

The Bulletin of the
UNIVERSITY of MINNESOTA

Learn for Living

EXTENSION CLASSES

1948-49

TWIN CITY AREA

L1-34

CALENDAR

1948

September	13	Monday	Fall semester registration begins
September	25	Saturday	Last day for registration without extra fee
September	27	Monday	Classes begin
October	9	Saturday	Last day for transfer without fee
December	17	Friday	Christmas recess begins

1949

January	3	Monday	Extension classes resume
January	24	Monday	Spring semester registration begins
January	31	Monday	Fall semester examinations
February	4	Friday	Fall semester closes
February	5	Saturday	Last day for registration without extra fee
February	7	Monday	Spring semester begins
February	19	Saturday	Last day for transfer without fee
May 30-June 3			Spring semester examinations
June	3	Friday	Spring semester closes
June	11	Saturday	Commencement exercises

Opening and closing dates for classes on other than semester basis are indicated below description of each class. Registration should be made during the two weeks preceding the opening of such classes. See page 2 for registration regulations.

WHERE TO REGISTER

Minneapolis (Campus): Ground floor, southeast entrance, Nicholson Hall, University of Minnesota, Main 8177, Julius M. Nolte, Dean. (See map, back cover)

Minneapolis (Downtown): 690 Northwestern Bank Building, Marquette Ave. and Sixth St. South, Main 0624, Fred E. Berger, Manager

St. Paul: 500 Robert St., Extension Center, Cedar 6175, William A. Jones, Manager.

Duluth: 504 Alworth Building, Radisson 1317, Leonard B. Wheat, Manager

OFFICE HOURS

Campus Office:

Regular business hours: Monday through Friday, 8:00 a.m. to 5:00 p.m., closed Saturdays, except as indicated below.

Regular evening hours: Except as indicated below, the campus office will be open to Extension students on regular class nights, Monday through Thursday, until 8:30 p.m. throughout both semesters.

Special hours: September 13 through October 2 and January 24 through February 11; week days 8:00 a.m. to 8:30 p.m.; Saturdays 8:00 a.m. to 5:00 p.m.

Downtown Minneapolis and St. Paul Offices:

Regular business hours: week days 8:30 to 5:00 p.m., Saturdays 9:30 to noon.

Special hours: Minneapolis Office: September 13 through September 25, and January 24 through February 5, week days 8:30 a.m. to 8:30 p.m.; Saturdays 8:30 a.m. to 5:00 p.m.

Special hours: St. Paul Office: September 20 through October 2 and January 31 through February 11, week days 8:30 a.m. to 8:30 p.m.; Saturdays 8:30 a. m. to 5:00 p.m.

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SPECIAL NOTICES

IMPORTANT REGISTRATION REGULATIONS

Owing to the unprecedented load which current heavy enrolments have placed on the administrative and clerical staffs of all university offices, certain regulations were adopted last year by the General Extension Division in order that its registration procedures might more closely conform to those in force in other units of the University as set forth in the *General Information Bulletin* of the University. See page 2 of this bulletin.

We are sure that our students will realize that this action has been taken as much in their own interests as in those of the Extension Division staff and faculty, and that they will give us their customary understanding cooperation in meeting these requirements. The prompt and early registration called for under these regulations has already proved of tremendous assistance to us in determining at an earlier date whether certain classes will have sufficient registrations to carry them, whether others must have new sections and instructors added, etc.

COUNSELING SERVICES FOR REGISTRATION PERIODS

Special counseling services will be arranged for students during the first week of the registration periods for the fall and spring semesters. Members of the staffs of the Extension Division and other university departments will be available during certain evening hours week days, September 13 through September 17 and January 24 through January 28, and on Saturdays, September 18 and January 29, between 9 a.m. and 1 p.m. Students desiring advice concerning courses or programs of study in specific fields, such as Arts, Business, Engineering, Education, etc., should consult one of the Extension Division offices in advance for information as to the hours when counselors in their fields will be on hand. For general counseling services available at other times throughout the year see "Where Can I Get Advice?," page 5, and "Degrees and Certificates," page 8.

INDUSTRIAL RELATIONS CERTIFICATE

Beginning this year the Extension Division, in cooperation with the Industrial Relations Center of the University, offers a program of study leading to the award of an Industrial Relations Certificate. This program has been established in recognition of an increasing demand for more specialized educational opportunities on a professional level in the field of Industrial Relations. The award of the Certificate will represent the successful completion of the equivalent of one academic year's work at Senior College level; for classes offered this year, see page 47. For the certificate requirements, see page 10. Credits earned prior to 1948-49 in courses listed under certificate requirements will be accepted toward the certificate award.

PROCEDURES FOR AWARD OF UNIVERSITY DEGREES

All Extension students who are now or expect to be working toward a university degree should note the regulations and procedures set out in the General Information section of this bulletin under "University Degrees," page 8. Failure to observe these rules may result in considerable confusion and delay in the granting of the degree.

GENERAL EXTENSION DIVISION

Evening and Special Classes—Twin City Area

REGISTRATION REGULATIONS

The following regulations apply to veteran as well as non-veteran students unless otherwise indicated. In addition all service veterans should read Special Registration Information for Veterans on page 3.

Registration dates, offices, and office hours are indicated inside the front cover of this bulletin; registration may also be made by mail except by veterans.

1. **Registration for all semester and quarter periods should be made during the two weeks preceding the opening of classes.** All registrations made on or after the first day of classes in each period are subject to a privilege fee for late registration (see paragraph 2 below). Registration for all classes meeting for periods other than semester or quarter opens two weeks before the first class session and the late registration rules apply the day following the first session. The regular registration periods for all classes terminate at the end of the third week of class sessions; no later registration will be accepted without special permission of the Students' Work Committee.

2. **The fee for the privilege of late registration** will be \$2 through the first week of classes; on the first day of the second week of classes the fee will be \$2.50 and it will then increase 50 cents per day to a maximum of \$5. The time of payment of mailed registrations will be determined by the postmark; all registrations postmarked later than midnight of the Saturday preceding the opening of classes will be subject to a late registration fee.

3. The above regulations will apply to a student's **initial registration only**; classes may be added and transfers will be permitted without penalty through the first two weeks of classes. **During the third week a privilege fee of \$2 will be charged for any additional registration or for transfers.** No classes may be added nor transfers made after the third week of classes without special permission of the Students' Work Committee.

4. A student who does not want to do all the required work of a class may register as **auditor** by writing "Aud." in the credit column of the registration form, or by asking his instructor, any time before the final examination, to record him as an auditor. Auditors' status carries no credit. Auditors pay the same fee as other students. **No veteran may audit any class, however, without written permission from the Extension Veterans' Counselor.**

5. **Transfers** from one class to another may be made without charge during the first two weeks of classes by application to the main office of the General Extension Division. See paragraph 3 above for regulations regarding late transfers.

CANCELLATIONS AND REFUNDS

Refunds of tuition fees are available for cancelled registrations subject to the following rules:

1. **Notice** of cancellation and application for refund, accompanied by a fee receipt, must be in writing and submitted by the student to the main office of the Extension Division.

2. **Full refund** will be made only when notice of cancellation is received before the opening of classes, or when class offerings are cancelled by the Extension Division.

3. **Partial refunds**, in accordance with general university regulations, will be made for all other cancellations which occur during the first eight weeks of classes, provided proper notice giving date of last attendance is received before the end of the current semester (veterans please note paragraph 5 below, however). **The scale of refunds is available for inspection at any Extension Division office.**

4. **No refunds** can be made to students who attend class after the first half of the class sessions has been held.

5. Veterans must report all cancellations immediately to the Extension Division's Veteran Department in order to protect their eligibility status and to clear their records with the Veterans Administration. Regulations of the Veterans Administration require that, in the case of cancellations during the first eight weeks of classes, all books and supplies be turned in to one of the Extension Division offices.

SPECIAL REGISTRATION INFORMATION FOR VETERANS

Veterans eligible for education and training under the G.I. Bill (P.L. 346) or the Vocational Rehabilitation Act (P.L. 16) may register for Extension classes at the University of Minnesota upon presentation of a Certificate of Eligibility and Entitlement, or Letter of Authorization from the Veterans Administration. The expenses of tuition fees, books and supplies for these classes will be paid by the Veterans Administration. In certain cases, depending primarily on the credit-load being carried and provisions of P.L. 346, veterans may be eligible to receive partial or full subsistence payments from the Veterans Administration. Applications for Certificates of Eligibility and Entitlement should be made to the Regional Office, Veterans Administration, 1006 West Lake Street, Minneapolis 8, Minnesota. Applications for Letters of Authorization or Related Training Certificates for On-the-Job Trainees should be made to the local Minneapolis Office, Veterans Administration, 305 Federal Office Building, 3rd Street and Washington Avenue So., Minneapolis 1, Minnesota.

New Veteran Students

Veterans using their educational and training entitlement under P.L. 346 for the **first time** when registering for Extension classes only must present either an **original** Certificate of Eligibility or certified copy or photostat of their discharge. If a veteran has previously used his educational benefits and entitlement at some institution or training establishment, other than the University of Minnesota, a Supplemental Certificate of Eligibility must be presented. On-the-job trainees (or apprentices) under P.L. 346 or veterans basically enrolled in another educational institution must present a Related Training Certificate at the time of registration. A rehabilitation veteran under P.L. 346 must present a Letter of Authorization **at each time of registration**.

Former University of Minnesota Veteran Students

Veterans using educational and training entitlement under the G.I. Bill (P.L. 346) who have **previously** submitted an Original, or Supplemental Certificate of Eligibility to the University of Minnesota need **not** secure additional authorization for registration in Extension classes **unless** their educational or training objective has been changed or completed. Veterans who are not certain as to the validity of the Certificate of Eligibility now on file should apply to the Veterans' Office, Room 56 Nicholson Hall, Campus, University of Minnesota, for information on this subject. **No veteran registration will be accepted if there is any doubt as to the validity of the Certificate of Eligibility now on file.** "Rehabs" using educational and training entitlement under the Vocational Rehabilitation Act (P.L. 16) must present a Letter of Authorization at each time of registration. Veterans

under the G.I. Bill (P.L. 346) basically enrolled in another educational institution must present a Related Training Certificate at each time of registration.

All Veteran Students

No veteran will be accepted for registration in Extension classes without the proper Certificate of Eligibility or Letter of Authorization. Because of the detailed Report of Registration which must be submitted to the Veterans Administration, veterans must register in person at some General Extension Office. **No registration by mail will be accepted from any veteran;** this rule applies to former veteran Extension students as well as to new enrollees.

Note: As a certain amount of delay may be met in obtaining a proper Certificate of Eligibility or Letter of Authorization from the Veterans Administration, we urge all veterans to apply promptly for the necessary papers or to make sure that their current papers are in order well in advance of registration. For further information write or phone Mr. Albert M. Fulton, veterans' counselor, General Extension Division, University of Minnesota, Main 8177.

For regulations regarding cancellation of registrations by veterans, see page 3.

GENERAL INFORMATION

Am I Eligible To Take These Classes?

The University's Extension classes are open to everyone who can handle them successfully. Service veterans may register under the G.I. Bill. See Special Information Regulations for Veterans, page 3. See page 6 for information as to "prerequisites." If you are in doubt as to your qualifications for a course, you should consult the class instructor or an Extension Division adviser before registering. If this is not possible we recommend that you register anyway, to avoid payment of late registration fee, and consult the instructor at the first class session. If the instructor decides that you are not qualified, or that the course does not meet your needs, a note from him to this effect, submitted with your notice of cancellation (see Cancellations and Refunds, above) will bring you a full refund, or a transfer to another class will be accepted without penalty during the first two weeks of classes.

How Much Do They Cost?

Most classes cost \$15 per semester. A few cost more or less than this amount, and some involve a small materials or laboratory fee. The fee for each class is designated in the description of the class further on in this bulletin. **Checks** should be drawn for the exact amount due, payable to the University of Minnesota.

When Do Classes Begin and How Long Do They Last?

Fall semester classes begin the week of September 27, 1948; spring semester classes, the week of February 7, 1949. Most classes start at 6:20 p.m. or 8:05 p.m., last an hour and forty minutes, and have seventeen weekly meetings. Variations are noted in class descriptions. Extension classes meet on **holidays** unless instructors and students agree otherwise.

Where Do Classes Meet?

At the University, or in downtown Minneapolis (690 Northwestern Bank Building) or in downtown St. Paul (500 Robert Street); see class descriptions. The map on the back cover shows location of buildings on the Minneapolis Campus of the University.

Who Are the Instructors?

For the most part they are drawn from the university faculties; others are chosen from local professions and businesses because of special knowledge or experience. Instructors named in this bulletin will ordinarily teach as scheduled, but unforeseen conditions may interfere with these assignments.

How Do I Register for Extension Classes?

Simply fill out the registration forms and pay the fee indicated in the description of the class you want. Please note regulations for registration, cancellation, transfer, etc., on pages 1 and 2. **Service veterans also see Special Information section on page 3.**

To help you with your registration, here is a **sample class description**, with explanatory comment:

Econ. 6-7† Principles of Economics. 3 credits each semester. \$15.

Fundamental principles underlying the economic activities of society; utility and valuation; prices and the cost of production; the factors of production; division of labor and its relation to the development of industry; wages, rent, interest; capitalization, enterprise, business profits. Fundamental to the study of any business subject. No prerequisite.

Fall Semester

6 M 6:20 Vincent 207, Graves
M 6:20 St. P. Ext. Center 214, Borak

Spring Semester

7 M 6:20 Vincent 207, Graves
M 6:20 St. P. Ext. Center 214, Borak

The numbers and titles of all university credit classes are the same as those of corresponding day classes or have been approved by a day school department. Such courses are generally listed under their appropriate department heading; where they are not so listed, the department designation appears before the number (here Econ. 6-7 is a class of the Economics department of the College of Science, Literature, and the Arts but is listed under Business Classes in this bulletin). Classes carrying Extension credit do not correspond to any day school class and hence carry no department number.

The **dagger (†)** means that both Econ. 6 and Econ. 7 must be completed before credit is given for either. When a class runs through two semesters as does Econ. 6-7, the second semester is a continuation rather than a repetition of the first semester unless otherwise indicated. Non-daggered continuation classes may be taken for credit in single semester units; students planning to take only the second semester of such a class should obtain the consent of the instructor or of the Students' Work Committee before registering.

