physical and mental development together with a discussion of the training of young children. Behavior problems in their various aspects, and the techniques of good and bad management are considered. (Prerequisite: Psy. 1 and 2 or equivalent)

16 lessons, 3 credits, \$18, texts \$4, Templin

- 80. Child Psychology.** A survey of child psychology from infancy to adolescence. Development of motor skills, language, intelligence, emotional behavior, personality, social behavior, and character. Learning and adjustment. Of interest to the teacher, the general student, and parents. (Prerequisite: Psy. 1 and 2 or equivalent)

16 lessons, 3 credits, \$18, texts \$6.50, Templin

- 82. Later Childhood and Adolescence.** What it means to grow up; the effect of physical, mental, and emotional growth on the developing personality; guidance of youth's interests and social life—sex, recreation, friends, and voca-

tion. (Prerequisite: Psy. 1 and 2 or equivalent; not open to those who have completed Psychology of Adolescence in the College of Education)

16 lessons, 3 credits, \$18, texts \$6.50, Templin

- 83. The Guidance of Children's Activities.** Furthering the child's development by directing his natural activities and interests. Discussion of stories, music, art, and dramatics, as well as the use of tools, toys, and a variety of occupational materials. The value of play and activities initiated and carried out by the children. (Prerequisite: Psy. 1 and 2 or equivalent)

16 lessons, 3 credits, \$18, texts \$7.50, Templin

### CHINESE (Chin.)

Richard B. Mather, Ph.D., Assistant Professor of Chinese

- 1. Beginning Chinese I.** Prepares for the reading and writing of colloquial Chinese (Mandarin), the language of conversation, modern fiction and newspapers. Principles of pronunciation and intonation will be treated; principles of grammar will be implemented with ample exercises. (No prerequisite)

27 lessons, 5 credits, \$30, texts \$8, record (78 rpm) \$4, Mather

(Tape about one-half cost of record)

### ECONOMICS (Econ.)

Herbert G. Heneman, Jr., Ph.D., Professor of Economics and Industrial Relations  
 Ben B. Sutton, Ph.D., Professor of Economics and Finance  
 Reuel P. Lund, Ph.D., C.P.A., Associate Professor of Accounting  
 C. Arthur Williams, Jr., Ph.D., Associate Professor of Economics and Insurance  
 Thomas A. Mahoney, Ph.D., Assistant Professor of Economics and Industrial Relations  
 Paul W. Eaton, M.A., Instructor in Economics  
 Robert Miki, M.A., Instructor in Economics

- 3. Elements of Money and Banking.** An introduction to the study of modern financial institutions; the nature and functions of money, its types and methods of control; recent efforts to change and regulate the value of money; chief emphasis upon the American financial system, including the mechanism of the money market, investment banking, the functions of trust companies, savings institutions and commercial banks, the federal reserve system including recent modifications, and agricultural credit institutions. (No prerequisite)

27 lessons, 5 credits, \$30, texts \$6, Miki

- 5. Elements of Economic Statistics.** The elementary tools for the collection, analysis, and interpretation of statistical data in economics and business; the collection of material by mail, by interviewer, or from published sources; the use of tables, charts, and averages in economic analysis; the measurement of variation and association in statistical data, particularly with relation to the errors of sampling; the construction and use of index numbers in measuring cost of living, price levels, and production. The objective throughout is a reasonable familiarity with the basis for widely used statistical techniques. (No prerequisite)

27 lessons, 5 credits, \$30, texts \$6, Eaton

- 6. Principles of Economics I.** Analysis of the principles determining the production (supply) and exchange (demand) of goods and services by individual firms and households. Determination of costs and prices under conditions of competition and monopoly. Forms of business organization and economic activity of government. Economic significance of taxation and labor organization; study of wages, rents, interest, and profit. (No prerequisite)

27 lessons, 5 credits, \$30, texts \$5.50, Miki

- 7. Principles of Economics II.** Analysis of national income, employment, and price level, with attention to aggregate consumption and investment. Financial organization of society; distribution of wealth and income. Fiscal and monetary policies; economic significance of banking; business cycles; foreign trade. Review of systems of economic organization: capitalism, socialism, fascism, and communism. (Prerequisite: Econ. 6)  
27 lessons, 5 credits, \$30, texts \$5.50, Miki
- 24. Elements of Accounting.** The form and content of financial statements; ledgers; debit and credit; journals; control accounts; special books; the trial balance; adjusting and closing entries; the work sheet; and the preparation of financial statements. Each lesson will include a reading assignment in a text and a number of problems to work. (No prerequisite)  
16 lessons, 3 credits, \$18, texts \$8, Lund
- 25. Principles of Accounting I.** Deals mainly with corporation accounting. Formation of a corporation; types of stock; opening entries; donated and other treasury stock; surplus; dividends; reserves; surplus statement; valuation of stocks and bonds. The remainder of the lessons will consider peculiarities of accounting for partnership. (Prerequisite: Econ. 24 or equivalent)  
16 lessons, 3 credits, \$18, texts \$7, Lund
- 26. Principles of Accounting II.** Accounting for manufacturing inventory methods; the job order method; process costs; departmental accounting; branch accounting; consolidated statements; funds statements; and an analysis and interpretation of financial statements. Each lesson includes problems which are to be worked and submitted by the student. A longer practice set is also assigned near the end of the course. (Prerequisite: Econ. 25, or equivalent)  
16 lessons, 3 credits, \$18, texts \$8.50, Lund
- 50. Insurance Principles.** An analysis of the role insurance plays in combating risk; fundamentals of life, property, and liability insurance contracts; types of insurers; sales, underwriting, actuarial, finance, and claims functions of insurers; regulation; and social insurance. Designed primarily for the insurance consumer and as an introductory course for a person who wishes to take more work in insurance. (Prerequisite: Econ. 6 and 7)  
16 lessons, 3 credits, \$18, texts \$6, Williams
- 73. Manpower Economics and Labor Problems.** Deals with (a) marketing of manpower resources, (b) institutional structure of labor markets, (c) economic and social problems arising from labor marketing processes, (d) methods, procedures, and proposals for solving these problems. (Prerequisite: Econ. 6 and 7 or equivalent)  
16 lessons, 3 credits, \$18, texts \$6, Mahoney
- 75. Corporation Finance.** A study of the organization and financial management of corporations, with reference to types of securities, conditions under which they should be issued, and facilities for marketing them. (Prerequisite: Econ. 3, 6 and 7)  
16 lessons, 3 credits, \$18, texts \$7, Sutton
- 164. Labor Legislation: Collective Bargaining.** An analysis of (a) employer-employee-union relationships and their social control; emphasis is placed upon the actions of legislative, executive, and judicial branches of the government; and (b) the economic and social implications of issues arising in this area. (Prerequisite: Econ. 73 or 161)  
16 lessons, 3 credits, \$18, texts \$7.50, Mahoney
- 169. Labor Legislation: Economic Security.** An analysis of (a) the origins and development of economic and social problems of the individual worker, (b) executive, legislative, and judicial attempts to deal with these problems, and

(c) 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)

16 lessons, 3 credits, \$18, texts \$7, Mahoney

### EDUCATION (Ed.)

Julius M. Nolte, B.A., LL.B., Dean of University Extension and Professor  
 William H. Edson, Ph.D., Associate Professor of Education  
 Donovan Johnson, Ph.D., Associate Professor of Education  
 Harry W. Kitts, Ph.D., Associate Professor of Agricultural Education  
 Gordon Mork, Ph.D., Associate Professor of General Education  
 Maynard C. Reynolds, Ph.D., Associate Professor of Education  
 Helen P. Mudgett, M.A., Assistant Professor of Intercultural Education  
 Adrian Dupuis, Ph.D., Visiting Lecturer  
 William F. Ferguson, B.A., Mental Health Education Consultant, State Board of Health

**4(c). Introduction to Philosophy of Education.** A critical study of the crucial issues of contemporary education in the United States. An effort will be made to relate this study to the problems and issues that teachers are now facing in their day-by-day work with children. The central objective of this course is to help teachers to clarify their thinking in respect to role of the teacher and public school in present-day America. (No prerequisite)

21 lessons, 4 credits, \$24, texts \$5.50, Dupuis

**Ag.Ed. 54. Rural Education and Community Leadership.** An appraisal of community educational agencies; the process of and responsibilities for community leadership; the role of the school in the rural community; co-ordination of the school with nonschool educational agencies. (No prerequisite)

16 lessons, 3 credits, \$18, texts \$10, Kitts

**58. Psychology of Adolescence.** A study of changes characterizing the transition from childhood to adult life. Discussion of physical, mental, social, and emotional development during the adolescent years, with emphasis on the relation of this development to the problems of adolescents in our society. The influence of the secondary schools on good adjustment of adolescents, and implications for guidance during the period of secondary education. (This course is listed in the *Bulletin of the College of Education* as E.Psy. 158; it is not open to those who have completed C.W. 82 or C.W. 132; prerequisite: Psy. 1 and 2 or equivalent)

16 lessons, 3 credits, \$18, texts \$6, Edson

**60. Introduction to Measurement and Statistics.** A study of elementary statistical methods and their application to educational problems. The commonly used statistical terms and methods such as mean, median, mode, percentiles, graphs, standard deviation, correlation, standard scores, test analysis, and sampling theory are considered. An attempt is made to give the student some understanding of these terms, practice problems with educational data, and applications and interpretations of statistics. Emphasis is placed on the intelligent interpretation of statistical methods so that the student may plan studies and interpret results correctly. (Prerequisite: 6 credits in psychology)

16 lessons, 3 credits, \$18, texts \$4, Johnson

**65. Teaching of Science in the Elementary Schools.** Designed to acquaint the elementary school teacher with objectives, methods, and materials of importance in the teaching of science to children. Special attention is given to developing understanding of science concepts and scientific method among children. Those phases of science content of importance in elementary education are identified and special attention is given to their explanation. (No prerequisite)

16 lessons, 3 credits, \$18, texts \$11.50, Mork

**77. Critical Issues in Modern Education.** The principal aim is to answer the following: What are the outstanding points of view in education today? Such practical questions as discipline, freedom, indoctrination, teacher-pupil relations, progressive methods will be treated as they relate to underlying theory; but the central objective will be to appreciate the crucial agreements and differences among leading thinkers in contemporary education. (May be substituted for H.Ed. 141 in undergraduate curriculums; not open to students who have taken H.Ed. 141)

16 lessons, 3 credits, \$18, texts \$12, Dupuis

**E.Psy. 82. Education of Exceptional Children.** Provides an overview of the field of special education. The major objective is to develop a beginning understanding of the characteristics and needs of socially maladjusted, gifted, mentally retarded, crippled, visually handicapped and auditorily handicapped children. A number of general problems in special education (such as prevention of handicaps, current trends, research needs, teacher training opportunities, patterns of school organization and administration, etc.) are also given brief consideration. Especially planned for classroom teachers, counselors, supervisors, and administrators. Also is a suitable first course for students working for special certificates to teach exceptional children. (Prerequisite: Psy. 1 and 2 or equivalent or teacher's certificate)

16 lessons, 3 quarter credits, \$18, texts \$10, Reynolds

**H.Ed. 92(c). Techniques of Intergroup Education for Rural Schools.** Designed to help rural teachers gain clearer insight into the need of their school-community for a better understanding, both of themselves and of others. (No prerequisite)

11 lessons, 2 credits, \$12, texts \$6.50, Mudgett

**94. Adult Education.** A survey of the field of adult education. Provides an overview of history, purposes, and trends; agencies and areas; clientele and personnel, techniques, and materials. Intended for persons who are now or expect to be employed in the field and for students of education who want their training to include a knowledge of the philosophy, organization, and operation of adult education. (May be substituted for Ed.C.I. 104 in undergraduate curriculums; no prerequisite)

16 lessons, 3 credits, \$18, Nolte (not offered 1956-58)

**129. Principles and Problems of Teaching Social Hygiene.** For school administrators, teachers, youth leaders, and social welfare workers. Includes the teaching of human reproduction, physical and emotional changes in adolescence, boy-girl relationships, choosing a mate, preparation for marriage, and relationships between family members. Deals with special problems of teaching which arise when matters pertaining to sex are involved, with methods of adapting the teaching to different grade levels, with ways of incorporating these studies into various courses in the curriculum and with the use of different kinds of visual aids. (May not be counted as a methods course for certification purposes; prerequisite: 6 credits in the College of Education)

16 lessons, 3 credits; \$18, no texts, Ferguson

## ENGINEERING

Robert Edward Summers, M.S. (Ch.E.), M.E., Dean of Admissions and Records and Professor of Mechanical Engineering

Miles S. Kersten, Ph.D., Professor of Civil Engineering

Forrest E. Miller, M.S. (M.E.), Professor of Mechanics and Materials

Orrin W. Potter, M.S., Professor of Drawing and Descriptive Geometry

Edward S. Loye, Ph.D., Associate Professor of Mathematics

Theodore W. Thomas, M.S. (C.E.), Associate Professor of Civil Engineering

James K. Threlkeld, Ph.D., Associate Professor of Mechanical Engineering

Paul A. Cartwright, M.S., Assistant Professor of Electrical Engineering

Immanuel C. Fischer, M.S., Assistant Professor of Engineering  
 James L. Lundy, M.S., Assistant Professor of Mechanical Engineering  
 Thomas F. Irvine, M.S., Instructor in Mechanical Engineering  
 Ellis Peilen, B.S. (Aero.E.), Instructor in Engineering (Correspondence Study)

The Institute of Technology consists of the College of Engineering, the School of Architecture, the School of Chemistry, the School of Mines and Metallurgy, and the School of Physics. See page 11 for the amount of credit earned by correspondence courses for degrees in the Institute of Technology.

### Aeronautical Engineering (Aero.)

**1(c). Elementary Aeronautics.** Offers the basic principles of aviation in an elementary way. History of aviation; the airplane and its parts; principles of aerodynamics; theory of flight; airfoils, slots, and flaps, aerodynamics resistance; stability and control; aircraft engine operation; propellers; jet propulsion; flight maneuvers; aircraft construction; seaplanes and flying boats; military and commercial aircraft applications; radio; accessories; instruments. (No prerequisite is required although a knowledge of high school algebra will be helpful; may be substituted for Aero. 1; 3 credits in Institute of Technology)

16 lessons, 3 Extension credits only, \$18, texts \$6, Peilen

### Civil Engineering (C.E.)

**54(c). Soils Engineering.** Intended for engineers and students who wish to become familiar with the basic principles of soil behavior, the terminology, the tests, and applications to practical problems. Soil development and maps; laboratory tests, constants, and classification. Surveys, frost action, compaction, stabilization, and flexible pavement design. Stress distribution, consolidation, and shear strength. (Prerequisite: 1 year of college mathematics desirable; consult instructor)

16 lessons, 3 credits, \$18, texts \$6, Kersten

**146. Concrete and Concrete Materials.** Includes a study of the materials from which concrete is made, methods of designing a concrete mixture, the principles of air-entrained concrete, methods of measuring and controlling the air content, the chemical constitution of cement, properties of concrete, the practical aspects of proportioning, mixing, placing, and curing concrete and other special related topics. (Prerequisite: knowledge of elementary algebra, physics, and chemistry; if credit is desired, prerequisite is M.M. 128 or consent of instructor)

16 lessons, 3 credits, \$18, texts \$2, Thomas

### Drawing (Draw.)

**4. Engineering Drawing.** Orthographic projection, multi-view drawing, geometry, lettering, dimensioning, working drawings, and freehand sketching. (Prerequisite: Solid Geometry)

16 lessons, 3 credits, \$18, texts \$6, Potter

**6. Engineering Drawing.** Sections, auxiliary views, conventions, limit dimensioning, graphical mathematics, functional scales, nomography, and curve fitting. (Prerequisite: Draw. 4)

16 lessons, 3 credits, \$18, texts \$7.50, Potter

**44. Freehand Lettering.** Practice in freehand commercial Gothic lettering, as used by draftsmen and engineers and in offices, stores, hospitals, libraries, schools, etc. (No prerequisite)

6 lessons, 1 credit, \$6, texts \$1.50, Potter



### Electrical Engineering (E.E.)

**1(c). Elements of Electric Circuits.** Fundamental laws of direct-current circuits, the magnetic field and magnetic properties of iron and steel, induced and generated electromotive forces, electric fields, storage batteries. Fundamental laws of AC circuits, complex representation of AC quantities, series and parallel AC circuits, polyphase AC circuits, power measurements in AC circuits. (No prerequisite)

16 lessons, 3 Extension credits only, \$18, texts \$6.50, Cartwright

**2(c). Elements of Electronics.** Electronic emission, conduction through vacuums and gases; characteristics of vacuum tubes, of gas and vapor tubes, and of mercury pool tubes, amplifier circuits, trigger circuits, oscilloscopes, and control circuits; application of electronic devices to industry, electronic power devices. (Prerequisite: E.E. 1(c) or equivalent)

16 lessons, 3 Extension credits only, \$18, texts \$10, Cartwright

**3(c). Elements of Electric Machinery.** Theory of direct-current and alternating-current machinery. Study of operating characteristics. Elementary control equipment and maintenance. (Prerequisite: E.E. 1(c) or equivalent)

16 lessons, 3 Extension credits only, \$18, texts \$5.50, Cartwright

**Basic Mathematics and Practical Electricity for Electrical Workers.** This sequence is being established for a group of employees of a large electric power utility. A great deal of the material covered is very basic in nature although later courses are directed toward individuals doing electrical maintenance and construction work for power utilities. The work is divided into 6 separate courses, each course consisting of 12 lessons (plus an examination if credit is desired).

I Basic Mathematics (Algebra). 12 lessons, 2 Extension credits, \$12, texts \$5, Cartwright

II Basic Mathematics (Trigonometry). 12 lessons, 2 Extension credits, \$12, texts \$5, Cartwright

III DC Circuits and Fundamentals of Electricity. 12 lessons, 2 Extension credits, \$12, texts \$5, Cartwright

IV DC Equipment and Introduction to AC Circuits. 12 lessons, 2 Extension credits, \$12, texts \$5, Cartwright

\*\*V Alternating Current Circuits. 12 lessons, 2 Extension credits, \$12, Cartwright

\*\*VI AC Equipment and Power Systems. 12 lessons, 2 Extension credits, \$12, Cartwright

### General Engineering (G.E.)

**70. Slide Rule.** Practical course for engineers and office workers. Position of decimal point in computation stressed. (No prerequisite)

6 lessons, 1 credit, \$6, texts \$5.50, Potter

### Mathematics (I.T.M.)

(For additional credit courses in mathematics, see page 47.)

**1(c). Basic Mathematics Review I.** A thorough review of grade school arithmetic; square and cube root. A good foundation in elementary algebra; the fundamental operations involving positive and negative numbers; fractions; the solution of simple equations and fractional equations; exponents; symbols of

\*\* Starred courses will be developed if demand warrants.

grouping; special products and factoring; and simplification of fractional expressions. (No prerequisite)

16 lessons, 3 Extension credits only, \$18, texts \$3, Fischer

- 3(c). Basic Mathematics Review II.** Covers the material of the second semester of high school algebra and the numerical part (called mensuration) of plane and solid geometry, plus numerical trigonometry and logarithms. *In algebra:* simultaneous linear equations; exponents and radicals; solution of quadratic equations, irrational equations; ratio, proportion, variation; graphical representation of statistical data and of equations; and the use of formulas. *In geometry:* formulas from plane and solid geometry and how to apply them. *In trigonometry:* logarithms and how to use them; the trigonometric functions; and solution of right and oblique triangles. (Prerequisite: equivalent of I.T.M. 1(c))

16 lessons, 3 Extension credits only, \$18, texts \$3, Fischer

- 9. Higher Algebra.** Review of elementary algebra, linear equations, factoring, fractions, simultaneous linear equations, exponents, radicals, graphical methods, quadratic equations, systems of quadratics, ratio and variation, binomial theorem, logarithms, progressions. (Prerequisite: 1 year of elementary algebra in high school or equivalent)

20 lessons, ½ entrance unit, \$19.50, texts \$4, Loye

- 10. Solid Geometry.** Standard theorems and exercises. Practice in special proofs and original exercises to develop imagination and initiative. (Prerequisite: Plane Geometry A-B or 1 year of high school plane geometry)

20 lessons, ½ entrance unit, \$19.50, texts \$3, Fischer

**Note**—Courses 9 and 10 meet the entrance requirements in mathematics of the Institute of Technology.

- 11. College Algebra and Trigonometry I.** Review of elementary algebra, factoring, fractions, functions and graphs, linear equations, exponents and radicals, quadratic equations, inequalities, systems of quadratic equations, proportion and variation, mathematical induction, binomial theorem, trigonometric functions, right triangles, oblique triangles, radian measure, slide rule. (Prerequisite: I.T.M. 9 or equivalent)

27 lessons, 5 credits, \$30, texts \$5, Loye

- 12. College Algebra and Trigonometry II.** Progressions, logarithms. Trigonometric formulas and identities, trigonometric curves, inverse trigonometric functions, trigonometric equations, complex numbers. Theory of equations, partial fractions, hyperbolic functions. (Prerequisite: I.T.M. 11 or equivalent)

27 lessons, 5 credits, \$30, texts \$5, Loye

- 11a. College Algebra.** Review of fundamentals, linear equations, exponents and radicals, quadratic equations, simultaneous quadratic equations, inequalities, proportion and variation, logarithms, mathematical induction, binomial theorem, progressions, complex numbers, theory of equations, partial fractions, determinants, infinite series. (Prerequisite: I.T.M. 9 or equivalent)

27 lessons, 5 credits, \$30, texts \$4, Loye

- 12a. Trigonometry.** Computation by logarithms. Trigonometric functions, plane right triangles, reduction formulas, fundamental relations, addition formulas, double angles, half angles, identities and equations, inverse functions, oblique triangles, de Moivre's theorem, spherical right triangles. (Prerequisite: I.T.M. 11)

27 lessons, 5 credits, \$30, texts \$4.50, Fischer

**Note**—Courses 11a and 12a may be substituted as a group for courses 11 and 12 in the curriculums of the Institute of Technology, University of Minnesota.

- 13. Analytic Geometry—Plane and Solid.** Co-ordinate systems, locus and equation, straight line, circle, parabola, ellipse, and hyperbola. Transformation of co-ordinates and simplification of equations. Polar co-ordinates, higher plane curves, tangents, normals, empirical equations, and elementary solid analytic geometry. (Prerequisite: I.T.M. 11 and 12 or equivalent)  
27 lessons, 5 credits, \$30, texts \$4.50, Fischer
- 24. Differential Calculus.** Functions and limits, the derivative. Applications of the derivative to problems in rates, maxima and minima, inflections, curve tracing. Differentials, approximation with differentials, parametric equations, curvature, indeterminate forms, partial differentiation. (Prerequisite: I.T.M. 13 or equivalent)  
27 lessons, 5 credits, \$30, texts \$6.50, Fischer
- 25. Integral Calculus.** 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)  
27 lessons, 5 credits, \$30, texts \$6.50, Fischer
- 80. Elementary Differential Equations.** Equations of first order, singular solutions; linear equations with constant coefficients, simultaneous equations, integration in series. (Prerequisite: I.T.M. 25 or equivalent)  
16 lessons, 3 credits, \$18, texts \$6, Loye

### Mechanical Engineering (M.E.)

- 1(c). Steam Power Plants I.** For boiler operators. Fuels, combustion, furnaces, steam generators, pumps, pipes and fittings. Boiler room practices. Properties of steam; boiler-water conditioning. (Prerequisite: proficiency in arithmetic)  
16 lessons, 3 Extension credits only, \$18, texts \$12, Summers
- 2(c). Introduction to Heat Transfer.** Examination of the fundamentals of heat transfer by conduction, convection, and radiation, and their application to engineering analysis. (Prerequisites: basic physics and differential and integral calculus)  
16 lessons, 3 Extension credits only, \$18, texts \$4.50, Irvine
- 3(c). Selected Advanced Topics in Heat Transfer.** Mathematical investigations of selected advanced topics in conduction, convection, and radiation. Particular emphasis is placed on approximate solutions of the boundary layer momentum and energy equations and on modern developments in forced convection heat transfer. Temperature measurements and temperature measurement errors are discussed. (Prerequisite: M.E. 2(c) or equivalent, ordinary differential equations, or consent of instructor)  
12 lessons, 2 Extension credits only, \$12, texts \$6, Irvine
- 4(c). Air Conditioning.** Designed to present the fundamentals of air conditioning to those interested in designing, installing, selling, or recommending the modern type of appliances for heating, cooling, humidifying, or otherwise conditioning the air for residences and other buildings. Deals with the comfort conditions of the human body; the laws of temperature, pressure, humidity, etc.; calculation of heat transmission losses and heating loads; calculation of cooling loads including sensible heat load, effect of solar radiation, and latent heat load; humidification and dehumidification; air distribution and air motion; air duct design including pressure losses, friction losses, size of ducts, air velocities, and duct construction. Especial consideration has been

given to the basic principles and their application to practical problems. (Prerequisite: elementary algebra or consent of instructor)

16 lessons, 3 Extension credits only, \$18, texts \$7, Threlkeld

**6(c). Heating and Ventilating.** Arranged to present the fundamentals of heating and ventilating to those interested in designing, installing, selling, or recommending modern types of appliances for heating and ventilating residences and other types of buildings. Deals with calculation of heat transmission losses and heating loads; psychrometry and humidification; radiators and boilers; fuels, combustion, and chimney; hot water and steam heating systems; gravity and forced air heating systems; ventilation standards and the design of ventilating systems. (Prerequisite: elementary algebra or consent of instructor)

16 lessons, 3 Extension credits only, \$18, texts \$7.50, Threlkeld

**16(c). Refrigeration.** Arranged to meet the demands of operating and design engineers as well as those employed in the sales, installation, and servicing of refrigeration. A comprehensive study dealing with fundamental thermodynamics as applied to refrigeration; theoretical cycles of compression machines; refrigerants and their properties; principles of refrigeration; condensers, evaporators, and coolers; refrigerants; piping and fittings; automatic refrigerating machines; water vapor refrigerating systems; adsorption and absorption machines; refrigeration in air conditioning; heat transfer and methods of calculating refrigeration load. (Prerequisite: elementary algebra or consent of instructor)

16 lessons, 3 Extension credits only, \$18, text \$7, Threlkeld

**17(c). Industrial Plant Layout.** Designed to present the fundamentals of layout work to those interested in improving existing plant layouts or designing new layouts. The purpose of all such work is to find the best possible way to produce industrial products. Some of the problems covered are: plant location; building design and construction; material handling methods and equipment; safety considerations; service facilities; selection and purchase of equipment; tools of layout work; practical plant problem. The first section deals with the theory involved and the last section gives the student an idea of the many problems encountered by means of a complete plant layout problem. (No prerequisite)

27 lessons, 5 Extension credits only, \$30, texts \$12.50, Lundy

**18(c). Motion and Time Study Engineering.** One of the most necessary and most used branches of industrial engineering, this work is absolutely essential for efficient plant operation and accurate wage determination. Beginning with the skeletal structure of the subject, which gives the student a firm grasp of the logical development of the subject matter, all phases are explained, first in terms of present practice, and then in terms of the most recently developed techniques. Some of the topics covered are: the importance of motion and time study; the skeletal structure of methods analysis; process analysis; operation analysis; micromotion study; motion study problems; the skeletal structure of time study; breakdown of job into elements; determination of time consumed; job rating; personal, fatigue, and delay allowances; new techniques in the field; timing techniques for typical industrial operations; time study problems. (No prerequisite)

27 lessons, 5 Extension credits only, \$30, texts \$6, Lundy

### Mechanics and Materials (M.M.)

**26. Engineering Statics.** Characteristics of a force, parallelogram law, moments, couples, resultant of a force system, equilibrium of a force system, friction, centroids, moments of inertia, catenary. (Prerequisite: integral calculus)

27 lessons, 5 credits, \$30, texts \$4.50, Fischer

- 127. Engineering Dynamics.** Force, mass acceleration, translation and rotation, gyroscope, governors, work, energy, power, conservation of energy, impulse, momentum, loss of kinetic energy, conservation of momentum, vibrations. For those who wish to apply the principles of dynamics and kinematics to engineering problems. (Prerequisite: M.M. 26)  
27 lessons, 5 credits, \$30, texts \$5.50, Fischer
- 128. Mechanics of Materials.** Mechanical and elastic properties of materials of construction, beams, shafts, columns, combined stresses, hollow cylinder rollers, plates, curved bars, springs, dynamic stresses, true stresses. (Prerequisite: integral calculus and M.M. 26)  
27 lessons, 5 credits, \$30, texts \$7, Miller

## ENGLISH

(For courses in humanities, see page 44.)