The name of the class is followed by the **credits** which the class carries. (See "**credits**" below.)

Then comes mention of the **tuition fee** (here, \$15) and of any **special fee** which may be involved. All fees are for one semester unless otherwise indicated.

For information on **prerequisites** see below.

The time and place of meeting are indicated by the abbreviations which in most cases will be obvious. For example, "M 6:20 Vincent 207" means that one section of the class will meet on Monday at 6:20 in Vincent Hall 207 on the campus; "M 6:20 St. P. Ext. Center" means that another section will meet in St. Paul at the same time. The instructor's name follows the room number.

Where Can I Get Advice About a Program?

The Students' Work Committee in the General Extension Division's campus office gives advice on the selection of individual classes and of programs of study leading to Extension certificates, assists students to make contact with advisers in the various colleges of the University for information on programs of study leading to degrees, and arranges appointments for the testing and counseling services of the Student Counseling Bureau. Members of the staff are available at the campus office for general advisory services throughout the year during regular office hours (see inside cover), and at other times by special arrangement. **An appointment is recommended in any event**, except during special registration period hours. See **Notice**, page 1, for special advisory services available during registration periods.

Are There Other Facts or Regulations Concerning Extension Classes Which I Might Want To Know?

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

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

Prerequisites

Prerequisites are stated for information, not as obstacles. Many Extension classes list no prerequisites, and are open to all who can profit by them. Other classes are of such a nature that they cannot be carried through without certain previous study. The prerequisites listed for the latter are those which, in the judgment of the department concerned, should be met by students who expect to receive university credit for the class. In many cases a reasonable equivalent of related study, training or experience will be accepted. If you are in doubt as to your status, consult the instructor at or before the first class session. See first paragraph, General Information section, page 4, for special refund or transfer privileges in such cases.

Credits

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

Transfer—Credits may sometimes be transferred from one college to another, or from another accredited institution to this University, but requests for such transfer are always ruled on individually and according to their merits; consult the Students' Work Committee.

Established by special examination—A student who, by independent study or by experience, has gained knowledge which he believes to be equivalent to that covered by a particular Extension class may establish credit for such class by passing a special examination on the subject matter covered by the class. The fee for such special examination is \$5. In the same way, a student may establish credit for work done at an unaccredited institution. Arrangements for special examinations are made through the Students' Work Committee.

Residence—Credits earned in undergraduate Extension classes in Minneapolis, St. Paul, and Duluth are "resident" 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 six quarter credits under Plan A or nine quarter credits under Plan B in courses numbered 100 and above offered by the Extension Division of the University of Minnesota in the Twin City area, and taught by regularly approved members of the graduate faculty (for this information, consult the chairman of the Students' Work Committee). Petition to transfer is limited to credits earned in Extension classes since September, 1943. Such transfers of credits will not give residence credit.

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

Honor points—In the General Extension Division honor points are used only to ascertain whether a student has the C average required for all certificates; they are not used to reduce the number of credits required for a certificate. Students in Extension classes who are seeking degrees should consult an officer in the college in which the degree is sought regarding the status of honor points in that college.

Certificates: See page 8.

Degrees: See page 8.

Grades: The grades A, B, C, and D indicate work of varying degree of merit, D being the lowest passing grade. The grade F, failure, indicates a deficiency so serious that the student must repeat the class to earn credit in it; nor may a student who receives a failure in a continuation class register for another part of such a class until the failure is made up.

Incomplete work which is of at least D grade, but for acceptable reasons not complete, may be marked I, Incomplete, provided the student has completed three fourths of the work of the class. 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 two semesters following the student's resumption of Extension class work, the incomplete becomes a cancellation. In such a case, a student may ask that the cancellation be set aside and that he be permitted to make up the incomplete. If his request is approved, the special examination fee, \$5, is charged.

Reports of students' grades and credits are sent them by the university recorder and will not be furnished by the General Extension Division.

Maximum load: The maximum amount of Extension work, including both Extension classes and correspondence study courses, to be carried by students regularly employed is 9 or 10 credit hours, the equivalent of three 3-credit or two 5-credit classes, per semester. Permission to exceed this maximum must be sought from the Students' Work Committee.

A student who is regularly registered for day class work in any unit of the University may register for Extension classes only with the approval of the dean of his unit.

A student who has been dropped by any unit of the University may not register for Extension classes without written permission from that unit.

Attendance: Attendance at every meeting of a class is expected; success in the work of the class is based on this attendance. Instructors or the Students' Work Committee may inquire into the causes of absence and the student's intentions and make appropriate recommendations. Such inquiry and recommendation is entirely in the interest of the student and in no sense disciplinary; Extension students are in classes for very definite purposes, are competent to govern their comings and goings, and may be trusted to give the attendance necessary to the accomplishment of their purposes.

Athletic Facilities and Season Tickets

Recreational activities for men and women are listed in this bulletin. In addition, men may use the gymnasium and swimming pool on terms available on request.

Any student enrolled for at least five credits of Extension classes (but not correspondence study courses) with a minimum fee of \$25 may purchase one season ticket book at \$10. Married students may purchase a second book for use by husband or wife only. Price of second book is subject to additional federal admission tax equal to amount paid by general public. Books may be bought at the special student athletic ticket sale headquarters on the campus the week before classes begin. Regulations governing purchase, transfer, and cancellation of these books are available on request.

The University Library

Extension 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 are set forth in the *Library Handbook*, copies of which may be had at the loan desk.

Minneapolis Symphony Orchestra Tickets

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

Correspondence Study Courses

A large selection of correspondence study courses is available to students who prefer this form of study; ask for a bulletin.

UNIVERSITY DEGREES

It is possible through Extension classes alone to meet all the requirements for several of the regular university degrees such as: in the College of Science, Literature, and the Arts, the 4-year bachelor of arts with a liberal arts major and the 2-year associate in liberal arts; in the School of Business Administration, the bachelor of business administration and the bachelor of science in economics. In other degree programs an Extension student can complete all but a few credits in the most advanced subjects, while in still others such as Engineering, Education, Prelegal, Nursing, Pharmacy, Dentistry, etc., the Extension Division can furnish the equivalent of from one to two years of the total degree program.

A student who wishes to become a candidate for a university degree must eventually meet the admission requirements of the University and the entrance and degree requirements of the college in which the degree is sought. The Extension Students' Work Committee will assist the student to determine his status with regard to these requirements. In all cases an Extension student who has reached the point of qualifying for a senior college (the equivalent of junior or third year standing) should apply for admission to the college or school of his choice and, upon acceptance for admission should select an adviser in such college or school and continue a program of study under the adviser's supervision. **All students who expect to complete the requirements for a university degree during a coming semester should make formal application at the beginning of the semester** for the award by the college or school concerned.

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 both. Some day-school or Summer Session credits from the University of Minnesota may be approved. Students 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 **permission for substitution and transfer of credits**, consult the Students' Work Committee. Certificates are awarded to students who complete with a C average any of the following programs of study:

GENERAL CERTIFICATES

Liberal Education Certificate (45 credits)

English requirement: Freshman Composition 4-5-6, or exemption
Spread requirement: at least 6 credits in each of the following fields:

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

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

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

Concentration requirement: at least 12 credits in one subject, or in approved related subjects in addition to the 6 or 9 credits earned in that subject under the spread and English requirements above.

Electives: additional courses approved by the Students' Work Committee to make a total of 45 credits for the certificate.

Note—The 90-credit Junior College and Liberal Education certificates have been discontinued, since most students interested in these certificates would probably prefer to work for the new 90-credit degree, associate in liberal arts, now granted by the College of Science, Literature, and the Arts. For information about this degree, consult the Students' Work Committee.

Communications Certificate: Essentials of Speech and Composition (27 credits)

American Studies Certificate: Know Ourselves (27 credits)

Latin-American Certificate: Know Our Neighbors (24 credits)

International Certificate: Know Our World (24 credits)

The four short term certificates listed above may be completed in the space of two years' study. Inasmuch as the available course offerings in these fields change from year to year, the Students' Work Committee should be consulted for advice in arranging a satisfactory study program.

BUSINESS CERTIFICATES

Junior Certificate (45 credits)

Core requirement:

- Business English or Composition 4, or exemption
- B.A. 51 Business Law
- Econ. 5 Elements of Statistics
- Econ. 6-7 Principles of Economics
- Econ. 22-23 Principles of Accounting

Spread requirement: at least 3 credits in any three of the following fields:

- Business Administration: B.A. 89 Production Management
- Distribution: Advertising, Marketing and Merchandising, Traffic and Transportation
- Finance
- Labor and Personnel

Concentration requirement: at least 9 additional credits in one of the following fields, or approved combination thereof:

- | | |
|-------------|-----------------------------|
| Accounting | Labor and Personnel |
| Advertising | Marketing and Merchandising |
| Economics | Statistics |
| Finance | Traffic and Transportation |
| Insurance | |

Electives: additional courses approved by the Students' Work Committee to make a total of 45 credits for the certificate.

Senior Certificate (90 credits)

Core requirement:

- Business English and Business Correspondence or Composition 4-5-6, or exemption
- B.A. 51 and either 52 or 53 Business Law
- B.A. 89 Production Management
- Econ. 3 Elements of Money and Banking
- Econ. 5 Elements of Statistics
- Econ. 6-7 Principles of Economics
- Econ. 22-23 Principles of Accounting
- Econ. 161 Labor Problems and Trade Unionism

Concentration requirement: at least 18 additional credits in one of the following fields, or approved combination thereof:

- | | |
|-------------|-----------------------------|
| Accounting | Labor and Personnel |
| Advertising | Marketing and Merchandising |
| Economics | Statistics |
| Finance | Traffic and Transportation |
| Insurance | |

Electives: additional courses approved by the Students' Work Committee to make a total of 90 credits for the certificate.

ENGINEERING CERTIFICATES

Junior Certificate (45 credits)

Core requirement:

- M.&M. 11 College Algebra
- M.&M. 12 Trigonometry
- M.&M. 13 Analytic Geometry
- M.&M. 24 Differential Calculus
- M.&M. 25 Integral Calculus
- M.&M. 26 Technical Mechanics: Statics
- D.&D.G. 1-2 Engineering Drawing

Electives: additional courses approved by the Students' Work Committee to make a total of 45 credits for the certificate.

Senior Certificate (90 credits)

Core requirement:

M.&M. 11 College Algebra
 M.&M. 12 Trigonometry
 M.&M. 13 Analytic Geometry
 M.&M. 24 Differential Calculus
 M.&M. 25 Integral Calculus
 M.&M. 26 Technical Mechanics: Statics
 M.&M. 127 Technical Mechanics: Dynamics
 M.&M. 128a-128b Strength of Materials
 D.&D.G. 1-2 Engineering Drawing

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

Aeronautical Engineering	Electrical Engineering
Civil Engineering	Mechanical Engineering

Electives: additional courses approved by the Students' Work Committee to make a total of 90 credits for the certificate.

INDUSTRIAL RELATIONS CERTIFICATE**Industrial Relations Certificate (45 credits)**

Core requirement: (37 credits)

*Econ. 6-7 Principles of Economics
 *Econ. 161 Labor Problems and Trade Unionism
 Econ. 162 Labor and Social Movements
 Econ. 164 Labor Legislation and Social Insurance
 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: an additional 9 credits selected from the following courses:

*B.A. 86 Office Management	Wage and Salary Administration
B.A. 89 Production Management	Elements of Supervision
Psy. 119 Psychology of Personality	Motion Study
Psy. 144-145 Abnormal Psychology	Time Study
*Soc. 100 Social Psychology	Plant Layout
	Quality Control

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.

* Also offered by correspondence study.

GENERAL CLASSES

AGRICULTURE

Note—Students who travel by street car or bus can reach the Agriculture Buildings on the St. Paul Campus by taking the intercampus street car that leaves the Minneapolis Campus at 6:00 p.m.

Frozen Foods. 2 Extension credits. \$10 plus \$1 materials fee.

A comprehensive study of the principles of freezing and storing foods, including practical instruction in the preparation and freezing of foods for the locker plant and home freezer. 12 class meetings. Repeated spring semester. Note opening dates.

November 2-February 1
T 6:20 Physics 133, Winter

February 8-April 26
T 6:20 Physics 133, Winter

6 Types and Breeds of Light Horses. 3 credits. \$15 plus \$4 laboratory fee.

The origin, history, and characteristics, the economic and recreational importance of the breeds of light horses. Practice judging of the more popular types and breeds. No prerequisite.

Spring Semester
T 8:05 Livestock Pavilion, St. Paul Campus,
Harvey

7 Principles of Livestock Production. 3 credits. \$15 plus \$2 laboratory fee.

An introduction to the livestock industry including a study of the basic principles involved in selection, feeding, breeding, and management of beef cattle, dairy cattle, sheep, swine, horses, and poultry. Practice in judging the various kinds of farm animals. No prerequisite.

Fall Semester
T 8:05 Livestock Pavilion, St. Paul Campus,
Harvey

12 Dairy Stock Feeding and Management. 3 credits. \$15.

Emphasis on the practical side of dairy stock feeding and management of a modern dairy. Application of principles of nutrition to feeding. Feeding standards; characteristics of various feeding stuffs; formulation of rations. No prerequisite.

Spring Semester
Th 6:20 Haecker Hall 214, St. Paul Campus,
Gullickson

Agr. Eng. 42A-B Art Metal Work. See Engineering Classes, page 49.

Hort. 10 Home Floriculture and Gardening. 3 credits. \$15.

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. A special course for the housewife, the school teacher, the tired business man, the weary professional worker, and the plain-dirt gardener who wants to extend his knowledge of plant culture and enjoy some activity with plants throughout the year. No prerequisites.

Fall Semester
T 6:20 Horticulture 102, St. Paul Campus
Phillips

Hort. 24 Home Landscape Planning. 3 credits. \$15.

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 prerequisites.

Fall Semester
Th 6:20 Horticulture 102, St. Paul Campus
Phillips

Hort. 25 Home Landscape Planting and Construction. 3 credits. \$15.

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 Horticulture 102, St. Paul Campus
Phillips

Hort. 51 Garden Flowers and Home Gardening. 3 credits. \$15.

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 and hot beds. Special emphasis on pruning, fertilizing, weed control, and insect and disease control. Also a survey of all the plants recommended for Minnesota gardens and yards. No prerequisites.