Robert R. Owens, Ph.D., Assistant Professor of English  
 Thomas G. Sturgeon, Ph.D., Assistant Professor of English  
 Helen A. Anderson, M.A., Instructor in English (Correspondence Study)  
 Ada Carson, M.A., Instructor in English (Correspondence Study)  
 Ralph Haug, Ph.D., Instructor in English (Correspondence Study)  
 Louise Klohn, M.A., Instructor in English (Correspondence Study)  
 John Lippert, B.S., Instructor in English (Correspondence Study)  
 Agnes Macdonald, M.A., Instructor in English (Correspondence Study)

### English (Engl.)

- 1(c). Freshman Literature I.** Intended for students who have had work in composition equivalent to that of Engl. A-B-C, but who have not had the training in the reading of imaginative literature included in that course. Carries credit for the work in literature of Engl. A. Includes the study of drama (Shakespeare's *Romeo and Juliet*), the short story (6 modern ones by Joyce, Mansfield, Hemingway, etc.), poetry (6 narrative poems), and the novel (*Conrad's Heart of Darkness*). (Prerequisite: Comp. 4-5-6)  
16 lessons, 3 credits, \$18, texts \$6.50, Anderson
- 4(c). Masterpieces of World Literature.** For those who want to learn to read well, to raise the standard of their reading, and to acquaint themselves with the classics which everyone should know. The books on the reading list have been selected from the world's great stories and are treated in a way to help the reader discuss intelligently with others the problems of today. Of interest to prospective college students, club women, book reviewers, writers, teachers, and other professional people, as well as to homemakers and those in the business world who realize the opportunities that a command of reading and intelligent conversation has to offer. (No prerequisite; cannot be used for credit toward teachers' certificates; see page 5)  
12 lessons, 2 Extension credits only, \$12, texts \$20 (or available at most libraries), Klohn
- 21.\*\* Introduction to Literature I.** An intensive study of the leading writers of poetry and prose and of their historical background. The entire course of three terms (21, 22, 23) begins with Marlowe and ends with Arnold. A knowledge of English history from Elizabeth to Victoria is required. The first term includes Marlowe, Spenser, Bacon, Browne, Milton, Bunyan, and Shakespeare. (Prerequisite: Comp. 4-5-6)  
27 lessons, 5 credits, \$30, texts \$8,†† Anderson

\*\* Students may enter any course of 21, 22, 23. Two courses are required as a prerequisite for a major sequence; the second and third are required for a teacher's certificate.

†† Includes books which are available at most libraries.

- 22.\*\* Introduction to Literature II.** Continuation of 21. Addison and Steele, Swift, Pope, Fielding, Johnson, Boswell, Sheridan, Congreve, and Dryden. (Prerequisite: Comp. 4-5-6)  
27 lessons, 5 credits, \$30,†† texts \$7.50, Anderson
- 23.\*\* Introduction to Literature III.** Continuation of 22. Wordsworth, Coleridge, Lamb, Byron, Shelley, Keats, Carlyle, Tennyson, Browning, and Arnold. (Prerequisite: Comp. 4-5-6)  
27 lessons, 5 credits, \$30, texts \$6, Anderson
- 39. Twentieth-Century Literature III.** The novel since Thomas Hardy. Covers at least the following 3 English novels: Thomas Hardy's *Tess of the D'Urbervilles*, Joseph Conrad's *Lord Jim*, Arnold Bennett's *The Old Wives' Tale*; and the following 3 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)  
16 lessons, 3 credits, \$18, texts \$10,†† Anderson
- 52. English Novel I.** A study of the English novel from its 18th-century beginning with the work of Defoe, through its development by Richardson, Fielding, Smollett, and Sterne, to its early 19th-century refinement in the realism of Jane Austen and the romance of Sir Walter Scott. Emphasis will be placed upon the contributions of the successive works to the evolution of the novel as a literary form.  
16 lessons, 3 credits, \$18, texts \$7,†† Anderson
- 53. English Novel II.** A study of the novel during the age of Victoria, showing the progression from older forms and earlier taste toward the anticipation of the modern naturalistic and psychological novel at the end of the 19th century. Works of Thackeray, Dickens, the Brontë sisters, George Eliot, Trollope, Meredith, and Hardy will be read.  
16 lessons, 3 credits, \$18, texts \$16.50,†† Anderson
- 55. Shakespeare I.** The development of Shakespeare's dramatic art is traced chronologically from the earliest plays to one of the mature tragedies. The student becomes familiar with various types of Shakespeare's drama: comedy, tragedy, and history plays. (Prerequisite: Comp. 4-5-6 and 6 additional credits in English)  
16 lessons, 3 credits, \$18, texts \$7.50, Owens
- 56. Shakespeare II.** This course, which is a continuation of 55 in chronological order, is devoted to Shakespeare's later career from 1599 to 1611. It includes the famous late comedies, tragedies, and one of the problem plays. (Prerequisite: Engl. 55 or consent of instructor)  
16 lessons, 3 credits, \$18, texts \$6, Owens
- 73. American Literature I.** American literary development from the Colonial period through the American Renaissance. (Prerequisite: Comp. 4-5-6 and 6 additional credits in English)  
16 lessons, 3 credits, \$18, texts \$6, Carson
- 74. American Literature II.** Continuation of 73. American literary development from the Civil War to the present. (Prerequisite: Comp. 4-5-6 and 6 additional credits in English)  
16 lessons, 3 credits, \$18, texts \$6, Carson

\*\* Students may enter any course of 21, 22, 23. Two courses are required as a prerequisite for a major sequence; the second and third are required for a teacher's certificate.

†† Includes books which are available at most libraries.

**75. Chaucer.** Reading of selections from *The Canterbury Tales*. Emphasis will be on content and literary forms. Only such attention as is necessary to illuminate the text and to make the reading easy and enjoyable will be given to the life, times, and the language of Chaucer. (Prerequisite: Comp. 4-5-6 and 6 additional credits in English)

21 lessons, 4 credits, \$24, texts \$5, Sturgeon

### Composition (Comp.)

**Vocabulary Building.** See page 58.

**Preparatory English.** The simple fundamentals of correct English, intended to give additional drill to high school graduates who need further preparation for college English. (No prerequisite)

12 lessons, no credit, \$12, texts \$2 without and \$8 with dictionary, Klohn

**2(c). Basic Technical Writing I.** Review of basic English and introduction to technical writing. Designed for people in the technical industries. Includes sentence design, spelling, and punctuation. Covers basic techniques of definition, description, process, procedure, and analysis writing. Organization and correlation into text of tables, diagrams, and illustrations. Emphasis on accuracy, brevity, simplicity, and layout. (Required courses for General Engineering and Industrial Engineering Certificates; no prerequisite)

16 lessons, 3 Extension credits only, \$18, Lippert

**3(c). Basic Technical Writing II.** Continuation of 2(c). Covers both formal and informal writing on all levels. Includes various types of reports, specifications, material for manuals, supervisory materials, and basic letters required of technical men. Special projects if the students want them. (Required for General Engineering and Industrial Engineering Certificates; prerequisite: 2(c))

16 lessons, 3 Extension credits only, \$18, Lippert

**4. Composition IV.** Introduction to the college study of English composition: review of grammar; the writing, criticism, and revision of themes; study of models of contemporary English prose. Emphasis throughout on clarity and correctness, especially in the sentence. (No prerequisite; Comp. 4-5-6 fulfills the freshman requirement)

16 lessons, 3 credits, \$18, texts \$6.50 without dictionary, Haug

**5. Composition V.** Continuation of 4. The writing, criticism, and revision of themes; study and analysis of models of contemporary English prose; the preparation of research papers. Emphasis throughout on effectiveness (rather than mere correctness) in the sentence, and on coherence in the whole composition. (Prerequisite: Comp. 4)

16 lessons, 3 credits, \$18, texts \$6.50 without dictionary, Haug

**6. Composition VI.** Continuation of 5, including themes and reading; but the emphasis throughout is on diction, the history of the English language, and the use of the dictionary. (Prerequisite: Comp. 5)

16 lessons, 3 credits, \$18, texts \$6.50 without dictionary, Haug

**27. Advanced Writing I—Exposition.** Study and writing of essays with emphasis on structure and organization. The student is free to choose his own essay subjects. Intended to aid the student in working out individual problems. (Prerequisite: Engl. A-B-C or Comp. 4-5-6 or exemption from requirement)

16 lessons, 3 credits, \$18, texts \$7.50 without dictionary, Haug

- 28. Advanced Writing II—Narration and Description.** Study of principles of description and narration with analysis of specimens and exercises in writing. (Prerequisite: Comp. 27)  
16 lessons, 3 credits, \$18, texts \$8 without dictionary, Haug
- 69. Short Story Writing I.** A basic study of short story technique, with emphasis on the student's completion of several original stories. Manuscripts will be carefully read, and suggestions for improvement will be offered. The textbook is the work of a successful author, and the stories studied illustrate a variety of writing methods. (Prerequisite: Comp. 4-5-6 and Comp. 27-28)  
16 lessons, 3 credits, \$18, texts \$5, Macdonald
- 70. Short Story Writing II.** The student should here reap the benefits of what he has learned in Comp. 69. He will write 4 stories, in all approximately 10,000 words, and these stories will be carefully read and criticized. He will read a number of useful stories and consider such things as style, tone, pace, suggestion, and symbols. (Prerequisite: Comp. 69)  
16 lessons, 3 credits, \$18, texts \$5, Macdonald
- 80(c). Independent Writing.** Specifically designed for advanced students. The student is given complete freedom; but assignments will be made and lesson material supplied from time to time. The instructor will criticize any writing which the student submits.  
16 installments of a total of approximately 8,000 words. 3 Extension credits only, \$18, no texts, Anderson

## FRENCH (Fr.)

John W. Pulleyn, M.A., Instructor in Romance Languages

A French pronunciation record (78 revolutions per minute) prepared by the Romance Languages Department and the Correspondence Study Department may be purchased for \$4. Not required but recommended.

- 1. Beginning French I.** Essentials of the French language; grammar, reading, pronunciation, easy composition. (No prerequisite)  
27 lessons, 5 credits, \$30, texts \$4.50, Pulleyn
- 2. Beginning French II.** Continuation of 1. (Prerequisite: Fr. 1, or 1 year of high school French)  
27 lessons, 5 credits, \$30, texts \$4.50, Pulleyn
- 3. Intermediate French I.** Review of grammar; composition; reading of representative authors. (Prerequisite: Fr. 2, or 2 years of high school French)  
27 lessons, 5 credits, \$30, texts \$8, Pulleyn
- 4. Intermediate French II.** Continuation of 3. (Prerequisite: Fr. 3, or 3 years of high school French)  
27 lessons, 5 credits, \$30, texts \$8, Pulleyn
- 53. Elementary French Composition.** Translations of passages of connected prose dealing with everyday life in France. (Prerequisite: Fr. 4)  
16 lessons, 3 credits, \$18, texts \$2.50, Pulleyn
- 63. Advanced French Composition.** Continuation of 53. Affords practical exercises in prose composition. (Prerequisite: Fr. 53 or equivalent)  
16 lessons, 3 credits, \$18, texts \$2, Pulleyn



## GEOGRAPHY (Geog.)

Fred E. Lukermann, M.A., Instructor in Geography  
Dean Phelps, M.A., Instructor, General College

**7(c). Geography of Minnesota.** A geographical study of the physical and human resource base of this state with reference to the physical resources, the population, and the resultant patterns of distribution. (No prerequisite)

21 lessons, 4 credits, \$24, texts \$5, Phelps (registrations accepted December 1, 1956)

**41. Geography of Commercial Production.** An introductory course in economic geography with special emphasis on commodities of commercial significance. Particular attention is given to the world patterns of raw material occurrence and production, as well as to the associated centers of industrial fabrication. (No prerequisite)

27 lessons, 5 credits, \$30, texts \$16.50, Lukermann

## GEOLOGY (Geol.)

Robert E. Sloan, Ph.D., Assistant Professor of Geology

**2. Historical Geology.** An introductory treatment of the geological history of the earth. The changing physical conditions and the record of life during geologic times, with emphasis on the North American continent. (Prerequisite: Geol. 1 or 8)

16 lessons, 3 credits, \$18, texts \$6.50, Sloan

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

27 lessons, 5 credits, \$30, texts \$10, Sloan

## GERMAN (Ger.)

Herman Ramras, Ph.D., Associate Professor of German  
Edwin F. Menze, Ph.D., Assistant Professor of German

A German pronunciation record (33 $\frac{1}{3}$  revolutions per minute) prepared by the German Department is available for about \$8. Each side will give about 13 minutes of basic German. A tape recording of the same material is available for approximately \$4.50. The recording is not required but strongly recommended. Order from the Correspondence Study Department.