Spring Semester

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

Fruit and Vegetable Gardening. 3 Extension credits. \$15 plus \$1 laboratory fee.

In this course it is planned to keep in mind the needs and desires of the class. The use of technical terms and commercial practices will be reduced to bare essentials. In fruit growing, emphasis will be placed on planting, pruning, fertilizing, control of pests and selection of suitable varieties. Grafting by different methods will be demonstrated and several periods will be devoted to the actual practice of grafting. Vegetable crops will be discussed under culture, varieties and protection from pests. 12 meetings. No prerequisites.

February 11-April 29

F 6:20-9:00 Horticulture 8, St. Paul Campus
Weir

ANTHROPOLOGY**40 Introduction to Anthropology. 3 credits. \$15**

The course serves as an introduction to the entire field of anthropology: physical anthropology, prehistory, cultural anthropology. Lectures and reading will cover man's relations to the primates, human evolution, the races of man, the development of culture, and a survey of the varieties of ways of life in primitive and modern societies. Introductory anthropology should be of special interest to students of related fields like history, sociology, and psychology.

Fall Semester

T 8:05 Wesbrook 206, Winchester

41 Introduction to Cultural Anthropology. 3 credits. \$15.

At the present time increasing contacts with other peoples in all parts of the world make it important that we of the West understand the patterns of living of other societies. To this end cultural anthropology can be of valuable assistance. The present course provides an introduction to the fundamentals of cultural anthropology—the nature of culture, cultural change, culture and personality, and the varieties of major institutions like the family, etc. Special attention is given to the description of several different societies on different levels of social and technological complexity.

Spring Semester

T 8:05 Wesbrook 206, Winchester

ART

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

1 Understanding the Arts. 3 credits. \$15.

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 great works of art, knowledge of the principles involved in their creation, and recognition of the place of art in its social setting.

Fall Semester

T 7:00 St. P. Gallery
Th 8:05 Jones 104, Parker

***20-21-22 (ArtEd. 4-5-6) First Year Drawing and Painting. 2 credits each semester. \$10 plus \$5 instruction and laboratory fee.**

Introduction to materials and techniques; still life, figure, and landscape. No prerequisite. (See note above.)

Fall Semester

T 7:00 Jones 200A, Doseff
Th 7:00 Jones 200A, Young

Spring Semester

T 7:00 Jones 200A, Doseff
Th 7:00 Jones 200A, Young

***30-31-32 Commercial Drawing.** 2 credits each semester. \$10 plus \$5 instruction and laboratory fee.

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

Fall Semester
M 7:00 Jones 200A, Doseff

Spring Semester
M 7:00 Jones 200A, Doseff

44-45 General Crafts. 2 credits each semester. \$10 plus \$5 instruction and laboratory fee.

Studies in the natures of materials, exercises in three-dimensional design. Work in metal, wood, clay, leather, plastics, etc. Class meets for 2½ hour period. No prerequisite.

Fall Semester
44 T 7:00 Jones 2, Morton

Spring Semester
45 T 7:00 Jones 2, Morton

46 History of Architecture Survey. 3 credits. \$15.

A one semester course covering the most important phases of the full year course, History of Architecture 51-52-53. Significant architecture of the past, with particular reference to the geographic, social and technical influences which produced it. Designed for students who wish to prepare for the State Architectural Registration Examination or for those who wish a general background in history of architecture. Will carry elective credit in the College of Science, Literature, and the Arts. No prerequisite.

Fall Semester
T 6:20 Nicholson 100, Boss

***50-51-52 (ArtEd. 23) Pictorial Composition.** 2 credits each semester. \$10 plus \$5 instruction and laboratory fee.

A basic course which approaches painting specifically in terms of the problems involved in organization of the picture space and the nature of the artist's materials. Practice in composition ranging from representational to abstract and nonobjective painting with emphasis upon individual development and experimentation in all media. Prerequisite: First year Drawing and Painting or equivalent with instructor's consent. (See note above.)

Fall Semester
M 7:00 Jones 200B, Quirt
W 7:00-9:30 St. P. Gallery

Spring Semester
M 7:00 Jones 200B, Quirt
W 7:00-9:30 St. P. Gallery

56 Art in the United States. 3 credits. \$15.

Origins: Painting, sculpture and architecture from the beginnings through the Colonial and Revolutionary periods; Copley, Stuart, West and their followers. The Nineteenth Century: the rise of a national style; Homer, Erskine, Ryder and their influence; impressionism; the beginnings of modern architecture. The Contemporary Movements: development of modern realism, expressionism and abstraction; Frank Lloyd Wright and modern American architecture. No prerequisite.

Spring Semester
T 8:05 St. P. Gallery
Th 8:05 Jones 104, Patrick

***60-61-62 (ArtEd. 24-26-28) Second Year Drawing and Painting.** 2 credits each semester. \$10 plus \$5 instruction and 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 instructor's consent. (See note above.)

Fall Semester
M 7:00 St. P. Gallery, Morris
Th 7:00 Jones 200B

Spring Semester
M 7:00 St. P. Gallery, Morris
Th 7:00 Jones 200B

***73-74 (ArtEd. 67 A-B-C) Illustration Techniques for Commercial and Industrial Design.** 2 credits each semester. \$10 plus \$5 instruction and laboratory fee.

Commercial art problems in line and wash drawing for newspaper reproduction and industrial design problems in rendering of industrial products. Stress is placed on development of necessary skills needed for a successful renderer rather than upon creative design. Skills include line and wash drawing; lettering; rubbed chalk and carbon pencil rendering; interior and exterior freehand and scaled perspective. (See note above.)

Fall Semester
T 7:00 St. P. Gallery
Th 6:30-9:00 Jones 109, McAdams

Spring Semester
T 7:00 St. P. Gallery
Th 6:30-9:00 Jones 109, McAdams

83 Interior Design (ArtEd. 52C Interior Decorating I). 3 credits. \$15 plus 50 cents laboratory fee.

A study of traditional and modern furniture used today and of how to combine various styles. Additional subjects include room composition, color, floor coverings, wall treatments, window treatments. Some general discussions of new ideas and materials in home building.

Interesting optional field trips. Drawing not emphasized. Slides and practical demonstrations are used in the regular class procedure. Each section is limited to 75 students, accepted in order of registration. Repeated spring semester. No prerequisite.

Fall Semester			Spring Semester	
M	8:05	Nicholson 209, Lewis	Th	6:20 Nicholson 209, Lewis
T	4:00	Nicholson 209, Lewis	Th	8:05 Nicholson 209, Lewis
T	6:20	Nicholson 209, Lewis		
W	6:20	Nicholson 209, Lewis		
Th	6:20	St. P. Ext. Center 212, Lewis		

84 Interior Design (Art Ed. 52D Interior Decorating II). 3 credits. \$15.

A study of decorative fabrics is an important part of the course. Students plan color schemes for specific rooms and have available beautiful fabrics and other materials. Such accessories as china, glass, silver, and movable wall decorations are included. Several talks are given by buyers from loop stores. Students are required to do some drawing and experimenting with paints; therefore, auditing is not advised. Prerequisite: Art 83.

Spring Semester	
T	6:20 Jones 109, Lewis
T	8:05 Jones 109, Lewis
W	6:20 Jones 104, Lewis

93-94-95 (ArtEd. 73-74-75) Ceramics. 2 credits each semester. \$10 per semester plus \$5 instruction and laboratory fee.

Emphasis on ceramic sculpture. Instruction on potter's wheel if desired. Techniques of using colored clays, underglazes, overglazes, scrafito, and bas-relief decoration. Class meets for 2½ hours. No prerequisite.

Fall Semester		Spring Semester	
M	6:20 Jones 10, Lupori	M	6:20 Jones 10, Lupori
W	7:00 St. P. Gallery, MacKenzie	W	7:00 St. P. Gallery, MacKenzie

Use of Color. 3 Extension credits. \$15.

Lectures and laboratory work demonstrating how color should and should not be used in public buildings and private residences. The use of color in stage work and in clothing for men and women will also be considered. This course is designed to be of service both to the amateur home decorator and to the professional artist, architect, advertiser, or decorator. Class meets twice a week for eight weeks beginning January 4. Students are expected to supply own water colors and paper.

January 4-March 2	
TW	6:20 Jones 104, Hopkins

ArtEd. 17-18-19 Survey of Art. See page 16.

Agr.Eng. 42A-B Art Metal Work. See Engineering Classes, page 49.

Architectural Drafting. See page 50.

Architectural Design. See page 51.

Production Illustration. See page 50.

Beginning and Advanced Cameracraft. See page 28.

Applied Photography I-II. See page 28.

Motion Picture Photography. See page 29.

Industrial Design. See page 50.

ASTRONOMY

Note—Students who wish to use astronomy to meet the natural science requirement for either the A.L.A. or B.A. degrees in the College of Science, Literature, and the Arts may do so by completing Astronomy 11 and 13 and another related course approved by the Students' Work Committee.

11 Descriptive Astronomy. 3 credits. \$15.

The general principles and fundamental facts of astronomy; illustrated by lantern slides, simple problems, and naked-eye and telescopic observation. Higher mathematics not necessary.

Fall Semester	
W	6:20 Physics 133, Luyten

13 Practical and Stellar Astronomy. 3 credits. \$15.

Supplements Astronomy 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.

Spring Semester

W 6:20 Physics 133, Luyten

BACTERIOLOGY**53 General Bacteriology.** 5 credits. \$25 plus \$2 laboratory fee.

Culture media; methods of staining and identification; principles of sterilization and disinfection; examination of air, water, milk; relation of bacteriology to the industries and to disease; bacteriology as a science; morphology and physiology. Class meets 6 hours per week for 11 weeks. Prerequisite: 10 credits in chemistry and 4 credits in biological sciences, or permission of instructor.

September 28-December 9

TTh 7:00 Millard 214, McLimans

102 Medical Bacteriology. (Not offered 1948-49)**116 Immunity.** 3 credits. \$15 plus \$2 laboratory fee.

Laws of hemolysis; quantitative relationship between antigen and antibody; Wassermann reaction; opsonins, vaccines, toxin, antitoxin, precipitin reactions, blood groupings, atopy, anaphalaxis. Prerequisite: Bacteriology 53 and 102 or consent of instructor. Class meets 6 hours per week for 11 weeks.

February 8-April 21

TTh 7:00 Millard 201, McLimans

CHEMISTRY**6-7† General Inorganic Chemistry.** 5 credits per semester. \$25.

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

Fall Semester

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

Spring Semester

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

12 Semimicro Qualitative Analysis. 5 credits. \$25.

Laboratory work in systematic qualitative analysis of cations with lectures on solutions, ionization, chemical and physical equilibria, oxidation and reduction, etc. Prerequisite: Inorganic Chemistry 2, 5, 6 or 10.

Fall Semester

T 8:00-10:00 Chemistry 325, Herr
Th 7:00-10:00 Chemistry 325, Herr

1 Quantitative Analysis—Gravimetric. 5 credits. \$25.

Principles and methods of gravimetric analysis; typical problems and proper laboratory practice. Prerequisite: Qualitative Analysis 11 or 12.

Spring Semester

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

2 Quantitative Analysis—Volumetric. 5 credits. \$25.

General principles, methods and calculations of volumetric analysis. Prerequisite: Qualitative Analysis 11 or 12.

Fall Semester

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

7 Quantitative Analysis—Premedical. 4 credits. \$20.

Introductory, covering principles and methods of gravimetric and volumetric quantitative analysis; typical problems and proper laboratory practice. Prerequisite: Qualitative Analysis 11 or 12.

Spring Semester

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

123 Advanced Quantitative Analysis. 3 credits. \$15.

Prerequisite: Analytical Chemistry 1-2 or equivalent. Repeated spring semester.

Fall Semester

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

Spring Semester

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

CHILD WELFARE

40 Child Training. 3 credits. \$15.

Physical and mental development of the child; training of young children; behavior problems; techniques of good and bad management. Repeated spring semester. Prerequisite: Psychology 1-2.

Fall Semester
T 8:05 Folwell 101, Cummings

Spring Semester
T 8:05 Folwell 101, Cummings

80 Child Psychology. 3 credits. \$15.

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

Fall Semester
M 6:20 Folwell 101, Hansen

Spring Semester
M 6:20 Folwell 101, Hansen

132 Later Childhood and Adolescence. 3 credits. \$15.

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

Fall Semester
M 8:05 Folwell 101, Martin

140 Behavior Problems in Younger Children (Same as S.W. 173A). 3 credits. \$15.

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
W 6:20 Folwell 101, Blodgett

141 Behavior Problems in Older Children (Same as S.W. 173B). 3 credits. \$15.

Origin and underlying factors in behavior difficulties in older children; adjustment at adolescence; treatment and training. Prerequisite: 12 credits in psychology, educational psychology or sociology.

Spring Semester
W 6:20 Folwell 101, Harris

166 Maturity and Aging: Developmental Changes and Adjustment in Maturity and Old Age. 3 credits. \$15.

Changes in interests, learning, and personality; creative activities and rehabilitation. Prerequisite: 15 credits in psychology, education, or sociology.

Spring Semester
M 8:05 Folwell 101, Martin

CHINESE

1-2 Beginning Chinese. 3 Extension credits. \$15.

Reading of Chinese texts, instruction in writing of characters and translation. No prerequisite.

Fall Semester
1 Th 6:20 Nicholson 103, Yang

Spring Semester
2 Th 6:20 Nicholson 103, Yang

3-4 Intermediate Chinese. 3 Extension credits. \$15.

Introduction to Chinese conversation. Prerequisite: reading knowledge of Chinese.

Fall Semester
3 Th 8:05 Nicholson 103, Yang

Spring Semester
4 Th 8:05 Nicholson 103, Yang

ECONOMICS

All classes of the Economics department of the College of Science, Literature, and the Arts are listed under appropriate headings in the Business Classes section of this bulletin: the following Economics classes may be found on pages 39 through 45: 3 Elements of Money and Banking, 5 Elements of Statistics, 6-7 Principles of Economics, 22-23 Principles of Accounting, 50 Insurance Principles, 80-81 Advanced General Economics, 149 Business Cycles, 155 Corporation Finance, 161 Labor Problems and Trade Unionism, 164 Labor Legislation and Social Insurance, 175 Government Regulation of Business.

EDUCATION

Art Education

17-18-19 Survey of Art in Life and Education. 3 credits each semester. \$15.

An introductory survey for the layman, especially elementary teachers, to develop appreciation and understanding through illustrated lectures, laboratory demonstrations and experiments of the content and importance of art in modern education. 17: The artist's

contribution to our lives, his materials, techniques, and basic modes of expression. 18: The importance of design in historic and modern art; influential ideas, individuals and movements; significant relationships between art and nature. 19: Social and educational significance of design in contemporary life; personal appearance, the home, architecture, city-planning, industrial design, advertising, theater, hobbies, etc. The number listed is the emphasis which prevails for the semester. A complete course is offered each semester; open to all. No prerequisite.

Fall Semester
19 W 6:20 Jones 109, Gayne

Spring Semester
17 W 6:20 Jones 109, Gayne

Educational Psychology

60 Introduction to Measurements and Statistics. 3 credits. \$15.

This course includes a study of measures of central tendency, variability and correlation. Prerequisite: 6 credits in psychology.

Fall Semester
Th 6:20 St. P. Ext. Center 217,
Van Wagenen

Spring Semester
M 6:20 N. W. Bank Bldg. 690,
Van Wagenen

120 Basic Principles of Measurement. 3 credits. \$15.

Principles of measurement applied to the construction and evaluation of tests and to the interpretation of scores. Illustrations from achievement, intelligence, interest, attitude, and personality tests. Prerequisite: Ed.Psy. 60 or equivalent.

Fall Semester
T 6:20 Nicholson 111, Cook

Spring Semester
Th 6:20 St. P. Ext. Center 217,
Van Wagenen

183 Education of Gifted Children. 3 credits. \$15.

A study of the abilities and characteristics of intellectually gifted children. Prerequisite: 51A or equivalent.

Fall Semester
M 6:20 N. W. Bank Bldg 690,
Van Wagenen

Music Education

224E Seminar and Individual Research Problems in Music Education. 2-6 credits. \$10-\$30.

The student is individually guided in the conduct of field studies and investigations within his major needs and interests in music education. Seniors and graduates.

Note—Mu.Ed. 224E is applicable toward the B.S. and M.Ed. degrees in Music Education. Course will be taught on the individual conference basis by appointment with Professor Winslow. Call Main 8177, Extension 229 or 342.

Nursing Education

58 Introduction to Ward Administration. 3 credits. \$15.

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 graduate nurses. Repeated spring semester.

Fall Semester
M 5:00 Medical Sciences 113, Randall

Spring Semester
M 5:00 Medical Sciences 113, Randall

62 Personnel Work in Nursing. 3 credits. \$15.

Survey of principles of techniques of personnel work applied to problems in schools of nursing. The relationship of such topics as individual differences, human behavior, personality, emotions, and intelligence to the problem of personnel guidance. Study of such techniques as psychological tests, personnel records, orientation periods, remedial programs, and counseling interviews in schools of nursing. Open to graduate nurses.

Fall Semester
T 6:20 Medical Sciences 113, Johnston

72 Principles of Learning and Methods of Teaching. 3 credits. \$15.

Study of learning situations in the basic professional program in nursing. Sources, selections, and organization of instructional materials; evaluation of nursing care; content and methods of clinical teaching; measurement of outcomes. Open to graduate nurses. Repeated spring semester.

Fall Semester
Th 6:20 Medical Sciences 113, Boyle

Spring Semester
Th 6:20 Medical Sciences 113, Boyle

Physics A—For Nurses. 3 Extension credits. \$15.

One semester course designed especially for nurses, selected topics from mechanics, acoustics, heat, optics, and electricity. No prerequisite.

Fall Semester
M 7:00 Physics 133

ENGLISH

English Placement Tests.

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

Fall Semester

7:00 Wednesday, September 22 Room 106, Nicholson Hall
7:00 Wednesday, September 22 Room 212 St. P. Ext. Center
7:00 Wednesday, September 29 Room 106, Nicholson Hall

Spring Semester

7:00 Wednesday, February 2 Room 106, Nicholson Hall

Preparatory Composition. No credit. \$11.25.

Intensive drill on grammatical forms, structure, and theme writing. No prerequisite. Repeated during spring semester. Note Composition 4-5-6 below.

Fall Semester

T 6:20 Folwell 209, Stolz

Spring Semester

T 6:20 Folwell 209, Stolz

4-5-6 Freshman Composition. 3 credits each unit. \$15.

This sequence satisfies the English requirement for graduation and is prerequisite to other English classes. Class meets for a period of 2½ hours each week. Prerequisite: Preparatory Composition or satisfactory score on English Placement Test, explained above.

September 27-December 16

4 M 6:20 Folwell 105
T 6:20 Folwell 105
W 6:20 St. P. Ext. Cent.
214

January 4-March 17

4 T 6:20 Folwell 104
5 M 6:20 Folwell 105
T 6:20 Folwell 105
W 6:20 St. P. Ext. Cent.
214

March 28-June 11

5 T 6:20 Folwell 104
6 M 6:20 Folwell 105
T 6:20 Folwell 105
W 6:20 St. P. Ext. Cent.
214

5-6 Freshman Composition. 4½ credits. \$22.50.

This course completes the English requirement, Composition 4-5-6. Class meets for a period of 2½ hours each week. Prerequisite: One semester of Composition 4-5.

Fall Semester

W 6:20 Folwell 104

Grammar Review. 2 Extension credits. \$10.

A "refresher" course for those who need a quick and thorough review of grammar, mechanics, and usage. More intensive than Preparatory Composition. Twelve meetings. No prerequisite.

September 30-December 16

Th 8:05 Folwell 209, Lewis

February 9-April 27

W 8:05 St. P. Ext. Center 219, Lewis

21-22-23 Introduction to Literature. 5 credits each unit. \$25.

A chronological study of English literature with its historical background. An introduction to types of literature and literary ideas. 21: The Renaissance and the Rise of Puritanism. Marlowe, Spenser, Bacon, Browne, Milton, and Bunyan; 22: The Restoration and the Eighteenth Century. Dryden, Pope, Swift, Addison and Steele, Johnson, Boswell, Fielding, and Sheridan; 23: The Romantic Movement and the Victorians. Wordsworth, Byron, Shelley, Keats, Lamb, Carlyle, Browning, and Arnold. Prerequisite: Composition 4-5-6 or exemption from requirement.

September 27-December 16

21 T 6:20 Folwell 102,
Moore

January 4-March 17

22 T 6:20 Folwell 102,
Moore

March 28-June 11

23 T 6:20 Folwell 102,
Moore

27-28 Advanced Writing. 3 credits each semester. \$15.

Offers training in the fundamentals of creative writing, through lectures and the criticism of manuscripts. Advanced Writing 27 deals with expository writing; articles, essays, criticism, etc. Advanced Writing 28 deals with description and narration. Students may begin with either 28 or 27. Note that units are offered in reverse order. Prerequisite: Composition 4-5-6, or consent of instructor.

Fall Semester

28 T 8:05 Folwell 205, Buckley

Spring Semester

27 T 8:05 Folwell 205, Buckley

Introduction to World Literature (G.C. 30E). 3 General College credits. \$15.

A course designed to show through selections from world literature that human nature and personality remain basically uniform throughout all periods of history. Tracing through literature man's collective responses to his physical, social and individual personal world. Among authors read in each of these aspects will be: Pushkin, Keats, Wordsworth, Pascal, Homer, Sophocles, Ibsen, Rabelais, Montaigne, Bacon, Rousseau, the Bible. No prerequisite.

Fall Semester

W 8:05 St. P. Ext. Center 219, Hensley

Current Reading (G.C. 30B Literature Today). 3 General College credits. \$15.

How to select, read, and judge contemporary books. Of the thousands of books printed each year only a few may satisfy your needs and tastes. How can you choose the best books for both recreational and serious reading? How should you read, analyze, and judge them in order to obtain the greatest pleasure and profit? These are some of the questions answered in this course. With the instructor's guidance each member of the class selects and buys a current book of his own choice. Among topics treated in lectures and discussions are the following: books of the year; the book review as a guide to book selection; values in reading; analysis and judgment of fiction and nonfictional reprints; building a personal library. No prerequisite.

Spring Semester

W 8:05 Folwell 110, Livingston

39 Twentieth Century Literature III. 3 credits. \$15.

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

Fall Semester

Th 8:05 Nicholson 102, Acker

55-56 Shakespeare. 3 credits each semester. \$15.

Shakespeare's development as a dramatist; a careful study of a selected list of plays. Prerequisite: Composition 4-5-6 or exemption.

Fall Semester

55 W 6:20 Folwell 102, Christie

Spring Semester

56 W 6:20 Folwell 102, Christie

69-70 Short Story Writing I-II. 3 credits each semester. \$15.

The technique of the short story with constructive work in story writing. Prerequisite: 27 and 28 or 29, or consent of instructor.

Fall Semester

69 Th 6:20 Folwell 203, Davis

Spring Semester

70 Th 6:20 Folwell 203, Davis

85 Present-day English. 3 credits. \$15.

The language we speak, a consideration of various of its aspects: its vocabulary, grammar, and pronunciation; regional speech; standards of usage; popular misconceptions about language; meaning, etc. The particular emphasis of the course will be determined largely by the interests of the class. Open to students with Senior College standing and to others by permission of the instructor. Graduate credit may be granted to qualified students with approval of instructor.

Fall Semester

M 6:20 Folwell 110, Allen

91-92 Seminar in Writing (Advanced Short Story). 3 credits each semester. \$15.

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

Fall Semester

91 M 6:20 Folwell 203, Phelan

Spring Semester

92 M 6:20 Folwell 203, Phelan

114 The Midwest in Literature. 3 credits. \$15.

A survey of the outstanding contributions of writers on the midwestern scene from the days of early explorers through the pioneer and empire builders to the present day. Explorers, travellers and early residents; humorists, local colonists and verse writers; critics of society; poets and fiction writers. Prerequisite, for S.L.A. credit: 6 credits in English literature.

Fall Semester

Th 8:05 Folwell 205, Buckley

Book Reviews. No credit. \$9.

A series of ten lectures on current books for persons interested in interpreting the world today, its scenes, personalities, and changing values as reported by the most able and significant of contemporary authors. No prerequisite.

September 28-November 30

T 6:20 St. P. Ext. Center 214, Acker

Th 6:20 Nicholson 102, Acker

Humanities. See page 24.**Magazine Writing. See Journalism, page 24.****Radio Writing. See page 32.**

FAMILY LIFE

1 Preparation for Marriage. See Personal Orientation, page 27.

FRENCH

1-2 Beginning French. 3 credits each semester. \$15.

Grammar, pronunciation, reading, and practice in speaking. No prerequisite.

Fall Semester

1 W 6:20 Folwell 227, Sullivan
Th 6:20 St. P. Ext. Center 214, Lichtenstein

Spring Semester

2 W 6:20 Folwell 227, Sullivan
Th 6:20 St. P. Ext. Center 214, Lichtenstein

3-4 Intermediate French. 3 credits each semester. \$15.

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

Fall Semester

3 M 6:20 Folwell 213, Lichtenstein
3 T 8:05 St. P. Ext. Center 219

Spring Semester

4 M 6:20 Folwell 213, Lichtenstein
4 T 8:05 St. P. Ext. Center 219

17a-b French for Graduate Students. No credit. \$15.

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 Folwell 102, Brackney
17b M 6:20 Folwell 124

Spring Semester

17a M 6:20 Folwell 102, Brackney
17b M 6:20 Folwell 124

64a-65a French Conversation. 3 credits each semester. \$15.

Discussion of current affairs, based mainly on readings from French newspapers. Prerequisite: 34 or consent of instructor.

Fall Semester

64a W 6:20 Folwell 203, Fermaud

Spring Semester

65a W 6:20 Folwell 203, Fermaud

GARDENING

(For all classes in Gardening, see **Agriculture**, page 11.)

GEOGRAPHY

11 Human Geography. 5 credits. \$25.

A study of the development, types, and uses of maps, followed by a consideration of the factors of the physical environment and their effect on human activities. Current problems in the use of our natural resources are used as illustrative material. This is a basic course and a prerequisite for further courses in geography. It likewise supplies background material necessary for intelligent interpretation of the world's news. No prerequisite.

Spring Semester

T 6:20 Burton 103, Jennings

71 Geography of North America. 3 credits. \$15.

A study of the major geographic regions of the United States and Canada, with special emphasis on the geographic basis for the economic activities. Prerequisite: Geography 11.

Fall Semester

T 6:20 Burton 103, Weaver

GEOLOGY

1 General Geology (Dynamic). 3 credits. \$15.

A Dynamic Geology Laboratory. 2 credits. \$10.

These classes, 1 and A combined, constitute Geology 1 of the College of Science, Literature, and the Arts. They consist 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, oil, and other economic mineral resources. No prerequisite.

Fall Semester

1 T 6:20 Pillsbury 210, Swain
A T 8:05 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.

2 General Geology (Historical). 3 credits. \$15.

A resumé 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: Geology 1.

Spring Semester

T 6:20 Pillsbury 210, Swain

23 Mineralogy. 3 credits. \$15.

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 Pillsbury 110, Gruner

24 Mineralogy. 3 credits. \$15.

A continuation of the study of physical and chemical characteristics of minerals; their occurrence, genesis and uses. Prerequisite: Geol. 23 if possible but the student may register without it.

Spring Semester

Th 6:20 Pillsbury 110, Gruner

91 Invertebrate Paleontology. 2 credits. \$10.

Morphology and classification of some invertebrate fossil genera, with special attention to those common in Minnesota rocks. No prerequisite. This course cannot be substituted for Geology 107 of the College of Science, Literature, and the Arts. Class is limited to 25.

Fall Semester

W 6:20 Pillsbury 20, Bell

GERMAN**1-2 Beginning German.** 3 credits each semester. \$15.

Grammar, pronunciation, reading, and practice in speaking. No prerequisite.

Fall Semester**Spring Semester**

1 T 6:20 Folwell 207, Uhle

2 T 6:20 Folwell 207, Uhle

3 Beginning German. 3 credits. \$15.

Readings from modern authors, review of essential grammar, emphasis on spoken German. Prerequisite: German 1-2 or 2 years of high school German.

Fall Semester

T 6:20 Folwell 206, Ramras

4 Intermediate German. 3 credits. \$15.

Modern narrative prose. Prerequisite: German 3.