**1. Beginning German I.** Grammar and easy composition. Aims to give the student a knowledge of the elements of German grammar, the facility to read easy German, and to write simple German sentences. (No prerequisite)

27 lessons, 5 credits, \$30, texts \$4, Ramras

**2. Beginning German II.** Continuation of 1. (Prerequisite: Ger. 1, or 1 year of high school German)

27 lessons, 5 credits, \$30, texts \$4, Ramras

**3. Beginning German III.** Grammar and composition continued; selected readings in easy prose and verse. (Prerequisite: Ger. 2, or 2 years of high school German)

27 lessons, 5 credits, \$30, texts \$4, Menze

- 4. Intermediate German.** Selections from modern narrative and descriptive prose. Assigned outside readings and reports. (Prerequisites: Ger. 1, 2, and 3 or equivalent)  
27 lessons, 5 credits, \$30, texts \$5.50, Menze
- 24. Introduction to Chemical German.** Selections of simple chemical German prose. Vocabulary and grammatical exercises. (No prerequisite)  
16 lessons, 3 credits, \$18, texts \$2, Menze
- 25-26. Chemical German.** Reading of works on chemistry. Vocabulary exercises. (Prerequisite: Ger. 24, 1, or 1 year of high school German)  
Course 25—16 lessons, 3 credits, \$18, texts \$3.50, Menze  
Course 26—16 lessons, 3 credits, \$18, texts \$4, Menze
- 33. Medical German.** Intended primarily for medical students. Articles on anatomy, biology, embryology, comparative anatomy, surgery, and other fields of medicine. (Prerequisite: Ger. 3 or equivalent)  
27 lessons, 5 credits, \$30, texts \$4, Menze
- 57. Elementary Composition I.** A review of the fundamentals of German grammar with particular attention to the idioms and characteristics of conversational and written German. (Prerequisite: Ger. 4)  
11 lessons, 2 credits, \$12, texts \$3.50, Menze
- 58. Elementary Composition II.** Translation and grammar review. (Prerequisite: Ger. 50)  
11 lessons, 2 credits, \$12, texts \$3.50, Menze
- 59. Elementary Composition III.** Translation and writing of an original dialogue. (Prerequisite: Ger. 51)  
11 lessons, 2 credits, \$12, texts \$5, Menze
- 63. Drama I.** Study of the 19th-century drama in Germany. Selected plays of Hebbel, Hauptmann, or Sudermann, with assigned readings and reports. (Open to those who have completed Ger. 1, 2, 3, and 4)  
24 lessons, 4½ credits, \$27, texts \$2.50, Ramras
- 64. Drama II.** Study of the German drama of the 18th century and through the classic period. Selected plays of Lessing, Goethe, or Schiller, with assigned readings. (Open to those who have completed Ger. 1, 2, 3, and 4)  
24 lessons, 4½ credits, \$27, texts \$7, Ramras

### GREEK (Grk.)

William A. McDonald, Ph.D., Associate Professor of Classics

- 1. Beginning Greek I.** Successful completion of courses 1 and 2 should provide the familiarity with the language necessary to launch out (with a dictionary and a modicum of courage) on the reading of ancient Greek authors of moderate difficulty. From the very start, short but authentic selections from the famous writers are read. A student should have no difficulty (other than new vocabulary) in reading the New Testament after course 2.  
27 lessons, 5 credits, \$30, texts \$4, McDonald
- 2. Beginning Greek II.** (See Grk. 1)  
27 lessons, 5 credits, \$30, texts \$4, McDonald

## HEALTH (Pub.H.)

Phillip D. Kernan, M.D., Assistant Professor of Public Health

- 3. Personal Health.** Elementary principles of normal body function; predisposing and actual causes of disease; ways in which disease may be avoided. (No prerequisite; not open to students who have taken 10C [Human Biology] in General College)  
12 lessons, 2 credits, \$12, texts \$10, Kernan
- 50. Public and Personal Health.** Causes of diseases and of physical defects; fundamental principles and working methods of health conservation and disease prevention. (No prerequisite; not open to students who have taken 3, 4 or 10C in General College)  
16 lessons, 3 credits, \$18, texts \$10, Kernan

## HISTORY (Hist.)

Tom B. Jones, Ph.D., Professor of History

Donald F. Warner, Ph.D., Associate Professor of History, Wisconsin State College (Eau Claire)

Cyril Allen, Ph.D., Assistant Professor, Mankato State Teachers College

Earl Spangler, M.A., Assistant Professor of History, Macalester College

Mary White, B.S., Instructor in History (Correspondence Study)

George A. Olkhovsky, B.A., Teaching Assistant in History

- 1. Civilization in the Modern World I.** A survey of European history from 1500 to 1763. The emphasis is upon the rise of the state. (No prerequisite)  
16 lessons, 3 credits, \$18, texts \$12, White
- 2. Civilization in the Modern World II.** A survey of European history from 1763 to 1870. Emphasis is placed upon the struggle for control of the state. (No prerequisite)  
16 lessons, 3 credits, \$18, texts \$19, White
- 3. Civilization in the Modern World III.** A survey of European history from 1870 to the present. Emphasis is placed upon impact of industrialism in 19th-century civilization and the development of the problems that have upset world civilization in the 20th century. (No prerequisite)  
16 lessons, 3 credits, \$18, texts \$12, White
- 4. English History.** Conquest and settlement, the feudal age, foreshadowings of limited monarchy and popular government. (No prerequisite)  
16 lessons, 3 credits, \$18, texts \$9.50, White
- 5. English History.** Tudors and Stuarts, parliament versus king, colonization. (No prerequisite)  
16 lessons, 3 credits, \$18, texts \$9.50, White
- 6. English History.** The coming of democracy, Britain and Europe, Empire and Commonwealth. (No prerequisite)  
16 lessons, 3 credits, \$18, texts \$9.50, White
- 7(c). Survey of Minnesota History.** The history of Minnesota from the explorers to the present with emphasis on the social, cultural, and economic, as well as the political history of the state. The state's racial composition and contributions, the rise of industries, the evolution of transportation and of farming, and changes in social and political attitudes are among the topics studied.

Access to Folwell's *History of Minnesota* and the magazine *Minnesota History* will be required. (No prerequisite; not open to those who have completed Hist. 79)

21 lessons, 4 credits, \$24, texts \$3.50, instructor arranged

- 8(c). The Foundations of Modern Civilization.** An insight into the development of human institutions and practices which comprise what is called modern civilization. A study of primitive man, civilizations of the Ancient Near East, Greece, and Rome; the decline of Rome and, with it, ancient civilization in the West; the development of modern civilization which may be said to have been launched by A.D. 1500. Throughout, emphasis is placed on culture traits, such as religion, art, literature, science, economics, political institutions, and whatever else made up a civilization at a given time. (No prerequisite; not open for credit to those who have completed Hist. 1, 2, 3)

21 lessons, 4 credits, \$24, texts \$12, White

- 14. History of Ancient Civilization I.** 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)

16 lessons, 3 credits, \$18, texts \$8.50, Jones

- 14a. Basic Readings in Ancient Civilization I.** An introduction to the literature of the Ancient Near East and its relation to the Old Testament. The reading will include translations of Babylonian and Egyptian epics, religious texts, folk tales, and public records, Assyrian, Hittite, and North Syrian literature as well as the Greek epics. (Prerequisite: Hist. 14 or concurrent registration)

12 lessons, 2 credits, \$12, texts \$3.50, Jones

- 15. History of Ancient Civilization II.** The history of the rise and flowering of 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; Hist. 14 helpful in providing a background for the Greek period)

16 lessons, 3 credits, \$18, texts \$11, Jones

- 15a. Basic Readings in Ancient Civilization II.** An introduction to the major authors of the classical Greek period. Selections from the poets, the dramatists, Herodotus, Thucydides, Xenophon, the orators, Plato and Aristotle. (Prerequisite: Hist. 15 or concurrent registration)

12 lessons, 2 credits, \$12, texts \$11.50, Jones

- 16. History of Ancient Civilization III.** 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 A.D. 300). 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; suggested that Hist. 16 be preceded by Hist. 14 and 15 in order that the student may acquire a background for the history of the Roman period)

16 lessons, 3 credits, \$18, texts \$14.50, Jones

- 16a. Basic Readings in Ancient Civilization III.** An introduction to the literature of the Hellenistic and Roman periods. Selections from poetry, drama, history,

biography, science, philosophy, oratory, and letters. The New Testament and early Christian writings will be considered in their relation to pagan literature. (Prerequisite: Hist. 16 or concurrent registration)

12 lessons, 2 credits, \$12, texts \$9.50, Jones

- 20. American History I.** Covers the period from 1492 to the setting up of the national government in 1790, and includes the background of the Revolution, the war itself, and the formation of the national government, the growth of parties, and the conflicts over foreign policies, the development of democracy, and of nationalism. (No prerequisite)

16 lessons, 3 credits, \$18, texts \$6, Spangler

- 21. American History II.** Covers the period 1790-1877. A survey of the United States from the setting up of the national government to the end of the Reconstruction, following the Civil War. Special emphasis upon the westward movement, the new democracy, the tariff and public land questions, sectionalism and slavery conflicts, and the background of the Civil War. Careful study of the social and economic changes of the period. (No prerequisite)

16 lessons, 3 credits, \$18, texts \$6, Spangler

- 22. American History III.** 1877 to present. A survey of American history from the close of the Civil War to the entry of the United States into the Korean conflict. Special emphasis is laid on the economic changes of the period and their reaction upon politics. (No prerequisite)

16 lessons, 3 credits, \$18, texts \$6, Spangler

- 73(c)-74(c)-75(c). Survey of Latin-American History.** A survey of the historical evolution of the Latin-American countries from 1492 to the present time. The course is divided into three sections: 73(c): Spanish and Portuguese exploration and settlement in the New World. 74(c): The Wars for Independence and the 19th-century development of Latin America. 75(c): The 20th century. (No prerequisite; may be taken for credit in two ways: the whole sequence, 73(c)-74(c)-75(c), may be completed for 9 credits, or 75(c) may be taken separately for 3 credits)

16 lessons, 3 credits each section, \$18 each, texts \$10.50, \$5, \$5, Allen

- 93. American Diplomatic History I.** (1776-1846) Traces the early history of our foreign policy. Three principal aspects are treated: the origins and basic principles of American foreign policy; the fight for survival and recognition after the Revolution; and the drive for continental expansion. (Prerequisite: Hist. 20 or equivalent)

16 lessons, 3 credits, \$18, texts \$12, Warner

- 95. American Diplomatic History III.** A survey of the history of American foreign policy since 1909. The principal emphasis is placed upon the causes and consequences of our entry into the two world wars and our shift from isolationism to world leadership in foreign affairs.

16 lessons, 3 credits, \$18, texts \$12, Warner

- 97. History of Minnesota.** Minnesota's history since the coming of the French, with primary emphasis on the years following statehood. The development of the state's principal industries, the growth of its cities, its racial composition, and its changes in social and political attitudes. Access to Folwell's *History of Minnesota* and the magazine *Minnesota History* will be required.

16 lessons, 3 credits, \$18, texts \$3.50, instructor arranged

- 100. History of the Ancient Near East I.** The first civilizations in the Ancient Near East. Main topics: the sources of our knowledge about the past with special

attention to the role of archaeology; the beginnings of agriculture and the advent of civilization in the great river valleys; the Old Kingdom in Egypt and Sumerian period in Mesopotamia; the Egyptian Middle Kingdom; the Age of Hammurabi; characteristics of ancient Near Eastern civilization: literature, art and architecture, law, religion, economics, society, and technology. (Prerequisite: 9 credits in history; open to juniors and seniors without prerequisite)

16 lessons, 3 credits, \$18, texts \$8.50, Jones

**101. History of the Ancient Near East II.** The Age of Empires: 1600-1000 B.C. Main topics: the New Kingdom (Empire) in Egypt; the Hittite Empire; developments in Syria and Palestine with special attention to the Canaanites, Philistines, and Hebrews; the spread of civilization to Asia Minor and Aegean lands.

16 lessons, 3 credits, \$18, texts \$3.50, Jones

**102. History of the Ancient Near East III.** A survey of developments in the period 1000-500 B.C. Main topics: Phoenicians; Hebrews; the Assyrian Empire; Assyrian civilization; the Age of Nebuchadnezzar; Saite period in Egypt; the Lydian kingdom; contacts between Greece and the Near East; the Persian Empire.