Spring Semester

T 6:20 Folwell 206, Ramras

17a-b German for Graduate Students. No credit. \$15.

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**Spring Semester**

17a M 6:20 Folwell 212, Downs

17a M 6:20 Folwell 209, Downs

17b M 6:20 Folwell 209, Wangsness

17b M 6:20 Folwell 212, Wangsness

17b M 6:20 Hort. 302, St. P. Campus,
Prottengeier

HEALTH**50 Public and Personal Health.** 3 credits. \$15.

Causes of diseases and of physical defects; fundamental principles and working methods of health conservation and disease prevention. Lectures, discussions, and directed readings. Open to students who have not taken 3, 4, 52, 53, or Human Biology (G.C. 10C) in the General College. No prerequisite.

Fall Semester

W 6:20 Medical Sciences 111, Thomson

58 Maternal and Child Hygiene. 3 credits. \$15.

The maternal welfare program; importance of breast feeding; conduct of infant welfare clinics in cities and rural communities; consideration of child of preschool and school age as to malnutrition, physical defects, cardiac and nervous disorders. Prerequisite: P.H. 53 and 62.

Fall Semester

M 6:20 Medical Sciences 111, Hested

EXTENSION CLASSES

59 Health of the School Child. 3 credits. \$15.

Mental and physical growth; prevention and control of diseases common to the school-age child; health appraisal; correction of physical defects; emotional problems; care of the handicapped; the school environment and its effect on child health; accident prevention and emergency care; practical problems of health supervision and administration. Prerequisite: 3 and 4, or 3 and 51, or G.C. 10C and 4, or G.C. 10C and 51, or 50, or 52, or 53; will be waived for teachers and school nurses, but credit granted only after completion of prerequisite.

Spring Semester

Th 6:20 Medical Sciences 111, Grout and Thomson

62-63 Principles of Public Health Nursing. 3 credits each semester. \$15.

The public health nurse's role in the various services of a public health program; discussion of individual, family, and community health problems; teaching in the home, principles of organization and administration of public health nursing services including planning of the program; some discussion of special services such as school and industrial nursing. Prerequisite: open to public health nurses.

Fall Semester

62 Th 6:20 Millard 129

Spring Semester

63 Th 6:20 Millard 129

100 Elements of Preventive Medicine. 5 credits. \$25.

Nutrition, diet, susceptibility, resistance and immunity to disease; methods of spread and prevention of communicable and degenerative diseases; protection of food, water, and milk; school health work; vital statistics. Prerequisite: 12 credits in biological science or consent of instructor.

Fall Semester

T 6:20 Millard 129, Cowan

102 Environmental Sanitation. 3 credits. \$15.

Methods for promoting man's health and comfort by controlling his environment; water supply sanitation, food sanitation, pollution abatement; sewage, excreta, and waste disposal; bathing place sanitation, air hygiene, illumination, housing, control of insect and animal vectors of disease, industrial hygiene and sanitation. Prerequisite: 50 or 51 or 53 or 100 or by permission of instructor.

Fall Semester

W 6:20 Millard 129, Pierce

115 Food Sanitation. 3 credits. \$15.

Sanitary problems associated with the production, processing and distribution of foods including dairy products and meat. Methods of public health supervision and control. Lectures, demonstrations and field observations.

Spring Semester

W 6:20 Millard 129, Adams

Ed. 81 Introduction to Education for Public Health Nurses. 3 credits. \$15.

Principles, methods, and materials in education as applied to public health nursing situations. Group work will be emphasized. Not open to candidates for a degree in the College of Education.

Spring Semester

T 6:20 Millard 129, Grout

HISTORY

1-2 European Civilization. 5 credits each semester. \$25.

Political, social, and economic factors. Course 1: 1500-1799; Course 2: 1799 to the present. No prerequisite.

Fall Semester

1 M 6:20 Folwell 104, Kane
W 6:20 St. P. Ext. Center 217, Kane

Spring Semester

2 M 6:20 Folwell 104, Kane
W 6:20 St. P. Ext. Center 217, Kane

20-21-22 American History. 3 credits each quarter. \$15.

For students who want to cover the entire sequence of History 20-21-22 in one year. Class meets for one period of 2½ hours each week. No prerequisite.

September 27-December 16

20 T 6:20 Folwell 110,
Kane

January 4-March 17

21 (Same schedule as fall)

March 28-June 11

22 (Same schedule as fall)

56-57-58 Early Modern European History. (One-year course.) 3 credits each quarter. \$15.

History 56: 1684 to 1815; 57: the French Revolution; 58: the Napoleonic era. No prerequisite.

September 27-December 16

56 Th 6:20 Folwell 104,
Kane

January 4-March 17

57 (Same schedule as fall)

March 28-June 11

58 (Same schedule as fall)

65 Europe in the Twentieth Century. (Not offered 1948-49)**66 Europe in the Twentieth Century.** 3 credits. \$15.

1918 to present. 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 the Second World War. No prerequisite.

Spring Semester

66 W 6:20 Burton 111, Deutsch

67a-b History of World War II. 3 credits. \$15.

67a: Origins and backgrounds; the principal powers and their relationships; conflicts of interests and ideologies; how the war came; the period of Axis preponderance; program of the new order; breakdown of Nazi-Soviet relations; war in the East and at sea. 67b: Decline of Axis fortunes; the U. S. 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.

Spring Semester

W 8:05 Burton 111, Deutsch

Note—This course is in effect an advanced sequence to History 65, 66 with emphasis on the events of World War II and the postwar period. It may be taken after 66 or as an independent unit.

95 American Diplomatic History. 3 credits. \$15.

The United States as a world power. A study of American foreign policy during the twentieth century. The Open Door, Dollar Diplomacy, the Roosevelt Corollary, the Good Neighbor, and the First and Second World Wars. No prerequisite.

Fall Semester

M 6:20 Burton 112, Beatty

95a Latin America in the Twentieth Century. 3 credits. \$15.

A survey of the recent history of the Latin-American countries with special attention to their background and development, their internal problems and policies, their relations with Europe and the United States, their economic, social, and cultural development, especially as related to Pan-Americanism. No prerequisite.

Spring Semester

M 6:20 Burton 112, Beatty

97-98 Minnesota and the Northwest. 3 credits each semester. \$15.

Begins with the period of exploration and the French, British, and American occupation. The fur trader and the voyageur; Indian missionary efforts of all denominations. A survey of early settlement and frontier life as well as the political and economic conditions in the territory and young state up to 1890. No prerequisite.

Fall Semester

97 W 6:20 Nicholson 100, Nute

Spring Semester

98 W 6:20 Nicholson 100, Nute

HOUSING**Planning Your Modern Home.** 2 Extension credits. \$10 plus 50 cents laboratory fee.

This is a non-technical course prepared for those who plan to build, modernize, or redecorate their home. 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. Twelve meetings. No prerequisite.

September 28-December 14

T 8:05 Murphy Aud., Cerny

Drawing Your Modern Home. 2 Extension credits. \$10.

The purpose of this course is to enable you to put down on paper and in intelligible form the plans for a modern home which you may have been turning over in your mind. Practice in sketching and in the minimum essentials of drafting. Typical conventions. The course is designed to supplement the preceding course, Planning Your Modern Home, but the latter is not prerequisite. Twelve meetings.

February 8-April 26

T 8:05 Main Engineering 304, Heath

Use of Color. See page 14.**Architectural Drafting I-II.** See page 50.**HOW TO STUDY**

(See Personal Orientation, page 27.)

HUMANITIES

Note—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.

Humanities in the Modern World I-II. 3 credits each semester. \$15.

This course offers an introduction to the study of the humanities in the modern world. The materials used are history, prose criticism, literature, and art. The period dealt with is from time of Voltaire to the present. The authors read include Voltaire, Goethe, Dostoevski, Marx, Zola, and Tolstoy. No prerequisite.

Fall Semester
I T 6:20 Nicholson 106, Swanson

Spring Semester
II T 6:20 Nicholson 106, Swanson

Humanities in the Modern World III. 3 credits. \$15.

The impact of evolution; socialism and imperialism; religion and morals in a changing world; the wars and totalitarianisms. Period: from about 1870 to about 1914. Authors: Huxley, Turgeneff, Nietzsche, Shaw, Lenin, Forster, and the poets. No prerequisite.

Fall Semester
W 6:20 St. P. Ext. Center 219, Ames
Th 8:05 Nicholson 107, Livingston

Humanities in the Modern World IV. 3 credits. \$15.

An introduction to the study of humanities in the modern world. Its period is described as "between the wars," the years from 1918 to the present. Material to be selected from such authors as: Lenin, Malraux, Freud, and Lawrence. No prerequisite.

Spring Semester
W 6:20 St. P. Ext. Center 219, Ames
Th 8:05 Nicholson 102, Livingston

JAPANESE

1-2 Beginning Japanese. 3 credits each semester. \$15.

Introduction to conversational Japanese using romaji. Reading of Japanese texts. Instruction in writing of characters. Use of Chinese-Japanese character dictionary.

Fall Semester
1 T 6:20 Folwell 113, Syro-Boyarsky

Spring Semester
2 T 6:20 Folwell 113, Syro-Boyarsky

51-52 Reading in Japanese. 3 credits each semester. \$15.

Study of grammatical construction; drill in conversation; reading Japanese text. Prerequisite: Japanese 1-2 or consent of instructor.

Fall Semester
51 T 8:05 Folwell 113, Syro-Boyarsky

Spring Semester
52 T 8:05 Folwell 113, Syro-Boyarsky

JOURNALISM

13 Introduction to Reporting. 3 credits. \$15.

News, its sources, methods of finding and gathering; correct style of written presentation; brief survey of the place and purpose of the newspaper and the processes of newspaper production. Prerequisite: English Composition 4-5-6 or exemption.

Fall Semester
W 6:20 Murphy 311, Jensen

73 Magazine Writing. 3 credits. \$15.

The writing of nonfiction articles for general and specialized periodicals, and newspaper feature articles; subjects and materials; analysis of manuscript markets; study of magazine policies and practices; training in editing procedures; use of pictures. Repeated in spring semester. Prerequisite: consent of instructor.

Fall Semester
Th 6:20 Murphy 311, Kahm

Spring Semester
Th 6:20 Murphy 311, Kahm

78 Public Relations. 3 credits. \$15.

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 press, 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: 13 or permission of instructor.

Fall Semester
W 8:05 Murphy 308, Emery

84 Mass Communications in Modern Society. 3 credits. \$15.

A study of the major agencies of mass communication—press, radio and motion picture—and their role in the opinion-forming process. A survey of the rapid growth of these media; their structure; their interrelationships with publics and government. Methods developed recently for analyzing and quantifying the content and readership or listenership of newspapers, periodicals, radio broadcasts and motion pictures. Prerequisite: consent of instructor.

Fall Semester

Th 6:20 Murphy 302, MacLean

97 Advertising Copy, Layout, and Typography. 3 credits. \$15.

Practical study of advertising copy, layout, and typography, with particular emphasis upon retail classification of newspaper advertising. Lectures and laboratory work are designed to teach the student how to write and arrange copy and headline forms, how to handle illustrations, borders, and other type devices, and how to improve attention-getting qualities of display advertising. Students receive individual criticism of all advertisements prepared as class projects. Limited to thirty students. Prerequisite: consent of instructor.

Fall Semester

T 6:20 Murphy 311, Barnhart

Note: In order that the students best qualified may be accepted under the limit of 30, registrations for this class will be accepted only provisionally and must be accompanied by a special form filled out by the applicant. Forms may be obtained from any Extension office. Students will be notified of their acceptance or rejection before the opening session. *Please register early.*

Psy. 167 Psychology of Attitudes and Public Opinion. See page 32.

For other advertising classes, see **Business Classes**, page 41.

For other writing classes, see **English**, page 18.

LIBRARY SCIENCE

51 Origins of the Book. 2 credits. \$10.

A historical survey of writing and the materials and methods of writing from the earliest times through the invention and spread of printing in the fifteenth century. Twelve meetings. No prerequisite.

September 29-December 15

W 6:20 Library 5, Strout

52 History of Publishing. 2 credits. \$10.

A survey of publishers and publishing from the sixteenth century to the present, with special attention to the history of publishing in the U.S.A.; present-day publishing houses and their specialties; current trends in publishing and their effect upon libraries. Twelve meetings beginning January 5. No prerequisite.

January 5-March 17

W 6:20 Library 5, Strout

MATHEMATICS

(For all mathematics classes, see page 52.)

MUSIC

Practical Music.

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. This includes instruction in piano, organ, voice, violin, cello, and all orchestral instruments, as well as classes in history and theory of music. Students will register as for Extension classes but attend the regular day sessions. The courses offered, the time and place of meeting, and the fees for individual instruction 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.

Enjoying Music. 3 Extension credits each semester. \$15.

This is a class for those who wish to develop or increase their enjoyment and understanding of music as a means toward life enrichment. The lectures are carefully and completely illustrated by recordings. Students registered for this class are cordially invited to come early (any time between 7:00 and 8:00), during which time the instructor or an assistant will be present to play whatever recordings students may care to select from the extensive record library of the General College. Students may enter either semester. No prerequisite. Limited to 50 students.

Fall Semester

T 8:05 Wesbrook 202, Hill

Spring Semester

T 8:05 Wesbrook 202, Hill

34-35-36 History of Music. 3 credits each semester. \$15.

A course in historical appreciation, designed to give an understanding of music as literature, a nontechnical account of the principal music forms, the historic origins and associations; the nature and scope of musical expression. The class covers the history of music from Ancient Greece to the present day; it begins with Bach, continues to the twentieth century, and then reverts to the earliest period. Extensive musical illustrations. No prerequisite.

Fall Semester
35-36 Th 6:20 Scott Hall 104, Ferguson

Spring Semester
36-34 Th 6:20 Scott Hall 104, Ferguson

40-41-42 University Symphony Orchestra. 1½ credits each semester. \$7.50.

Standard orchestral literature is performed. Open to players of orchestral instruments. Prerequisite: consent of instructor. Students enrolled in this course with the consent of the chairman of the Department of Music are given the opportunity of rehearsing with the University Symphony Orchestra and participating in several concert presentations during the year.

Fall Semester
40-41 T 7:00 Northrop Aud., Oberg

Spring Semester
41-42 T 7:00 Northrop Aud., Oberg

43-44-45 University Chorus. 1½ credits each semester. \$7.50.

The University Chorus is available to extension students through the General Extension Division. Students may register for any unit number either semester upon consent of director

Fall Semester
T 7:00 Nicholson Aud., Aliferis

Spring Semester
T 7:00 Nicholson Aud., Aliferis

56 Bach, Beethoven, Wagner, and Brahms. 3 credits. \$15.

Critical study of selections from the master works of the four greatest composers; biographical readings, topics and analyses, giving historical and literary backgrounds to culminative periods in composition. This is the equivalent of the first quarter of the regular sequence of Music 56-57-58. Prerequisite: Music 34-35-36.

Fall Semester
W 6:20 Scott Hall 104, Ferguson

Piano Playing for Pleasure I-II-III. 3 Extension credits each semester. \$15 plus \$2 laboratory fee.

It is easy to play the piano. Within a semester's time enough of the art may be acquired to enable one to enjoy playing for one's own pleasure. The fundamentals will be taught to individuals in small groups. Open to all, without previous musical training, but limited to 20 students per section. Students may register for any unit either semester, consult instructor.

Fall Semester
M 6:20 Scott Hall 104, Twichell
F 6:20 Scott Hall 104, Twichell

Spring Semester
M 6:20 Scott Hall 104, Twichell
F 6:20 Scott Hall 104, Twichell

Symphony Listeners Rehearsals. 3 Extension credits. \$15.

This course is intended to furnish a background for and preview of Minneapolis Symphony concerts. The class will meet on the Tuesday evenings directly preceding each of the regularly scheduled concerts, October 19—January 18 and February 22—March 15. Programmed works will be illustrated on the phonograph or piano and analyzed for form and structure. Historical and biographical data will be covered briefly but only insofar as they shed light on the music itself. Special attention will be paid to modern and unfamiliar works. Listening and discussion. No prerequisite.

October 19-January 18
T 6:20 Scott Hall 104, Ivory

February 22-March 15
T 6:20 Scott Hall 104, Ivory

Music Education

For full information on all Music Education courses offered in 1948-49, see Education section, page 17.

NATURAL HISTORY**Birds of Minnesota.** 3 Extension credits. \$15.

A laboratory and field class in identifying and enjoying the birds of this region. Early meetings will make use of collections of the Museum of Natural History, but as soon as weather permits the class will meet in field locations. No prerequisite.

Spring Semester
Th 6:20 Museum of Natl. Hist. 309, Breckenridge

Fish and Fishing in Minnesota. Extension credit by special arrangement. \$9.

A short course for sportsmen and others who want accurate—but nontechnical—knowledge of Minnesota fish; their habits and habitats, their feeding and propagation, their distribution and importance. Lectures, demonstrations, and discussions. 10 meetings beginning February 23. No prerequisite.

February 23-April 27

W 8:05 Zoology 313, Eddy

Wild Game of Minnesota. 2 Extension credits. \$10.

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. 12 meetings beginning September 29. No prerequisite.

September 29-December 15

W 6:20 Museum of Natl. Hist. 309, Gunderson

PERSONAL ORIENTATION**1 How To Study.** 3 Extension credits or 2 S.L.A. credits (see below). \$15.

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. Class limited to 35. No prerequisite. Repeated spring semester.

Fall Semester

M 6:20 Nicholson 101, Herbert
Th 6:20 Nicholson 101, Herbert

Spring Semester

M 6:20 Nicholson 101, Herbert
Th 6:20 Nicholson 101, Herbert

11 Vocational Adjustment. 3 Extension credits, or 2 S.L.A. credits. \$15.

Assistance to students in understanding themselves as the best basis for vocational-educational planning. Consideration of occupational trends, descriptions, and adjustment problems. Active student participation through discussion, individual projects and committees. 2 credits may be granted in S.L.A. with consent of instructor. Class limited to 30. No prerequisite. Note: Students in this class may avail themselves of personal counseling services of the instructor on class evenings between 7:00 and 8:00 or at other times by special appointment. Counseling fee, \$4. Consult instructor.

Fall Semester

T 8:05 Folwell 124, Goulding

F.L. 1 Preparation for Marriage. 3 credits. \$15.

A discussion of such topics as the function of the family today, problems of dating and courtship, the engagement, relations of husband and wife, family crises and bases of marital stability. No prerequisite. Limited to 35 students.

Fall Semester

T 6:20 Nicholson 103, Dyer

PHILOSOPHY**1 Problems of Philosophy.** 3 credits. \$15.

Introduction to the problems of philosophy; main fields of investigation; permanent problems; principal methods and schools of philosophy; historical and contemporary views. Repeated spring semester. No prerequisite.

Fall Semester

M 8:05 Folwell 322, Conger

Spring Semester

T 6:20 Folwell 322, Brodbeck

2 Logic. 3 credits. \$15.

There is a difference between "straight" and "crooked" thinking. Logic is the study of these differences. What pitfalls beset the attempt to think straight? When is a term properly defined? Why are sound definitions important? 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"? Do you do any of it? Through systematic analysis of these and other related questions, the study of logic will show you what is involved in straight thinking. No prerequisite.

Fall Semester

T 6:20 Folwell 322, Brodbeck

Spring Semester

T 6:20 Folwell 305, Hospers

3 Ethics. 3 credits. \$15.

Problems of life in terms of (1) contemporary social, political, and economic forces, and (2) the character of the individual; the psychological and philosophical foundations of morality; the reconstruction of morality; the history of morals and ethical thought. No prerequisite.

Fall Semester

Th 8:05 Folwell 322, Holmer

Spring Semester

W 6:20 Folwell 322, Wiggins

70 Modern Philosophies of Social Reform. 3 credits. \$15.

From the French Revolution to 1848. Social criticism in the period of rising industrialism. A consideration of the philosophical basis of liberalism, utopian socialism, and democracy. No prerequisite.

Fall Semester

W 6:20 Folwell 305, Wiggins

87 Readings in Religious Classics. 3 credits. \$15.

A course designed to acquaint the general reader with several of the best literary expressions of religion. No attempt will be made to settle theological or sectarian issues. Emphasis will be placed on the understanding of each author's work as it relates to his life and that of his contemporaries. Selected readings are planned from the following works of authors of diverse temperament, persuasion, time and place: Augustine's *Confessions*, St. Francis' *Little Flowers*, Luther's *On Christian Liberty*, Pascal's *Pensees*, and Kierkegaard's *For Self-Examination*. No prerequisite.

Spring Semester

Th 8:05 Folwell 305, Holmer

PHOTOGRAPHY

Students in all Photography classes must furnish their own cameras.

Important note—Owing to the limited laboratory facilities available to both classes and to the special requirements of advanced students, the following procedures will govern the selection of students for the cameracraft classes:

1. The Beginning course will be limited to 24 students and the Advanced to 16.

2. Registrations will be accepted only provisionally and must be accompanied by a special questionnaire filled out by the applicant.

3. Through the questionnaires, selected lists will be made of students qualified for either the Beginning or Advanced courses. These students will be notified in time to permit them to appear at the first class session.

4. If more than the maximum admissible number of students for either class are selected as qualified through the questionnaires, a further selection by means of special tests may be necessary at the time of the first class session.

Beginning Cameracraft. 3 Extension credits. \$15 plus \$5 laboratory fee.

A course for real beginners, those with little or no experience. Work will be about evenly divided between assigned experiments, approved personal projects, and lectures and demonstrations. Class enrolment limited to 24 selected students (see note above).

Fall Semester

M 6:20 Murphy 20, Nestler

Spring Semester

M 6:20 Murphy 20, Nestler

Advanced Cameracraft. 3 Extension credits. \$15 plus \$5 laboratory fee.

A course for established amateurs with some experience and familiarity with special photographic equipment and techniques. Work will include some assigned projects, lectures and demonstration, but special attention will be given to individual interests and requirements. Class enrolment limited to 16 selected students (see note above).

Fall Semester

W 6:20 Murphy 20, Nestler

Spring Semester

W 6:20 Murphy 20, Nestler

Applied Photography I. 3 Extension credits. \$15 plus \$2.50 laboratory fee.

A course designed for practicing amateur photographers who wish to improve their skill in all fields of monochrome photography. In addition to lectures and demonstrations, students will have an opportunity to work in laboratory classes under the guidance of an experienced instructor. Time will be devoted to portraiture, architecture, landscape, news and illustration photography. There will be lecture and laboratory periods on retouching, mounting, and darkroom work. Enrolment limited to 25 students. Prerequisite: Beginning Cameracraft. **Students must have adequate access to darkroom facilities.**

Fall Semester

W 7:00 Wesbrook 3, Stallings

Applied Photography II. 3 Extension credits. \$15 plus \$2.50 laboratory fee.

This course is designed for those who wish to become proficient in the growing field of color photography. Lectures and laboratory periods on all phases of photography, darkroom work, and photofinishing in the color medium. Field trips under the instructor's supervision will replace some class sessions. Enrolment limited to 25 students. Prerequisite: Applied Photography I or equivalent with consent of instructor. **Students must have adequate access to darkroom facilities.**

Spring Semester

W 7:00 Wesbrook 3, Stallings

Motion Picture Photography. 3 Extension credits. \$15 plus \$2.50 laboratory fee.

Designed to meet the needs of teachers interested in the visual field and of amateur motion picture photographers in general. The course will cover the requirements of good cinematography, with laboratory sessions on proper editing techniques, special effects, and titling. The student will be required to expose approximately six 100-foot rolls of 16 mm. or six 25-foot rolls of 8 mm. motion picture film. These movies will be criticized periodically by the instructor. Beginning photography desirable but not essential. Enrolment limited to 25 students.

Fall Semester

M 7:00 Wesbrook 3, Stallings

PHYSICS**9 General Physics (7-8 not offered in 1948-49).** 5 credits. \$25.

A general course in college physics for students majoring in physics, mathematics, chemistry, and students in the Institute of Technology; includes mechanics, sound, heat, light, and electricity. Laboratory work an integral part of the class. Physics 7 (mechanics); Physics 8 (heat and electricity and modern physics); Physics 9 (acoustics and optics). Prerequisite: completion of, or concurrent registration in, differential calculus. Physics 7 is required for Physics 8 or 9. Physics 7 will be offered in 1949-50.

Fall Semester

9 TTh 7:00 Physics 166, Christensen

POLITICAL SCIENCE

Note—Qualified students may receive graduate credit with the approval of the instructor for any political science course numbered over 50. For necessary prerequisites consult instructor. A student must complete both Part I and Part II in order to receive credit toward a university degree for any one of Parts I, II, or III. Credit toward an extension certificate will be granted for any single unit, however.

1 American Government and Politics: Part I. 3 credits. \$15.

All of us are aware of the impact of the war upon the American system of government and the tremendous part that government plays in our lives. This course is designed to provide an intelligent understanding of certain fundamental features of our governmental system: the nature of our constitution, the protection of individual rights and liberties, political parties, public opinion, nominations and elections. Special attention will be given throughout to current developments, wartime changes, and postwar problems. No prerequisite.

Fall Semester

T 6:20 Nicholson 102, Christensen

2 American Government and Politics: Part II. 3 credits. \$15.

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, wartime changes, and postwar problems. No prerequisite. (See note above.)

Spring Semester

T 6:20 Nicholson 102, Berg

3 American Government and Politics, Part III. 3 credits. \$15.

The emphasis of this course is not upon the structure of American government but upon the functions and activities which it undertakes and upon those factors in our contemporary society which affect the range of these activities. The course is designed to aid the citizen who wishes to be informed on how we conduct our foreign relations; who is responsible for our national defense policies; what are the revenue sources which government may tap in order to finance its manifold activities. The currently discussed problems of the relationships of government to business, to agriculture, and to labor are stressed. Evaluations of social welfare programs, ranging from public educational services and housing programs to old age and unemployment insurance, are included within the subject matter. No prerequisite. (See note above.)

Spring Semester

W 6:20 Nicholson 101, Vines

7 Comparative European Government. 3 credits. \$15.

An introduction to, and analysis of, the government and politics of Europe, particularly of England, France, Italy, Germany and the Scandinavian countries. Attention will be given to fundamental principles, institutional character and tendencies, parties and contending ideologies, the internal power relations, etc.

Fall Semester

M 6:20 Nicholson 102, McClosky

25 World Politics. 3 credits. \$15.

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.

Fall Semester

W 6:20 Nicholson 216, Mills

55 Government of the Soviet Union. 3 credits. \$15.

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. (See note above.)

Spring Semester

M 6:20 Nicholson 103, McClosky

60 Principles of Public Administration. 3 credits. \$15.

Public administration is about people. In fact, public administration in a real sense may be regarded as the development of people. The emphasis in this course is on the organization of people in administrative activities; the sociology of administration or how people behave in administrative groups; the problems of coordination of administrative groups and activities; the relations between central and field organization; communications; and the structure and practice of administrative authority. There will be special lectures by administrative officials, federal, state, and local. No prerequisite. (See note on page 29.)

Fall Semester

T 6:20 Nicholson 101, Warp

65 Government of Minnesota. 3 credits. \$15.

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. (See note on page 29.)

Spring Semester

Th 8:05 Nicholson 100, Tucker

70 American Political Parties. 3 credits. \$15.

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. Prerequisite: 6 credits or 12 credits in social science. (See note on page 29.)

Fall Semester

T 8:05 St. P. Ext. Center 217, Tucker

75 Local Government in the United States. 3 credits. \$15.

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. (See note on page 29.)

Fall Semester

Th 8:05 Nicholson 100, Tucker

80 American National Government. 3 credits. \$15.

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

Spring Semester

T 8:05 St. P. Ext. Center 218, Tucker

85 Problems of World Politics. 3 credits. \$15.

Continuation of Political Science 25 which, however, is not prerequisite. Special attention to the Far East, the Near East, and Europe. No prerequisite. (See note on page 29.)

Spring Semester

W 6:20 Nicholson 216, Mills

95 Latin-American Government. 3 credits. \$15.

An analysis of the governments of Argentina, Brazil, Chile, Venezuela and Mexico, together with the factors that have entered into the political development and the contemporary politics of Latin America. No prerequisite. (See note on page 29.)

Spring Semester

T 6:20 Nicholson 101, Christensen

PORTUGUESE

1-2 Beginning Portuguese. 3 credits each semester. \$15.

Grammar, pronunciation, reading, and practice in speaking. No prerequisite.