16 lessons, 3 credits, \$18, Jones (registrations accepted after January 1, 1957)

**100a. Greek History I.** The history of Greece and the Aegean area from earliest times to 500 B.C. The following topics will be considered: the archaeology of the prehistoric period with special emphasis upon Minoan and Mycenaean civilization and Troy; the rise of Greek culture (1000-750 B.C.); the rise of Sparta and Athens and the early development of Greek literature, art, and philosophy (700-500 B.C.). (Prerequisite: 9 credits in history; open to juniors and seniors without prerequisite)

16 lessons, 3 credits, \$18, texts \$6, Jones

**101a. Greek History II.** The classical period of Greek civilization (500-362 B.C.). Main topics to be considered: the Persian Wars, the wars between Athens and Sparta, the Spartan and Theban attempts to establish Greek empires; Greek society and economics; classical art, architecture, literature (with special attention to the drama), and philosophy. Readings in translated sources. (Prerequisite: Hist. 100a; open to juniors and seniors without prerequisite)

16 lessons, 3 credits, \$18, texts \$6, Jones

**102a. Greek History III.** History of the Hellenistic phase of Greek civilization (362-146 B.C.). Greek history from the rise of Macedonia and Alexander the Great to the Roman conquest. Special emphasis upon art, architecture, literature, philosophy, and science. (Prerequisite: Hist. 101a; open to juniors and seniors without prerequisite)

16 lessons, 3 credits, \$18, texts \$6, Jones

**100b. Roman History I.** Rome and Italy from the earliest times to 133 B.C. Survey of Italian prehistory, the Roman monarchy, the establishment of the Roman Republic, and Roman expansion in the Mediterranean area to 133 B.C. Archaeological studies, the evolution of the Roman government, as well as economic and cultural developments, will be stressed. (Prerequisite: 9 credits in history; open to juniors and seniors without prerequisite)

16 lessons, 3 credits, \$18, texts \$6, Jones

**101b. Roman History II.** The fall of the Roman Republic and the rise of the Empire (133 B.C. to A.D. 68). Political, economic, and social factors. Attention to literature and general culture. Reading in the sources (in translation) will

form part of the work. (Prerequisite: Hist. 100b; open to juniors and seniors without prerequisite)

16 lessons, 3 credits, \$18, texts \$6, Jones

**102b. Roman History III.** The flowering and decline of the Roman Empire (A.D. 68 to 305). The history of Roman civilization from Vespasian to the abdication of Diocletian. (Prerequisite: Hist. 101b; open to juniors and seniors without prerequisite)

16 lessons, 3 credits, \$18, texts \$6, Jones

**125. Russian History I.** A survey of Russian history to the time of Peter the Great, including the origins of the Russian state, Kievan Russia, and the rise of Muscovy. (Prerequisite: Hist. 1, 2, and 3 or equivalent)

16 lessons, 3 credits, \$18, texts \$8, Olkhovsky

**126. Russian History II.** Covers the period from Peter the Great through the Crimean War and includes the study of the Europeanization of Russia and the crystallization of the Empire. (Prerequisite: Hist. 1, 2, and 3 or equivalent)

16 lessons, 3 credits, \$18, texts \$8, Olkhovsky

**127. Russian History III.** A survey of the last years of the Russian Empire, the background of the revolution, and the establishment and history of the Soviet government. (Prerequisite: Hist. 1, 2, and 3 or equivalent)

16 lessons, 3 credits, \$18, texts \$8, Olkhovsky

## HOME ECONOMICS (H.E.)

(See page 20.)

## HORTICULTURE (Hort.)

Robert A. Phillips, M.S., Assistant Professor of Horticulture

**24. Home Landscape Planning.** Planning the home grounds for greater use and enjoyment, with an introduction to the principles of landscape design, their application and importance in the use and decoration of the home grounds. Uses an artistic approach to the problems and prospects of home landscaping which will also serve as a background for the pursuit of the popular hobby of gardening. There will be an independent student project of planning either a hypothetical home plot or the home place of the student. In this project the student will be guided by the instructor. A practical program of study for nurserymen, teachers, homeowners, and others interested in home landscaping. (No prerequisite)

16 lessons, 3 credits, \$18, texts \$5.50, Phillips

**51. Garden Flowers and Home Gardening.** A broad general study of the principles and practices of gardening especially prepared for beginners, but also valuable for the advanced or experienced gardener. There will be textbook assignments and practical home projects in propagating plants for the garden. Some of the topics covered will be planting, transplanting, seeds, soils, fertilizers, preparing beds and planting areas, selecting a good garden site, controlling insects and diseases, weeding, watering, cultivating, pruning, tools, and equipment. Lists of recommended varieties of annuals, perennials, bulbs, and roses for northern gardens will be supplied. Similar lists for other areas of the country can be secured from state agricultural colleges and experiment stations and from the U.S. Department of Agriculture. (No prerequisite)

16 lessons, 3 credits, \$18, texts \$1.50, Phillips

## HUMANITIES (Hum.)

Daniel V. Bryan, Ph.D., Assistant Professor of General Studies  
 Philip Siegelman, M.A., Instructor in General Studies  
 Phyliss Berdt, B.A., Teaching Assistant in General Studies (on leave 1956-57)  
 David Brown, M.A., Teaching Assistant in General Studies

1. **Humanities in the Modern World I.** The old regime, the revolution and Napoleon. Period: from about 1770 to about 1830. Authors: Voltaire, Rousseau, Burke, Paine, Goethe, and the poets. One historical novel, Tolstoy's *War and Peace*. (No prerequisite)  
 16 lessons, 3 credits, \$18, texts \$10, Siegelman
2. **Humanities in the Modern World II.** The industrial revolution; liberalism and socialism; the psychology of the individual. Period: from about 1776 to 1890. Authors: Carlyle, Mill, Marx, Smith, Malthus, Ibsen, Flaubert, Dostoyevsky, and the poets. (No prerequisite)  
 16 lessons, 3 credits, \$18, Bryan (registrations accepted July 1, 1957)
3. **Humanities in the Modern World III.** The impact of science and evolution on philosophy, religion, and the prevailing values of western Europe from about the middle of the 19th century to the opening of World War I. Essays by the influential scientists and philosophers of the latter half of the 19th and early 20th centuries. Authors include Darwin, Bagehot, T. H. Huxley, Newman, Bergson, Haeckel, Wallace, Kierkegaard, Nietzsche, Chekhov, Joyce, and Mann. (No prerequisite)  
 16 lessons, 3 credits, \$18, Siegelman (registrations accepted January 1, 1957)
4. **Humanities in the Modern World IV.** Civilization between two wars; the impact of psychoanalysis; a critique of communism; a prediction of the future. Period: from World War I to the present. Authors: Huxley, Bellamy, Freud, O'Neill, Lenin, Malraux, Koestler. (No prerequisite)  
 16 lessons, 3 credits, \$18, texts \$9.50, Berdt, Brown

## INDUSTRIAL RELATIONS (I.R.)

(See Industrial Relations Certificate Requirements, page 14.)

(See courses in Business Administration and Economics, pages 20, 24.)

Thomas Mahoney, Ph.D., Assistant Professor of Economics and Industrial Relations

- 1(c). **Supervision I.** A study of the basic principles of foremanship. Survey of the problems of industrial relations and personnel management met with in day-to-day supervision with emphasis upon human relations. Practical aspects of these problems are emphasized. Included is a coverage of selection, induction, and training of employees, status of supervisors, merit rating, giving orders, and labor legislation affecting the supervisor's job. (No prerequisite)  
 16 lessons, 3 Extension credits only, \$18, texts \$8.95, Mahoney
- 2(c). **Supervision II.** Covers advanced techniques based on principles of supervision discussed in 1(c). Morale measurement, job analysis, employee selection and training, principles of work organization and employee communications are discussed. (Prerequisite: I.R. 1(c))  
 16 lessons, 3 Extension credits only, \$18, texts \$5, Mahoney



## INTERIOR DECORATION

(See Art, page 19.)

## ITALIAN (Ital.)

Emmert M. Brackney, Ph.D., Associate Professor of Romance Languages

- 1. Beginning Italian I.** Elements of pronunciation, grammar, and suitable readings. Emphasis upon accurate translation and composition. (No prerequisite)  
27 lessons, 5 credits, \$30, texts \$4.40, Brackney

## JOURNALISM (Jour.)

Mitchell V. Charnley, Ph.D., Professor of Journalism  
W. Edwin Emery, Jr., Ph.D., Professor of Journalism  
George S. Hage, M.A., Instructor in Journalism  
Roger C. Perry, M.A., Instructor in Journalism  
Edmund G. Blinn, M.S., Teaching Assistant in Journalism

- 13. Introduction to Reporting.** Study of the newspaper audience; structure and writing of the news story; study of news values; exercises in journalistic style; analysis of newspapers; news gathering and reportorial methods. Numerous writing assignments. (Prerequisite: Comp. 4-5-6 or consent of instructor)  
16 lessons, 3 credits, \$18, texts \$4.50, Blinn
- 14. Newspaper Reporting I.** Continued study of the news gathering and of writing the "straight" news story; the human interest or feature story; analysis of newspapers; special types of reporting; advanced interviewing. Numerous writing assignments. (Prerequisite: Jour. 13)  
16 lessons, 3 credits, \$18, texts \$4.50, Blinn
- 15. Newspaper Reporting II.** Study of newspaper law, including libel, rights of the press, study of "privilege," and other legal regulations affecting the press; advanced reporting; the interpretative story; the newspaper feature story. Numerous writing assignments. (Prerequisite: Jour. 14)  
16 lessons, 3 credits, \$18, texts \$3.25, Blinn
- 68. Problems of Radio and Television Writing.** Introduces the student to the lines of experience in both major fields of broadcasting. More emphasis is placed on radio than on television since radio is good foundation for learning television. Starts with the simplest kind of radio writing and progresses by logical steps to more complex work. Numerous writing assignments are made, and optional exercises are provided for additional experience. (Prerequisite: Comp. 4-5-6 or consent of instructor)  
16 lessons, 3 credits, \$18, texts \$6.50, Charnley
- 73. Newspaper and Magazine Articles I.** A study in the writing of factual and opinion articles, interviews and expository articles, both serious and feature, for newspapers and magazines. Main emphasis is laid on the journalistic type of article rather than the essay type. (Prerequisite: Jour. 15; not open to those who have completed Jour. 69)  
16 lessons, 3 credits, \$18, texts \$5, Hage
- 78. Public Relations.** Techniques of interpreting business and industrial organizations, educational and scientific institutions, social welfare groups, government agencies, and other organizations to the public through the press, radio,

trade papers, magazines, pamphlets, circulars, bulletins, direct mail, etc. An analysis of the methods of using each of the media. Policy determinants in public relations. (Prerequisite: Jour. 69 or 73 or consent of instructor)

16 lessons, 3 credits, \$18, texts \$4.50, Emery

- 86. Advertising Copy Writing.** Problems and techniques of writing copy for newspapers, magazines, direct mail, posters, brochures; radio and television. Study of relation of advertising appeals to the audience and medium. (Prerequisite: Jour. 41 or 51 or consent of instructor)

13 lessons, 3 credits, \$18, texts \$5.75, Perry

### LATIN (Lat.)

Margaret Forbes, M.A., Assistant Professor of Classics

The following courses represent a graded sequence completing Junior College requirements, or the equivalent of 4 years of high school Latin. The prerequisite for each course (except course 1) is the course immediately preceding, or equivalent credit. Students who have completed the first 3 courses or the equivalent, however, may register for Lat. 4, 5, or 6. Those who wish to increase aural-oral facility may want to supplement their course work by using drill-practice records or tapes. While these are not required for the courses outlined, students will find their individual study made easier, more interesting, and more satisfying if they are able to make use of these audio-aids. There are at least two private sources making recordings in Latin. Names and addresses will be sent on request. Write to the Correspondence Study Department or to the Classics Department, University of Minnesota.