Fall Semester

1 T 6:20 Folwell 205, Luckey

Spring Semester

2 T 6:20 Folwell 205, Luckey

PSYCHOLOGY

1a Application of Psychology to Living. 3 credits. \$15.

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. This course has no prerequisite, and it may be taken with the same satisfaction before or after Psychology 1-2. Repeated spring semester. Elective credit in S.L.A. Not to be confused with A Elem. Psy. or 3 Applied Psy.

Fall Semester

M 6:20 St. P. Ext. Center 212, White
T 6:20 Nicholson Hall 213, White
Th 8:05 Nicholson Hall 213, White

Spring Semester

M 8:05 Nicholson Hall 213, White
T 8:05 St. P. Ext. Center 212, White
Th 6:20 Nicholson Hall 213, White

1-2† General Psychology. 3 credits each semester. \$15.

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 Nicholson Aud., White
F 7:00 St. P. Ext. Center 212, White

Spring Semester

2 W 6:20 Nicholson Hall Aud., White
F 7:00 St. P. Ext. Center 212, White

4-5† Introductory Laboratory Psychology. 2 credits each semester. \$15.

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 Psychology 1-2.

Fall Semester

4 W 8:05 Psychology 211

Spring Semester

5 W 8:05 Psychology 211

56 Psychology of Advertising. 3 credits. \$15.

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: Psychology 1-2 and Economics 6-7.

Fall Semester

T 6:20 Psychology 115, Longstaff

119 Psychology of Personality. 3 credits. \$15 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: Psychology 1-2.

Fall Semester

W 8:05 Psychology 115, Heron

122-123† Vocational Development and Personnel Psychology. 3 credits each semester. \$15 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. Not open for credit to those who have taken Psychology 160-161 for credit. Prerequisite: Consent of instructor.

Fall Semester

122 M 6:20 Psychology 211, Longstaff

Spring Semester

123 M 6:20 Psychology 211, Longstaff

144-145† Abnormal Psychology. 3 credits each semester. \$15.

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: Psychology 1-2.

Fall Semester

144 M 8:05 Psychology 115

Spring Semester

145 M 8:05 Psychology 115

167 Psychology of Attitudes and Public Opinion. 3 credits. \$15.

Emphasis is placed on how opinions develop and on social aspects of polling as well as on such survey techniques as sampling methods and question formulation. Application of polling methods to consumer studies and to measurement of industrial morale is considered. No prerequisite; elementary statistics desirable.

Spring Semester

Th 6:20 Psychology 115, Jones

RADIO**Writing for Radio and Television I.** 3 Extension credits. \$15 plus \$1 laboratory fee.

Instruction is given in both techniques, in fundamentals of radio or writing for the ear, and in television or writing for both eye and ear. Designed for radio and television writers or those who plan to do such writing, for educators, advertising men and women, public service executives, anyone interested in communication. Participants are urged to select script subjects that fit their particular interests or jobs. The student begins with short announcements, and progresses through the various announcement forms into short and longer programs of drama, comedy, interviews, music, etc. Cultural, entertainment and advertising values maintained throughout. Handling of radio sound effects and music. Making the television camera work for you. Constant survey and discussion of current radio and television with emphasis on new developments in each. Selected work may be presented on KUOM or other suitable stations. Prerequisite: a good command of English. Repeated spring semester.

Fall Semester

T 6:20 Murphy 302, Weaver

Spring Semester

T 8:05 Murphy 302, Weaver

Writing for Radio and Television II. 3 Extension credits. \$15 plus \$1 laboratory fee.

Basic plan: Writing a series of 10- or 15-minute or longer programs for consecutive presentation. The course may be used by active script writers to get unhampered criticism of their work before it is submitted to station or network, or sponsoring agency or business firm. Emphasis on skillful use of the elements of the respective mediums: in radio, the spoken word, sound effects and music; in television, the camera, or visual appeal, plus the spoken lines, sound effects and music. Participants are urged to set up projects in their own fields of interest or employment. Experimentation in new program patterns encouraged. Approved work frequently presented on KUOM or other suitable stations. Prerequisite: I to precede II, II to precede III.

Spring Semester

T 6:20 Murphy 302, Weaver

Note: Writing for Radio and Television III for those who have completed I and II or equivalent in advanced writing can be offered if a sufficient number enroll.

Fall Semester

T 8:05 Murphy 302

Radio Speech (Speech 65). 3 credits. \$15 plus \$1 laboratory fee.

Speech and psychology of radio; announcing; interpretive reading, voice, diction, articulation, and pronunciation. Practice, exercises, projects, and reports on problems of appeal and audience response. Voice recordings will be made. Repeated spring semester. Prerequisite: Speech 1-2-3, or consent of instructor.

Fall Semester

W 6:20 Station WCCO, Ziebarth

Spring Semester

W 6:20 Station WCCO, Ziebarth

Radio Drama (Speech 66). 3 credits. \$15.

A study of the methods and techniques involved in the production of radio dramatic programs. Students participate in all phases, including acting, sound effects, music selection, script analysis and production directing. Prerequisite: Speech 1-2 or consent of instructor.

Fall Semester

W 6:20 Murphy 302, Engar

Children's Radio Programs. 3 Extension credits. \$15.

A survey of the development of broadcasting for and by young people. Consideration of the special problems of writing and producing children's radio programs of all types with emphasis on the objectives, vocabulary ranges, material sources, production techniques, etc., most effective with children. Evaluation of current programs for various age groups. Students will be given opportunity of observing regular rehearsals and broadcasts of children's programs on the university station KUOM. No prerequisite.

Fall Semester

M 6:20 KUOM, Girling

RECREATION

Note that these recreational activities are offered in three groups: for women only, for both men and women, for men only. Unless otherwise designated, all classes meet one hour per week, carry no credit, and require no prerequisites.

Activities Open Only to Women

Golf (Beginning)—for Women. \$7.50.

Class and individual instruction in the use of the brassie, midiron, mashie, and putter. Discussion of rules, golf etiquette, and terminology. Last few lessons in spring at University Golf Course. Sections limited to 25. Equipment (clubs and soft balls) furnished by students. Repeated spring semester.

Fall Semester
T 6:00 Norris Gym. 60, Jaeger

Spring Semester
T 5:30 Norris Gym. 60, Jaeger
T 6:30 Norris Gym. 60, Jaeger
W 5:30 Norris Gym. 60, Tenney
W 6:30 Norris Gym. 60, Tenney

Golf (Intermediate)—for Women. \$7.50.

First ten weeks: class and individual instruction in the use of the brassie, midiron mashie, and putter; next seven weeks: supervised play at the University Golf Course. Students furnish own clubs. Sections limited to 25. Prerequisite: some knowledge of and experience in golf.

Spring Semester
M 5:30 Norris Gym. 60, Jaeger
M 6:30 Norris Gym. 60, Jaeger
Th 5:30 Norris Gym. 60, Tenney
Th 6:30 Norris Gym. 60, Tenney

Rhythmic Exercise and Recreational Games for Physical Fitness—for Women. \$7.50.

Rhythmic exercise, group and individual, for general body control with special emphasis on streamlining the figure: posture, carriage, and relaxation. Repeated spring semester.

Fall Semester
W 6:30 Norris Gym. 153, Larson

Spring Semester
W 6:30 Norris Gym. 153, Larson

Rhythm—for Children. Section I. \$7.50 plus \$1 laboratory fee.

A course in rhythm training for the 6-7-year-old child with emphasis on free imaginative response to rhythm fundamentals and music.

Spring Semester
S 10:00 Norris Gym. 151, Bockstruck

Rhythm—for Children. Section II. \$7.50 plus \$1 laboratory fee.

A course in rhythm training for children between the ages of 8 and 9 years. In addition to imaginative rhythmic response this course will include application of rhythm fundamentals in ball activities, rhythmic games and dances. The making of original dance patterns will be stressed in both sections.

Spring Semester
S 9:00 Norris Gym. 51, Bockstruck

Swimming for Girls. \$7.50.

A course in swimming for girls between the ages of 6 and 12 years. A health examination for which a fee of 50 cents is charged will be given at the first class meeting. Second meeting will be for the purpose of classifying swimmers into the following groups: beginners; advanced beginners (those who are at home in shallow water); intermediate swimmers (those who are at home in deep water). Swimmers may bring their own suits, although towels and suits may be rented through the department at a charge of 10 cents. Caps are required for all swimmers. Classes are limited to 15 girls in each section.

Fall Semester
Beginners
S 8:45-9:30, Norris Gym. 51, Birmingham
Advanced Beginners
S 9:30-10:15, Norris Gym. 51, Birmingham
Intermediate Swimmers
S 10:15-11:00 Norris Gym. 51, Birmingham

Spring Semester
Beginners
S 8:45-9:30 Norris Gym. 51, Birmingham
Advanced Beginners
S 9:30-10:15 Norris Gym. 51, Birmingham
Intermediate Swimmers
S 10:15-11:00 Norris Gym. 51, Birmingham

Swimming (Beginning)—for Women. \$7.50.

For beginners and those who want to increase their skill in strokes and diving. A health examination, for which a fee of 50 cents is charged, will be given at the first class meeting. The University furnishes regulation suit and towel for a fee of 10 cents. Repeated spring semester.

Fall Semester
T 6:00 Norris Gym. 51, Eibner
T 7:00 Norris Gym. 51, Eibner

Spring Semester
T 6:00 Norris Gym. 51, Eibner
T 7:00 Norris Gym. 51, Eibner

Swimming (Intermediate and Advanced)—for Women. \$7.50.

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. Repeated spring semester.

Fall Semester
W 6:00 Norris Gym. 51, Eibner
W 7:00 Norris Gym. 51, Eibner

Spring Semester
W 6:00 Norris Gym. 51, Eibner
W 7:00 Norris Gym. 51, Eibner

Synchronized Swimming and Water Ballet—for Women. \$7.50.

Instruction in, and adaptation of, strokes and aquatic activities of synchronized and water-ballet swimming. Experience in developing group and individual routines. Repeated spring semester.

Fall Semester
T 6:00 Norris Gym. 58, Starr
T 7:00 Norris Gym. 58, Starr

Spring Semester
T 6:00 Norris Gym. 58, Starr
T 7:00 Norris Gym. 58, Starr

Tennis (Beginning)—for Women. \$7.50 plus court fee (25 cents each time or \$1.50 for season, payable at courts).

Group and individual instruction. First eleven weeks' 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.

Spring Semester
Th 5:30 Norris Gym. 151, Rugh
Th 6:30 Norris Gym. 151, Rugh

Activities Open to Both Men and Women**American Country Dancing I-II. \$7.50 plus \$1 laboratory fee.**

A recreational course reviving old American dances, the schottische, polka, and the more popular European folk dances. Repeated spring semester. Two sections: I for beginners; II for those who have taken the course before or who are proficient in the basic steps, etc.

Fall Semester
I W 7:00 Norris Gym. 151, Ziemer
II W 8:00 Norris Gym. 151, Bell

Spring Semester
I W 7:00 Norris Gym. 151, Ziemer
II W 8:00 Norris Gym. 151, Bell

Badminton Club—for Men and Women. One period, 5 months, \$10.50.

Four 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 and Friday, beginning September 27 and continuing through February 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: Smith, Bowman.

Activities Open Only to Men**Golf—for Men. \$7.50 plus \$1 laboratory 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 7. Lessons or appointments with competent golf instructors in the golf gymnasium will be scheduled for Tuesday, Wednesday, Thursday, or Friday evenings between February 7 and April 15. The last five meetings will be held, weather permitting, at the University Golf Course, where various professionals will assist. The outdoor schedule is adjusted to light. Students will furnish their own clubs.

Spring Semester
M 7:00 Cooke Hall 205, Smith

Physical Development—for Men. \$7.50.

Exercises based on individual needs. Includes calisthenics, weight lifting, apparatus work, dual sports, and recreational activities. Adaptable for handicapped individuals.

Fall Semester
T 7:00 Cooke Hall 215, Osell

Swimming—for Men. \$7.50.

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.

Fall Semester
M 8:05 Cooke Hall, Thorpe

Spring Semester
M 8:05 Cooke Hall, Thorpe

Swimming for Boys. \$7.50.

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 the proper groups: beginning, intermediate, advanced. Swimmers are required to bring their own towels.

	Spring Semester
	Beginners and Intermediate
	S 10:00 Cooke Hall, Ostrander
	Advanced
	S 11:00 Cooke Hall, Boyce

RUSSIAN**1-2 Beginning Russian. 3 credits each semester. \$15.**

A beginning course with emphasis on reading. Comprehensive discussion of the Russian grammatical system, interpretation of easy texts, and composition. After fulfilling the requirements of the course, students will have the basic knowledge necessary for the reading of any kind of Russian texts.

	Fall Semester		Spring Semester
1	M 6:20 Folwell 113, Niemi	2	M 6:20 Folwell 113, Niemi

5 Elementary Scientific Russian. 3 Extension credits. \$15.

The publication of numerous important scientific contributions in Russian makes it essential for scientists in this country to have at least some rudimentary reading knowledge of the Russian language. The course in Scientific and Technical Russian is designed as a short cut for the acquisition of such a reading knowledge. No previous knowledge of Russian is necessary, but acquaintance with some scientific field or with the usual English scientific terminology is essential.

	Fall Semester
T	6:20 Medical Sciences 111

6 Intermediate Scientific Russian. 3 Extension credits. \$15.

Reading and translation of classic and current Russian scientific literature. Prerequisite: Elementary Scientific Russian or Russian 1-2.

	Spring Semester
T	6:20 Medical Sciences 111

SCANDINAVIAN**1-2 Beginning Norwegian. 3 credits each semester. \$15.**

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		Spring Semester
1	W 6:20 Folwell 12	2	W 6:20 Folwell 12

3-4 Intermediate Norwegian. 3 credits each semester. \$15.

Intended for students with some knowledge, practical or theoretical, of Norwegian. Provides a rapid review of grammar and considerable practice in conversation and composition. Readings in Norwegian. Prerequisite: Norwegian 1-2 or equivalent.

	Fall Semester		Spring Semester
3	W 8:00 Folwell 12	4	W 8:00 Folwell 12

7-8 Beginning Swedish. 3 credits each semester. \$15.

Intended primarily for beginners in Swedish. A minimum of grammar, with emphasis on simple composition and conversation, and some reading of elementary selected prose. No prerequisite.