1. **Beginning Latin I.** Basic grammar and vocabulary; practice in reading and writing Latin; workbook exercises; easy Latin readings and Roman legends. (No prerequisite)  
27 lessons, 5 credits, \$30, texts \$5.50, Forbes
2. **Beginning Latin II.** Continuation of 1. Similar in content and method, leading to connected reading in *Fabulae Faciles* (Easy Stories).  
27 lessons, 5 credits, \$30, texts \$7, Forbes
3. **Intermediate Latin Reading.** A review of the elements of 1 and 2, with a shift of emphasis to longer passages of continuous reading on Roman life. A considerable amount of historical and literary background is presented in English to orient the student to the material.  
27 lessons, 5 credits, \$30, texts \$3, Forbes
4. **Selections from Latin Prose and Poetry.** The student has an opportunity to read selections from the most famous public addresses of Cicero, and to gain, through the English descriptive passages, an understanding of their importance then and now. Through reading some of the *Tales of Ovid* in the original Latin verse, he may become better acquainted with mythology and its influence upon the literature of our time. Other poets and prose writers are included. These selections have been made from the standpoint of present-day interest.  
16 lessons, 3 credits, \$18, texts \$3.50, Forbes
5. **Vergil's Aeneid.** Readings of selections from Books I-II; background reading in Roman life and thought is included in the text.  
27 lessons, 5 credits, \$30, texts \$3, Forbes
6. **Cicero.** Readings from the most famous humanistic essays.  
16 lessons, 3 credits, \$18, texts \$1, Forbes

## LIBRARY SCIENCE (Lib.)

Joyce Davenport, M.A., Instructor in Library Science (Correspondence Study)

**52. Descriptive Cataloguing.** The forms and principles involved in making a dictionary card catalogue. Based primarily on Aker's *Simple Library Cataloging*. Directions for the use of printed cards prepared by the Wilson Company and the Library of Congress. (No prerequisite; recommended that 52 precede 54)

16 lessons, 3 credits, \$18, texts \$8.65, Davenport

**54. Elementary Classification and Subject Heading.** Based on the unabridged edition of the *Dewey Decimal Classification* and Sear's *List of Subject Headings for Small Libraries*. Aims to give an understanding of methods of classification and the principles of assigning subject headings to books in a library. Attention is given to modifications and adaptations useful in school or small public libraries. Includes use of Cutter-Sanborn author numbers and preparation of a shelf-list. (No prerequisite)

16 lessons, 3 credits, \$18, texts \$25.50, Davenport

## MATHEMATICS (Math.)

(For students who want credit in the College of  
Science, Literature, and the Arts)

Elizabeth Carlson, Ph.D., Associate Professor of Mathematics

Warren S. Loud, Ph.D., Associate Professor of Mathematics

John E. Hafstrom, Ph.D., Assistant Professor of Mathematics

Charles Hatfield, Ph.D., Assistant Professor of Mathematics

**Engineering Mathematics.** See page 29.

**High School Mathematics.** See page 60.

**1. Higher Algebra.** A review and a collegiate treatment of the topics of elementary algebra for those who have 1 year of elementary algebra. (Open for credit to any student offering 1 year of elementary algebra but not more than ½ year of high school higher algebra for entrance)

27 lessons, 5 credits, \$30, texts \$5, Carlson

**6.\*\* Trigonometry.** A beginning course of collegiate grade in plane trigonometry and logarithms. Solutions of triangles with applications to surveying and physics. Emphasis on properties of trigonometric functions, identities, and equations. (Prerequisite: plane geometry and either Math. 1 or high school higher algebra††; students offering high school trigonometry for entrance will receive college credit)

27 lessons, 5 credits, \$30, texts \$6, Hafstrom

**7. College Algebra.** Quadratic equations, simultaneous quadratic equations, progressions, mathematical induction, the binomial theorem, permutations, combinations, probability, determinants, the theory of equations, infinite series, and partial fractions. (Prerequisite: Math. 1 or high school higher algebra)

27 lessons, 5 credits, \$30, texts \$4, Loud

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\*\* No student may receive credit for both Math. 6 and 9(c).

†† A substantial high school course in advanced algebra for 1 semester is sufficient. However, some students with less than 1 year of advanced high school algebra may prefer to take Math. 1 before 6 or 8.

- 9(c).\*\* Logarithms.** Definition and fundamental properties of logarithms. Use of logarithms in computing. (Prerequisite: Math. 1 or high school higher algebra)  
6 lessons, 1 credit, \$6, texts \$4.50, Hatfield
- 20. Mathematics of Investment.** The mathematical theory of simple interest, simple discount, compound interest, and annuities certain. The applications deal with promissory notes, banking practice in the lending of money, the discharge of debts by periodic payments, depreciation funds, perpetuities, capitalization problems, and bonds. (Prerequisite: Math. 6 and 7, or 7 and 9(c), or 8, or 15 and 16)  
27 lessons, 5 credits, \$30, texts \$5.50, Hafstrom
- 30. Analytic Geometry.** The elements of plane analytic geometry including the geometry of the conic sections, with a brief introduction to solid analytic geometry. (Prerequisite: Math. 6 and 7, or 15 and 16)  
27 lessons, 5 credits, \$30, texts \$4, Carlson
- 50. Calculus I.** Differential calculus. Limits, continuity, differentiation, maxima and minima, applications to geometry and physics, differentials, law of the mean, indeterminate forms, convergence of series, series expansion and partial differentiation. (Prerequisite: Math. 30)  
27 lessons, 5 credits, \$30, texts \$5.50, Loud
- 51. Calculus II.** Integral calculus. Indefinite integrals, definite integrals, convergence of improper integrals, the definite integral as the limit of a sum, multiple integrals and applications to geometry and mechanics. (Prerequisite: Math. 50)  
27 lessons, 5 credits, \$30, texts \$5.50, Loud
- 62. Theory of Equations I.** Complex numbers, solution of algebraic equations, properties of polynomials, isolation of the real zeros of a real polynomial, determinants and linear equations. (Prerequisite: Math. 50)  
16 lessons, 3 credits, \$18, texts \$6, Carlson
- 106. Differential Equations.** A problem course in the solution of ordinary differential equations, with the basic theory necessary for the development of the methods to be used. (Prerequisite: Math. 51)  
16 lessons, 3 credits, \$18, texts \$6, Hatfield

### MUSIC (Mus.)

Paul Fetler, M.M., Assistant Professor of Music  
Mary E. Malcolm, M.A., Assistant Professor of Music

- 4. Harmony I.** Intervals, triads, major and minor scales, the structure and progression of four-part chords based upon the triad and its inversions, part-writing, melody, harmonization, modulation, analysis.  
16 lessons, 3 credits, \$18, texts \$5.50, Malcolm
- 5. Harmony II.** Continuation of 4, with the addition of nonharmonic tones and diatonic seventh chords.  
16 lessons, 3 credits, \$18, texts \$8.50, Malcolm

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\*\* No student may receive credit for both Math. 6 and 9(c).

6. **Harmony III.** Continuation of 5, with the addition of chromatically altered non-harmonic tones, chromatically altered chords, and modes.

16 lessons, 3 credits, \$18, texts \$3, Malcolm

**Note**—Mus. 4, 5, 6 correspond to the written portion of Music Theory for resident students in the Department of Music, University of Minnesota.

- 9(c). **Counterpoint.** Counterpoint is the creative study of writing one or more independent melodies against each other in a strict style. Such a study is of great value in particular to the student of composition. Course is based directly on 16th-century polyphony. Works of Lassus and Palestrina are examined and the rules for writing formulated accordingly. An elementary course. The student learns the writing of good melodic lines and gradually continues with two-voice counterpoint. The writing of canon is an important part of this course. (Prerequisite: general knowledge of music theory)

16 lessons, 3 credits, \$18, texts \$7.50, Fetler

### NORWEGIAN (Scan.)

Pauline Farseth, B.A., Instructor in Scandinavian

1. **Beginning Norwegian I.** Complete survey of Norwegian grammar. Composition. Reading of easy prose. (No prerequisite)  
27 lessons, 5 credits, \$30, texts \$3, Farseth
2. **Beginning Norwegian II.** Study of short stories and Björnson's *En Glad Gut*. Reading and composition. (Prerequisite: Scan. 1 or equivalent)  
27 lessons, 5 credits, \$30, texts \$2.50, Farseth
3. **Intermediate Norwegian.** Continuation of 2. Based on Björnson's *Synnöve Solbakken*. Reading and composition. (Prerequisite: Scan. 2 or equivalent)  
27 lessons, 5 credits, \$30, texts \$2, Farseth

### PARLIAMENTARY PROCEDURE

Ralph E. Miller, M.S., Associate Professor, School of Agriculture

- A41. Parliamentary Procedure.** Fundamental principles and practices of parliamentary law essential for conducting meetings and participating in community organizations. Particular emphasis is given to discussion of problems relative to federated clubs, P.T.A., Legion Auxiliary, extension organizations, farm organizations, such as: Grange, Farm Bureau, Farmers Union, 4-H clubs, and Future Farmers of America. Topics to be considered will include formation of organizations, drafting of constitutions, duties of officers, motions, amendments, nominations, and elections. (No prerequisite)

12 lessons, 2 Extension credits only, \$12, texts \$3, Miller

### PHILOSOPHY (Phil.)

A. Carl Ahlen, Ph.D., Professor of Philosophy, Northwestern Lutheran Theological Seminary

1. **Problems of Philosophy.** Is there any principle or set of principles in terms of which we can understand man, experience, and the world? Does life have a meaning? What, if anything, can we know? What are good and evil? Is the nature of reality discoverable? How, if at all, are religion, science, art, and politics interrelated? Attempts to answer these questions are considered. Pro-

posed solutions by the world's great minds, ancient and modern, are examined. The student is encouraged to do critically reflective thinking of his own concerning these basic issues.

16 lessons, 3 credits, \$18, texts \$5.50, Ahlen

- 2. Logic.** There is a difference between "straight" and "crooked" thinking. Logic is the study of these differences. What is a fallacy? How many pitfalls beset the attempt to think straight? When is a term properly defined? Why are sound definitions important? What is meant by a "syllogism"? What is meant by a "dilemma"? What do you understand by proof? When is proof of a statement called for? When is it complete? What is a hypothesis? How many of these do you use in an average conversation? What is meant by "scientific thinking"? Logic is the systematic analysis of these and other related questions. The study of logic will show you what is involved in straight thinking. (No prerequisite)

16 lessons, 3 credits, \$18, texts \$8, Ahlen

- 3. Ethics.** A study of the principles and problems of right and wrong in human relationships. The course will include such topics as the following: The history of moral development, the ethical theories of classical philosophy, the problem of free-will, the nature of man, the ethical problem involved in international relations and in other social problems, the relationship of religion to ethics. (No prerequisite)

16 lessons, 3 credits, \$18, texts \$9, Ahlen

### PHYSICAL EDUCATION (P.E.)

Gertrude Baker, Ed.D., Professor and Director of Physical Education for Women  
 Ralph Piper, Ed.D., Professor of Physical Education  
 Herschel R. Giles, M.A., Associate Professor of Physical Education  
 Marjorie U. Wilson, Ph.D., Associate Professor of Physical Education  
 Fred Chapman, M.A., Assistant Professor of Physical Education  
 Eloise M. Jaeger, Ph.D., Assistant Professor of Physical Education  
 Maurice Ostrander, M.Ed., Assistant Professor of Physical Education  
 Helen Slocum, Ph.D., Assistant Professor of Physical Education  
 Gerald B. Fitzgerald, Re.D., Lecturer in Physical Education

- 32. Introduction to Principles of Physical Education.** Principles and problems connected with the philosophy, organization, administration, program construction, and methods of teaching physical education. (No prerequisite; open to men only)

16 lessons, 3 credits, \$18, texts \$10.50, Ostrander

- 48. Methods in Supervision.** The various in-service training devices and supervisory techniques common to recreation programs in communities and hospitals are considered. Necessary qualities, traits, and characteristics of the supervisor are reviewed along with the purposes and advantages of good supervision. This course should be of value to those in formal and informal settings who find it necessary to effectively deal with personnel in working relationships.

16 lessons, 3 credits, \$18, Chapman (registration accepted after June 1, 1957)

- 49. Social Aspects of Leisure.** Designed to acquaint the student with leisure and recreation as basic forces in the social and economic structure of our society. It stresses the nature of leisure and recreation with particular reference to their relationships. Attention is focused upon leisure and recreation as parts of daily living in our society and as products of our social progress. (No prerequisite)

16 lessons, 3 credits, \$18, texts \$6, Fitzgerald

- 50. Orientation to Recreation in Hospitals.** Introductory principles of hospital recreation are examined. A general description of types of hospitals and their patients' activities programs are studied. The philosophy and purposes of hospital recreation as well as the program content is highlighted. Beginning methods in the leadership and supervision of recreation programs for patients in hospitals are featured.  
16 lessons, 3 credits, \$18, texts \$8.50, Chapman
- 56. Nature and Function of Play.** A fundamental background course for either recreation or physical education. Proceeds from an understanding of the biological play drive, theories and philosophies of play, to the place of play in the modern world and its function in building an integrated personality. (No prerequisite)  
16 lessons, 3 credits, \$18, texts \$9, Giles
- 57. Operation of Recreation Centers.** Designed especially to aid the teacher of art, music, industrial, or physical education who has been given the responsibility of assisting with, or directing, the summer recreation program. Programs, leadership, facilities and equipment, and problems of operation and administration. (No prerequisite)  
16 lessons, 3 credits, \$18, texts \$10.50, Fitzgerald
- 63. Organization and Administration of Physical Education.** Problems of organization, administration, and supervision. Arrangement of programs in physical education activities. Discussion of place of athletics in the program; schedule making; construction, equipment, and care of gymnasium and athletic fields. (No prerequisite; open to men only)  
16 lessons, 3 credits, \$18, texts \$11, Piper
- 82. Principles of Physical Education.** Principles of philosophy, curriculum, method, and evaluation are studied in the light of their psychological, biological, and social significance. (No prerequisite)  
16 lessons, 3 credits, \$18, texts \$9.50, Wilson
- 83. School Health Education: Method and Content.** Study of scope of field, principles underlying the development of a program, curricular suggestions on elementary and secondary level, methods and materials for teaching, steps in unit planning, and evaluation of the instructional program. (No prerequisite)  
16 lessons, 3 credits, \$18, texts \$7, Slocum
- 84. The Physical Education Program in the Elementary and Secondary School.** Curricular problems in physical education are studied in relation to the best thinking in general education. Both elementary and secondary levels are considered but individual application may be made to a specific level. (Prerequisite: senior major or minor in physical education, experienced elementary classroom teacher, or consent of instructor)  
16 lessons, 3 credits, \$18, texts \$12, Jaeger
- 95. Administration of Physical Education.** A study of the co-ordination of the various aspects of the physical education department concerned with children, girls, and women. Stress is placed upon the administration of the balanced program, organization of groups, persistent problems in the conduct of the girls' physical education program, facilities, equipment, finance, promotion, and ethics; relationships to the school as a whole and the community are considered throughout. (No prerequisite; open to women only)  
16 lessons, 3 credits, \$18, texts \$8, Baker

**PHYSICS (Phys.)**

Fritjof E. Christensen, M.A., Professor of Physics, St. Olaf College  
Joseph Valasek, Ph.D., Professor of Physics

- 4(c). Elements of Mechanics.** Basic principles of mechanics such as Newton's laws of motion, conservation of energy and momentum. The solution of numerous problems will be required. Prepares the student to continue with other courses in physics or engineering. (Prerequisite: trigonometry and higher algebra, preferably college algebra)

16 lessons, 3 credits, \$18, texts \$8, Christensen

- 29. Introduction to Meteorology.** Fundamental physical principles and first elements underlying meteorological study, weather map analysis and construction; also local meteorological observation. (Prerequisite: algebra and high school physics)

16 lessons, 3 credits, \$18, texts \$7.50, Valasek

- 35. Photography.** An elementary course on the science and technique of photographic reproduction in monochrome and in color. Emphasis will be on the physical principles which are the basis for the operation or use of cameras, lenses, shutters, enlargers, filters, exposure meters, and sensitive materials used in black-and-white and in color photography. It is expected that those registered for the course possess and use some kind of photographic equipment. However, there will not be any assigned laboratory projects, but some will be recommended for those who wish to improve their photographic skill or learn new procedures. Essentially a course in physics on the college freshman level dealing with selected topics which have important applications in the science and practice of photography. (Prerequisite: high school algebra and geometry)

16 lessons, 3 credits \$18, texts \$7, Valasek

**POLISH (Plsh.)**

Kristina Trendota, Ph.D., Instructor, Oberlin College

- 1. Beginning Polish I.** An introduction to the Polish language. Students will acquire a working knowledge of the structure of the language and facility in reading selected works of Polish prose. There are two 12-inch, 78 rpm recordings that accompany the course. The first is required, the other recommended. These cover basic pronunciation. The same material is available on phonotapes. (No prerequisite)

27 lessons, 5 credits, \$30, texts and record \$9, Trendota

**POLITICAL SCIENCE (Pol.)**

Lennox A. Mills, Ph.D., Professor of Political Science  
Harold S. Quigley, Ph.D., Professor Emeritus of Political Science  
George Warp, M.A., Associate Professor of Political Science  
John E. Turner, Ph.D., Assistant Professor of Political Science  
Dorothy Dodge, Ph.D., Assistant Professor of Political Science, Macalester College  
Thomas H. McEnroe, M.A., Instructor in Political Science, Macalester College

**Public Administration Certificate.** See page 13.

- 1. American Government and Politics I.** Designed to provide an intelligent understanding of certain fundamental features of our national government: the nature of the constitution, the protection of individual rights and liberties, political parties, public opinion, nominations, and elections. (No prerequisite)

16 lessons, 3 credits, \$18, texts \$11.50, McEnroe



- 2. American Government and Politics II.** Gives the student knowledge of the formal legal structure and operation of the legislative, executive, and judicial departments of the government and the informal and extra-legal practices that determine its vital character. Problems related to all branches of the government will be considered. (No prerequisite)  
16 lessons, 3 credits, \$18, texts \$11.50, McEnroe
- 3. American Government and Politics III.** Designed to aid the citizen who wishes to be informed on how we conduct our foreign relations; on who is responsible for our national defense policies; on what the revenue sources are which government must tap to finance its manifold activities. (No prerequisite)  
16 lessons, 3 credits, \$18, McEnroe (registrations accepted after March 1, 1957)
- 4(c). The United Nations.** For students, community leaders, teachers, and others interested in learning more about the the functions and activities of the United Nations. The 12 lessons give a comprehensive survey of the economic, political, and social programs of the UN—their successes and failures. The course is useful also for discussion or study groups. (No prerequisite)  
12 lessons, 2 Extension credits only, \$12, texts \$2.50, Dodge
- 7(c). Comparative European Governments.** Deals with the governmental systems and politics of Great Britain, France, Soviet Russia, Germany, and Sweden. Emphasis is placed on the institutional structures, political customs, ideologies, problems of administration, and crisis government. (No prerequisite)  
16 lessons, 3 credits, \$18, texts \$6, Turner
- 10(c). Survey of American Government and Politics.** Designed to give the student an understanding of the fundamental principles and practices of national, state, and local government in the United States. Includes an analysis of constitutions and charters; citizenship; civil liberties; political parties and public opinion; legislative, executive, and judicial organization and procedures; and of the principal functions and activities of modern American government. (No prerequisite)  
21 lessons, 4 credits, \$24, texts \$7, McEnroe
- 25. World Politics.** The world since 1914. Explains the significance of contemporary events in Europe and the Far East by a study of their causes. The policies of the Great Powers, the influence of geographic position, and of domestic politics on foreign policy, imperialism, armaments and international organizations including the League of Nations and the United Nations. The effect of world events on American interests. (No prerequisite)  
16 lessons, 3 credits, \$18, texts \$6, Mills
- 60. Introduction to Public Administration.** Forms and trends of public administration; working concepts of organization, with some attention to the sociology of organization; techniques of operations analysis; methods employed by administrators to achieve administrative objectives; controls over administration, including intervention by political parties and pressure groups.  
16 lessons, 3 credits, \$18, texts \$6, Warp
- 62. Public Personnel Administration.** Development and significance of the public service; organization for personnel management; classification of positions; pay standardization and administration; recruitment, examination, and placement; in-service training; evaluation of performance; conditions of employment; separations; human relations and morale; employee organization; obligations and responsibilities of public employees; retirement systems. (No prerequisite)  
16 lessons, 3 credits, \$18, texts \$6, Warp

- 89. Japanese Government and Politics.** A survey of political development in Japan, with emphasis upon the postwar period. Topics included are the emperor, cabinet and civil service, the parliament, the courts, political parties and elections, and local government. Deals with the transition from feudalism to constitutional government, the struggle between democratic elements and militarism, and the reforms of the postwar occupation. (No prerequisite)  
16 lessons, 3 credits, \$18, texts \$5, Quigley
- 94. The Far East in International Relations.** World War II expanded our conception of the "Far East," adding to China, Japan, and Korea the new states which, together with Thailand, were regarded formerly as parts of colonial Southeast Asia. This course, therefore, includes the postwar position and foreign policies of Japan, the two "Chinas," Korea, the Philippines, Indochina, Malaya, Burma, Thailand, and Indonesia. (No prerequisite)  
16 lessons, 3 credits, \$18, texts \$6.50, Quigley (registrations accepted after January 1, 1957)

### PSYCHOLOGY (Psy.)

Wendell White, Ph.D., Associate Professor of Psychology

- 1a(c). Application of Psychology to Living.** Devoted to psychology in personal relationships and in the achievement of mental health. Centers, for the most part, around our fundamental needs—the source of all our actions and satisfactions—and 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)  
16 lessons, 3 credits, \$18, texts \$4.50, White
- 1. General Psychology I.** The study of the beginnings of behavior, its development, and the factors that influence its development. Methods of investigation. Individual differences. (No prerequisite)  
16 lessons, 3 credits, \$18, texts \$10, White
- 2. General Psychology II.** Further study of some of the topics taken up in course 1, and orientation of the student to problems of psychology in general. (Prerequisite: Psy. 1)  
16 lessons, 3 credits, \$18, texts \$11.50, White

**Child Psychology.** See page 23.

**Psychology of Adolescence.** See page 26.

**Social Psychology.** See page 56.

### PUBLIC HEALTH

(See page 39.)

### READING

- 1(c). Home Reading Course.** The 8 lessons in this course provide 8 lists of books on subjects of current interest, such as science, history, sociology, fine arts, government, etc. The student reads at least two books from each list and reports on them. The aim is to follow a systematic plan of reading that will help the average person to become better informed. Particularly designed for members of the Federation of Women's Clubs who are anxious to qualify

for the Epsilon Sigma Omicron reading award. Course is available on an individual lesson basis. Write for introduction that will give topic for each lesson. (No prerequisite and no credit toward university degree or certificate programs)

8 lessons, \$8, or \$1 per lesson, no texts, Klohn

## ROMANCE LANGUAGES

(See pages 36, 45, 57.)

### RUSSIAN (Russ.)

Pearl C. Niemi, Ph.D., Assistant Professor of Russian

1. **Beginning Russian I.** Prepares for a reading and writing knowledge of the Russian language. Will acquaint the student with the Russian script; pronunciation; the essentials of grammar; translations from Russian and into Russian; interpretation of easy Russian short stories. (No prerequisite)

27 lessons, 5 credits, \$30, texts \$6, Niemi

2. **Beginning Russian II.** After fulfilling the course requirements, the student will be able to read, with a dictionary, any kind of Russian text—newspapers, professional literature, fiction. A fair ability of written expression should be achieved. (Prerequisite: Russ. 1)

27 lessons, 5 credits, \$30, texts \$6, Niemi

## SALESMANSHIP

Steele S. Stanchfield, B.A., Instructor in Business (Correspondence Study)

- 1(c). **Salesmanship.** A course in the art and techniques of effective salesmanship. Major emphasis placed on practical aspects with various case histories presented.

16 lessons, 3 Extension credits only, \$18, texts \$13.50, Stanchfield

## SCANDINAVIAN LANGUAGES

(See pages 49, 59.)

### SLAVIC (Slav.)

Thomas F. Magner, Ph.D., Associate Professor of Slavic and Oriental Languages

A pronunciation record (33 $\frac{1}{3}$  rpm) covering basic Serbo-Croatian is available at cost. Each side will run for about 13 minutes. A tape recording of the same material is also available from the Correspondence Study Department. The recording is not required but is strongly recommended.

1. **Beginning Serbo-Croatian.** An introduction to the Serbo-Croatian language. Objectives of the course will be the mastery of the essentials of grammar, facility in reading easy texts in both the Cyrillic and the Latin alphabet, and the ability to write simple themes in Serbo-Croatian. (No prerequisite)

27 lessons, 5 credits, \$30, texts \$4.50, Magner

**Other Slavic and Oriental Languages.** See pages 24, 55.

## SOCIOLOGY (Soc.)

Elio D. Monachesi, Ph.D., Professor and Chairman, Department of Sociology

Don A. Martindale, Ph.D., Professor of Sociology

Arnold M. Rose, Ph.D., Professor of Sociology (on leave 1956-57)

George A. Donohue, M.A., Assistant Professor of Sociology

George H. Weber, Ph.D., Chief, Division of Diagnosis and Treatment, Minnesota Youth Conservation Commission

- 1. Introduction to Sociology.** 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. Intended to introduce the student to the fundamental concepts of sociology and to give him a better understanding of the contemporary social order. (No prerequisite)

27 lessons, 5 credits, \$30, texts \$6, Monachesi

- 2. Intermediate Sociology.** A study of personality, human behavior, group interaction, social institutions and social change, with special reference to contemporary American conditions. The problem of individual adjustment in a complex society is explored. Much of the course is devoted to a detailed consideration of the color-caste system and its impact upon minorities. (Prerequisite: Soc. 1)

16 lessons, 3 credits (an additional 2 credits will be allowed on completion of a satisfactory term paper), \$18 or \$30, texts \$10.50, Martindale

- 3. Social Problems.** A study of factors underlying the inability of many individuals and groups to satisfy their basic wants within the framework of existing social institutions; a consideration of individual and institutional limitations giving rise to such problems as juvenile delinquency, criminality, mental illness, industrial strife, family discord, and community disorganization. (Prerequisite: Soc. 1 or consent of instructor)

16 lessons, 3 credits, \$18, texts \$5.50, Rose, Weber

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

16 lessons, 3 credits, \$18, texts \$11.50, Donohue

- 120. Social Psychology.** An analysis of the social aspects of personality growth and personality interaction. Personality motivation and adjustment in the group situation. Prejudice, public opinion, propaganda, leadership are analyzed. Psychological aspects of social problems such as personality disorganization, crowd behavior, social control, family adjustment, and war. (Prerequisite: Soc. 1 or consent of instructor)

16 lessons, 3 credits, \$18, texts \$5, Rose, Weber

- 123. Intergroup Relations.** A consideration of historical and psychological factors in group prejudice; the concept of minority group, Caucasoid immigrant groups; non-Caucasoid groups in the United States with special reference to the Negro; adjustment and action programs. (Prerequisite: Soc. 1 or consent of instructor)

16 lessons, 3 credits, \$18, texts \$10.50, Rose, Weber

- 141. The Family.** Origin of family life; variability and change of family institutions and mating customs; contemporary parent-child relationships; adolescence; mate finding; marital adjustments; divorce and other family problems; prediction of marital success; theories of family reform. (Prerequisite: Soc. 1 or consent of instructor)

16 lessons, 3 credits, \$18, texts \$6, Rose, Weber

### SPANISH (Span.)

Emmert M. Brackney, Ph.D., Associate Professor of Romance Languages

James Cuneo, Ph.D., Associate Professor of Romance Languages

Herbert Willging, Ph.D., Associate Professor of Foreign Language, St. Thomas College

Two 12-inch, 78 rpm records have been prepared covering basic Spanish pronunciation. The first gives the pronunciation of vowels, consonants, diphthongs, and triphthongs. The second record gives pronunciation exercises in Spanish with some translation. Two voices are used, and each record will run 10 minutes. The cost of each record is \$4. The same material is available on tapes for about half the cost.

Tape recordings covering basic Spanish pronunciation, stress, linkage, and Spanish-American songs are available at the State Department of Education, State Office Building, St. Paul. Refer to their bulletin, *Tapes for Teaching*.

- 1A(c). Spanish in Slow Motion.** A new and somewhat experimental course based on eight 30-minute tape-lessons. The sounds of Spanish are presented through a series of words, phrases, and sentences, each pronounced slowly and repeated by authoritative native voices. The principles of pronunciation are introduced one at a time, with extensive practice of each new sound or principle. The course has been planned to make maximum use of the aural-oral approach, and the written assignments will be based on information gained from the tapes. Write for special booklet describing this course. (No prerequisite)

16 lessons, 3 credits, \$18, tapes \$30 or \$15 rental, Willging

- 1. Beginning Spanish I.** Grammar and reading. Stress will be laid upon grammar, accurate translation, and composition. (No prerequisite)

27 lessons, 5 credits, \$30, texts \$5.50, Cuneo

- 2. Beginning Spanish II.** Continuation of 1, which is prerequisite.

27 lessons, 5 credits, \$30, texts \$4, Cuneo

- 3. Intermediate Spanish I.** Review of grammar; composition, reading of modern Spanish text. (Prerequisite: Span. 2 or equivalent)

27 lessons, 5 credits, \$30, texts \$4, Brackney

- 4(c). Intermediate Spanish II.** Continuation of 3, which is prerequisite.

27 lessons, 5 credits, \$30, texts \$5, Brackney

- 7. Latin-American Culture** (in English). Offers a panoramic view of Latin-American culture. It attempts to interpret the land, the people, and their history; the political, social, and economic organization; the cultural and literary traditions in such a way as to give the North American a unified picture of the 20 countries of Latin America. Readings in English; Spanish not necessary. (No prerequisite)

16 lessons, 3 credits, \$18, texts \$5, Cuneo

**52. Spanish Commercial Correspondence.** Specialized material in Spanish commercial correspondence. Gives the student sufficient knowledge of commercial Spanish to enable him to understand and to handle commercial correspondence in Spanish. Includes the study of the main parts of a Spanish letter, the envelope, the various kinds of Spanish commercial letters, models of letters and commercial forms, commercial documents, telegrams and cablegrams, Spanish abbreviations used in Spanish correspondence, and business vocabulary. Is part of a more complete course which includes the study of Spanish composition and the discussion of subjects closely related to the commercial activities such as Latin-American monetary units, banking organization and practices, and foreign trade. (Prerequisite: Span. 3)

27 lessons, 5 credits, \$30, texts \$5.50, Cuneo

**53. Elementary Spanish Composition.** Connected prose composition dealing with everyday life in Spain. The aim is the ability to write Spanish. (Prerequisite: Span. 4 or equivalent)

16 lessons, 3 credits, \$18, texts \$4.50, Cuneo

**60. Advanced Spanish Composition.** Continuation of 53, which is prerequisite.

16 lessons, 3 credits, \$18, texts \$4.50, Cuneo

### SPEECH AND THEATER ARTS (Spch.)

David W. Thompson, Ph.D., Professor of Speech and Theater Arts  
Kenneth L. Graham, Ph.D., Associate Professor of Speech and Theater Arts  
Louise Klohn, M.A., Instructor in English

**1(c). Vocabulary Building.** A practical course designed to increase the student's speaking and reading vocabulary. The lessons and exercises will stimulate interest and afford practice in the proper use of words, provoke word collecting and suggest substitutes for overworked words. (No prerequisite; course cannot be used for credit toward a teacher's certificate; see page 5)

16 lessons, 3 Extension credits only, \$18, texts \$1.50 without and \$7.50 with dictionary, Klohn

**115. Playwriting.** Reading assignments as an introduction to dramatic form and content. Practice in writing dramatic plots, characters, themes, and dialogue. The writing exercises will include scenario, rough draft, and final revision of a one-act play (approximately 15 typed pages or 30 minutes in playing time). (Prerequisite: Spch. 31 or consent of instructor)

16 lessons, 3 credits, \$18, no texts, Thompson

**180(c). Independent Playwriting.** Specifically designed for advanced students. The student is given complete freedom. Plays in any stage of development will receive detailed criticism. If the student has not taken Spch. 115, he should submit a sample of his playwriting for the approval of the instructor before actually registering for the course.

16 lessons (2 full-length plays or approximately the same amount of writing made up of shorter dramatic forms), 3 Extension credits only, \$18, no texts, Thompson

**184(c). Independent Playwriting for Children's Theater.** For advanced students who are interested in writing plays for child audiences. Long or short plays will be given detailed criticism. The student should submit a sample of his playwriting for approval of the instructor before registering for the course.

16 lessons (2 full-length plays or approximately the same amount of writing made up of shorter forms), 3 Extension credits only, \$18, no texts, Graham

**SWEDISH (Swed.)**

Alrik Gustafson, Ph.D., Professor and Chairman, Department of Scandinavian

A Swedish pronunciation record (78 revolutions per minute) prepared by the Scandinavian Department and the Correspondence Study Department may be purchased for \$4. Not required but recommended.

**7. Beginning Swedish I.** Grammar and composition; selected readings in easy prose and verse. (No prerequisite)

27 lessons, 5 credits, \$30, texts \$4, Gustafson

**8. Beginning Swedish II.** Continuation of 7, which is prerequisite.

27 lessons, 5 credits, \$30, texts \$4.50, Gustafson (registrations accepted March 1, 1957)

**Special Courses****CITIZENSHIP**

John M. Huebner, B.A., Instructor in Citizenship (Correspondence Study)

**Citizenship.** Given by the Extension Division of the University of Minnesota in co-operation with the public schools and the Immigration and Naturalization Service. Course is intended to assist the foreign-born applicant for citizenship in acquiring a better understanding of the American Constitution and Government, and is primarily designed for the rural alien to whom a class in such citizenship instruction is not available. Enrollment is limited to applicants for naturalization. All persons wishing to enroll should write to the Correspondence Study Department, University of Minnesota.

21 lessons, no credit, \$4, Huebner

## High School Courses

These courses are more completely described in a special high school bulletin. Write for a copy.

Each  $\frac{1}{2}$  unit is equivalent to 1 semester of resident high school work.

### BOOKKEEPING

#### Bookkeeping

20 lessons,  $\frac{1}{2}$  unit, \$19.50, texts \$4.50, Lund

### ENGLISH

#### Ninth Grade English, Parts A and B

Part A, 20 lessons,  $\frac{1}{2}$  unit, \$19.50, texts \$5, Grassl

Part B, 20 lessons,  $\frac{1}{2}$  unit, \$19.50, texts \$5, Grassl

#### Tenth Grade English, Parts A and B

Part A, 20 lessons,  $\frac{1}{2}$  unit, \$19.50, texts \$6, Grassl

Part B, 20 lessons,  $\frac{1}{2}$  unit, \$19.50, texts \$6, Grassl

#### Eleventh Grade English, Parts A and B

Part A, 20 lessons,  $\frac{1}{2}$  unit, \$19.50, texts \$6.50, Grassl

Part B, 20 lessons,  $\frac{1}{2}$  unit, \$19.50, texts \$6.50, Grassl

#### Twelfth Grade English, Parts A and B

Part A, 20 lessons,  $\frac{1}{2}$  unit, \$19.50, texts \$7.50, Grassl

Part B, 20 lessons,  $\frac{1}{2}$  unit, \$19.50, texts \$7.50, Grassl

### MATHEMATICS

#### Elementary Algebra A

20 lessons,  $\frac{1}{2}$  unit, \$19.50, texts \$3.50, Fischer

#### Elementary Algebra B

20 lessons,  $\frac{1}{2}$  unit, \$19.50, texts \$3.50, Fischer

#### Plane Geometry A

20 lessons,  $\frac{1}{2}$  unit, \$19.50, texts \$3, Fischer

#### Plane Geometry B

20 lessons,  $\frac{1}{2}$  unit, \$19.50, texts \$3, Fischer

#### Higher Algebra

20 lessons,  $\frac{1}{2}$  unit, \$19.50, texts \$4, Miller

#### Solid Geometry

20 lessons,  $\frac{1}{2}$  unit, \$19.50, texts \$3, Fischer



## SOCIAL STUDIES

### Problems of American Democracy, Parts A and B

Part A, 20 lessons, ½ unit, \$19.50, texts \$4, F. Johnson

Part B, 20 lessons, ½ unit, \$19.50, texts \$4, F. Johnson

### American History, Parts A and B

Part A, 20 lessons, ½ unit, \$19.50, texts \$4.50, Gardner

Part B, 20 lessons, ½ unit, \$19.50, texts \$4.50, Gardner

### World History, Parts A and B

Part A, 20 lessons, ½ unit, \$19.50, texts \$4.50, Abel

Part B, 20 lessons, ½ unit, \$19.50, texts \$4.50, Abel

## LANGUAGES

### French

#### Beginning French I and II

1 unit each, \$30 per unit, texts \$4.50, Pulley

### German

#### Beginning German I, II, and III

1 unit each, \$30 per unit, texts \$4, Ramras

### Latin

#### Beginning Latin I and II

1 unit each, \$30 per unit, texts \$5.50 and \$7, Forbes

### Norwegian

#### Beginning Norwegian I and II

1 unit each, \$30 per unit, texts \$3 and \$2.50, Farseth

### Spanish

#### Beginning Spanish I and II

1 unit each, \$30 per unit, texts \$5.50 and \$4, Cuneo

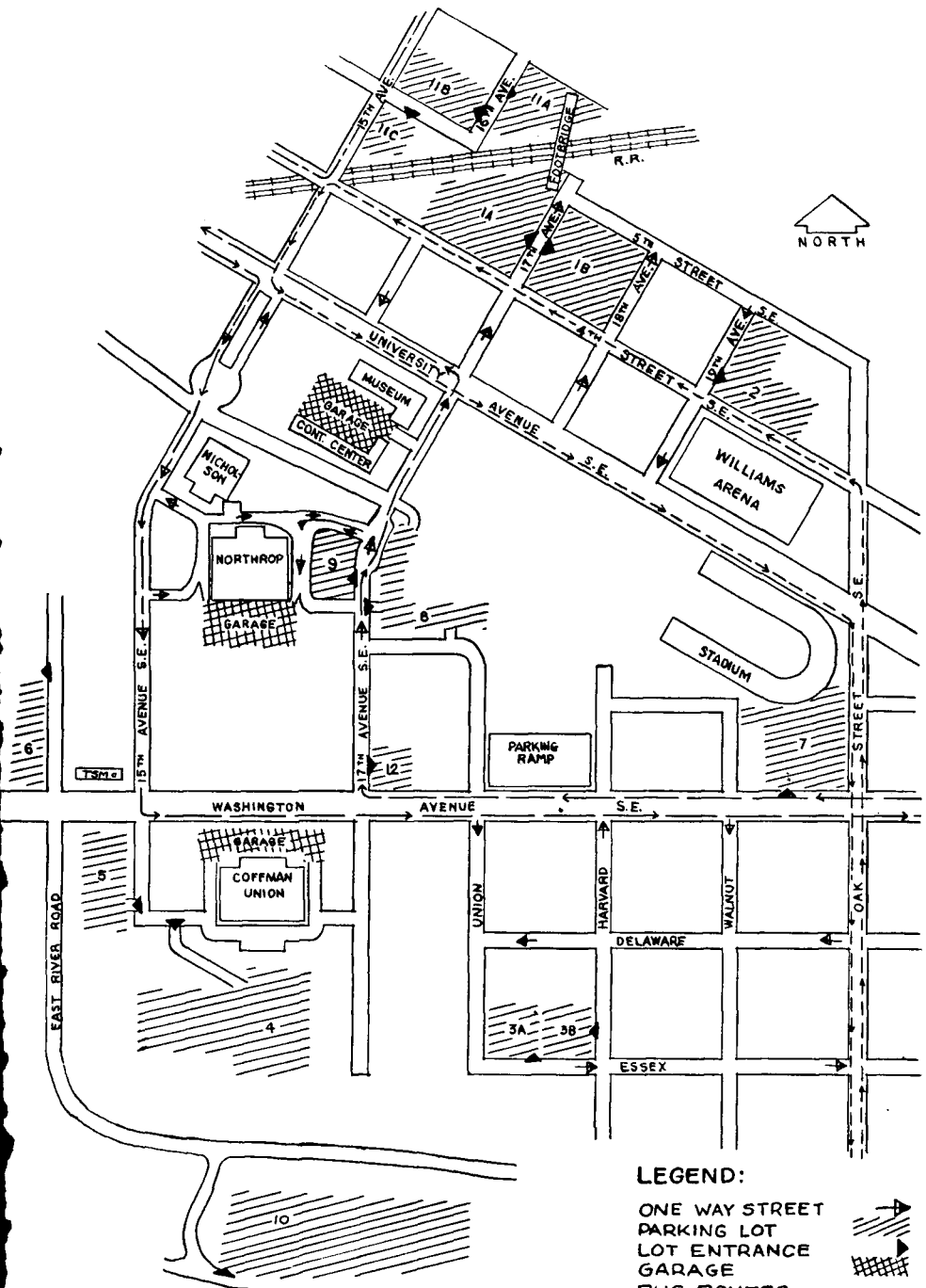
### Swedish





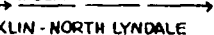
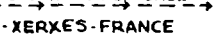
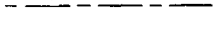
#### Beginning Swedish I

1 unit, \$30, texts \$4, Gustafson

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  - FRANKLIN - NORTH LYNDALE 
  - COMO - XERXES - FRANCE 

**PARKING AND BUS ROUTES**

## **Other Services of the General Extension Division . . .**

### **Audio-Visual Extension Service**

operates a large library of films available on a rental basis to schools, organizations, and individuals, and provides advisory service for audio-visual institutes and workshops. For information, contact: Audio-Visual Extension Service, 115 TSMA, 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.

### **Evening and Special Classes**

is a department offering more than 400 collegiate and special interest courses for residents of the Twin Cities area and Duluth. Courses are provided for those interested in degrees, certificates, occupational advancement, and hobbies. The part-time arrangement makes Extension evening classes attractive to the adult population. A current bulletin is available from: General Extension Division, 54 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.