	Fall Semester		Spring Semester
7	T 6:20 Folwell 12, Gustafson	8	T 6:20 Folwell 12, Gustafson

11-12 Readings in Swedish Literature. 3 credits each semester. \$15.

Readings in representative Swedish authors from the Nineteenth and Twentieth centuries, aimed to illustrate some of the more important developments in modern Swedish culture. Prerequisite: a reading knowledge of Swedish.

	Fall Semester		Spring Semester
11	T 8:05 Folwell 12, Gustafson	12	T 8:05 Folwell 12, Gustafson

SOCIOLOGY AND SOCIAL WORK**Classes in Sociology**

(Prerequisite to technical social work classes)

1 Introduction to Sociology. 3 credits. \$15.

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. Repeated spring semester. No prerequisite.

Fall Semester
T 8:05 St. P. Ext. Center 212
Th 6:20 Nicholson 107, Caplow

Spring Semester
Th 6:20 Nicholson 107, Caplow

7 Urban Sociology. 3 credits. \$15.

An introduction to the study of city life and city growth. Special emphasis is given to the analysis of urbanism as a culture pattern, and to the use of local and familiar source material drawn from the Twin Cities. A brief research project under supervision is required. Prerequisite: Sociology 1.

Fall Semester
T 6:20 Nicholson 107, Caplow

49 Social Problems. 3 credits. \$15.

A survey course in contemporary social problems with especial emphasis on personal demoralization and social disorganization.

Spring Semester
T 6:20 Nicholson 107, Caplow

70 Introductory Psychiatry. 3 credits. \$15.

A lecture course, the subject matter of which includes a discussion of mental hygiene, mental mechanisms; psychiatric history taking; review of schools of psychiatry; classification of mental diseases. Corresponds with Medicine 70 (Neuropsychiatry) in the Medical School.

Spring Semester
T 6:20 Nicholson 100, Hanson

96 Recent Social Trends. Not offered 1948-49.**119 Contemporary Marriage Problems. 3 credits. \$15.**

Origins of the family in relation to social change; family problems of successive age groups; family disorganization and family reorganization. Prerequisite: Sociology 1 and 15 credits in social science, child welfare, education, philosophy, or psychology, or consent of instructor.

Spring Semester
T 6:20 Nicholson 103, Kyllonen

Classes in Social Work

Note—These classes are open to persons employed in social work positions who are recommended by the executive of the agency in which they are employed and approved by an adviser in the School of Social Work. In satisfaction of requirements for membership in professional social work organizations, the courses listed are accounted as "technical social work" courses. Credit in certain university departments may be granted by application upon successful completion of these courses. Students interested in this should consult their department advisers before registration.

50-51 Areas of Social Work. 3 credits each semester. \$15.

A survey of social work agencies, their purposes and functions, with consideration of areas of social need within which social work agencies operate. Prerequisite: Sociology 49.

Fall Semester
50 W 6:20 Nicholson 102

Spring Semester
51 W 6:20 Nicholson 102

91 Case Method Applied to the Study of Human Problems. 3 credits. \$15.

The general application of the interviewing method for students who plan to work professionally in fields involving human relationships, as Social Work, Public Health Nursing, Speech Pathology, etc. Prerequisite: Social Work 50 or 51 or consent of instructor.

Fall Semester
M 6:20 Nicholson 103

92 Working with Groups. 3 credits. \$15.

A study of the application of the group work method for students who are workers in children's institutions, settlement houses, informal educational and recreational agencies.

Includes discussion of some basic mental hygiene concepts, programming according to individual needs and other practical problems. No prerequisite.

Fall Semester

Th 9 to 10 a.m., Nicholson 101, Konopka

176 Dynamics of Human Behavior Based on Psychoanalytic Theory. 3 credits. \$15.

The application of psychoanalysis in the understanding of abnormal behavior; the lectures deal essentially with abnormal behavior, especially in relation to problems met by the social worker and teacher. Prerequisite: 6 credits in sociology and 6 credits in psychology and consent of an adviser in the School of Social Work.

Fall Semester

Th 6:20 St. P. Wilder Dispensary, Lippman

SPANISH**1-2 Beginning Spanish. 3 credits each semester. \$15.**

Grammar, pronunciation, reading, and practice in speaking. No prerequisite.

Fall Semester

1 M 6:20 Folwell 227, Rodgers
T 4:40 Mpls. N. W. Bank Bldg. 690,
Narváez
T 8:05 St. P. Ext. Center 214, Mousolite
Th 6:20 Folwell 227

Spring Semester

2 M 6:20 Folwell 227, Rodgers
T 4:40 Mpls. N. W. Bank Bldg. 690,
Narváez
T 8:05 St. P. Ext. Center 214, Mousolite
Th 6:20 Folwell 227

3-4 Intermediate Spanish. 3 credits each semester. \$15.

Review, composition, readings from modern authors. Attention to correspondence and commercial practice if desired. Prerequisite: Spanish 1-2 or 2 years of preparatory Spanish.

Fall Semester

3 T 6:20 St. P. Ext. Center 219, Buss
W 6:20 Folwell 201, Mills

Spring Semester

4 T 6:20 St. P. Ext. Center 219, Buss
W 6:20 Folwell 201, Mills

5-6 Written and Spoken Spanish. 3 credits each semester. \$15.

Practice in speaking, review grammar and composition. Prerequisite: 3-4.

Fall Semester

5 W 6:20 St. P. Ext. Center 212,
Mousolite
Th 6:20 Folwell 213

Spring Semester

6 W 6:20 St. P. Ext. Center 212, Mousolite
Th 6:20 Folwell 213

7-8 Latin-American Culture. 3 credits each semester. \$15.

This course 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 twenty countries of Latin America. Lectures and readings in English; Spanish not necessary. No prerequisite.

Fall Semester

7 Th 6:20 Folwell 201, Cuneo

Spring Semester

8 Th 6:20 Folwell 201, Cuneo

53-54 Spanish Composition and Conversation. 3 credits each semester. \$15.

Practical composition, including correspondence and conversation. Prerequisite: Spanish 5-6 or equivalent.

Fall Semester

53 T 6:20 Folwell 213

Spring Semester

54 T 6:20 Folwell 213

SPEECH**1-2†-3 Fundamentals of Speech. 3 credits each semester. \$15 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 8:05 Folwell 308, Madsen
Th 6:20 St. P. Ext. Center 216
2 M 6:20 Folwell 305, Irwin
Th 6:20 St. P. Ext. Center 216
3 M 6:20 Folwell 305, Irwin
Th 6:20 St. P. Ext. Center 216

Spring Semester

1 M 8:05 Folwell 308, Madsen
Th 6:20 St. P. Ext. Center 216
2 M 6:20 Folwell 305, Irwin
Th 6:20 St. P. Ext. Center 216
3 M 6:20 Folwell 305, Irwin
Th 6:20 St. P. Ext. Center 216

Beginning Practical Speech Making. 3 Extension credits. \$15 plus \$1 laboratory fee.

A beginning course for business and professional people who are desirous of learning to speak extemporaneously so that their ideas may be presented in an organized way and expressed with confidence and effectiveness; individual attention to cases of nervousness or

embarrassment. Each student speaks before the class each meeting. Beginning classes each semester; students may continue in Advanced Practical Speech Making. Voice recordings will be made. No prerequisite.

Fall Semester
 M 6:20 Folwell 6, Nichols
 W 6:20 Folwell 6, Nichols
 Th 6:20 Folwell 6, Woods

Spring Semester
 M 6:20 Folwell 6, Nichols
 W 8:05 Folwell 6, Nichols
 Th 6:20 St. P. Ext. Center 212, Woods

Advanced Practical Speech Making. 3 Extension credits. \$15 plus \$1 laboratory fee.

An advanced course for business and professional people who are desirous of developing skill in extemporaneous speaking dealing with life problems and public questions; individual attention to special problems. Each student speaks before the class each meeting. Voice recordings will be made. Open only to students who have completed Beginning Practical Speech Making, except by special permission of instructor.

Spring Semester
 W 6:20 Folwell 6, Nichols

Vocabulary Building I. 1½ Extension credits. \$7.50 plus \$1 materials fee.

A practical course designed to increase students' speaking and reading vocabularies. Mimeographed matter, in lieu of text, issued each meeting. Home study suggested but not required. Not a recitation class. Meets weekly for one hour. No prerequisite.

Fall Semester
 T 6:20 St. P. Ext. Center 217, Dreher
 T 8:05 Folwell 308, Dreher

Spring Semester
 T 6:20 St. P. Ext. Center 217, Dreher
 T 8:05 Folwell 308, Dreher

Vocabulary Building II. 1½ Extension credits. \$7.50 plus \$1 materials fee.

A more advanced and detailed study of words. Includes composition, exercises, reports, tests; not a recitation class; home study recommended. Meets weekly for one hour. No prerequisite.

Spring Semester
 T 6:20 St. P. Ext. Center 217, Dreher
 T 8:05 Folwell 308, Dreher

THEATER

Film and Drama. 3 Extension credits. \$15 plus \$5 laboratory fee.

A study of both the motion picture and the stage as important social forces as well as mediums of theatrical entertainment. Topics such as the history of the motion picture, famous plays and playwrights, film and stage acting, the mechanics of motion pictures, the animated cartoon, and the documentary film are discussed with examples of various types of films shown in class. Legitimate stage productions and allied forms of theatrical art are attended and discussed whenever possible. No prerequisite.

Fall Semester
 Th 7:00 Scott Hall 19, Graham

Beginning Acting. 3 credits (see below). \$15 plus \$1 laboratory fee.

A course designed both for the amateur actor who needs to gain experience and background for pursuing future theatrical work and for the playgoer who wishes through a practical working knowledge of acting techniques to enhance his appreciation and enjoyment as a spectator of theatrical productions. Creative and technical approaches; the art of pantomime; principles of stage technique and voice; exercises and projects in characterization. Students are eligible for try-out in acting and constructive phases of University Theatre activities. No prerequisite. Qualified students may receive credit in Speech 32; consult instructor at opening class.

Fall Semester
 Th 8:05 Scott Hall 19

Advanced Acting. 3 Extension credits or 3 credits in Speech 78 (see below). \$15 plus \$1 laboratory fee.

A course designed for those who have had some training or experience in acting and wish to improve their skills. Emphasis is upon the study of characterization, various styles of acting, and the principles of stage technique. Exercises and projects in the presentation of scenes from great plays. Qualified students may receive credit in Speech 78; consult instructor at opening class.

Spring Semester
 Th 6:20 Scott Hall 19, Graham

Radio Drama. See page 32.

ZOOLOGY

1-2† General Zoology. 5 credits each semester. \$25.

Structure, physiology, embryology, classification, genetics, and evolution of animals. Equivalent to Zoology 1-2-3 in day class. Three hours each night, including laboratory work. Minimum registration of 20 students required. No prerequisite.

Fall Semester
 1 MW 6:30 Zoology 211, Osterud

Spring Semester
 2 MW 6:30 Zoology 211, Olson

BUSINESS CLASSES

ACCOUNTING

Econ. 22-23† Principles of Accounting. 4 credits each semester. \$20.

Principles of accounting based on text and requiring preparation of problems and sets outside the class period—the full first year university course in accounting. Classes meet for approximately 2½ hours. No prerequisite.

Fall Semester

22 M 6:20-8:45 Vincent 306, Sevenich
M 6:20 St. P. Ext. Center 218, Mont-
gomery
T 6:20 Vincent 115, Ostlund
W 6:20 Mpls. N. W. Bank Bldg. 690,
Nelson
Th 6:20 St. P. Ext. Center 218, Mont-
gomery

Spring Semester

23 M 6:20-8:45 Vincent 306, Sevenich
M 6:20 St. P. Ext. Center 218, Mont-
gomery
T 6:20 Vincent 306, Ostlund
W 6:20 Mpls. N. W. Bank Bldg. 690,
Nelson
Th 6:20 St. P. Ext. Center 218, Mont-
gomery

Econ. 22-23 Combined. 8 credits. \$20 each unit.

This course offers both Econ. 22 and 23 units complete in one semester, eight weeks for each, two classes per week. Classes meet for approximately 2½ hours. Registration and fees accepted for combined course, or for single units provided Econ. 22 or B.A. 54 has preceded Econ. 23.

Spring Semester

MF 6:20 Vincent 309
MF 6:20 St. P. Ext. Center 216, Creviere

B.A. 150-151† Intermediate Accounting. 3 credits each semester. \$15.

Second year accounting (with B.A. 139, which see) for students intending to specialize in accounting. Standard text and problems designed to build on principles of the first year course, developing accepted accounting practices in valuation and amortization procedures, determination of periodic income and stockholders' interest. Partnership, consolidated statement and reorganization accounting problems, estates and trusts. Prerequisite: Econ. 23 or equivalent with consent of instructor.

Fall Semester

150 M 6:20 Vincent 113, Heilman
T 6:20 St. P. Ext. Center 216, Rotzel
W 6:20 Vincent 301, Lund

Spring Semester

151 M 6:20 Vincent 113, Heilman
T 6:20 St. P. Ext. Center 218, Rotzel
W 6:20 Vincent 301, Lund

B.A. 130 Cost Accounting Survey. 3 credits. \$15.

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. This course may substitute for B.A. 152 Cost Accounting as prerequisite for B.A. 153. Prerequisite: Econ. 23.

Spring Semester

T 6:20 Vincent 115, Nelson

B.A. 139 Analysis of Financial Statements. 3 credits. \$15.

Second year course for students concerned with credit and investment analysis and for stockholders. The content and methods of this course are supplementary to and not included in B.A. 150-151; all three units should be taken by accounting majors. Analysis of statements of operation and financial condition of commercial, industrial, public utility and railroad companies. Prerequisite: Econ. 23.

Fall Semester

T 6:20 Vincent 309, Nelson

B.A. 152-153† Cost Accounting. 3 credits each semester. \$15.

Cost accounting with text, laboratory set and problems, requiring outside preparation, covering job order and process cost procedures and theory. With special permission students may substitute B.A. 152 for B.A. 130 to meet core group requirements. Prerequisite: Econ. 23 or equivalent with instructor's consent.

Fall Semester

152 M 6:20 Vincent 115, Rotzel
T 8:05 St. P. Ext. Center 216, Tuttle

Spring Semester

153 M 6:20 Vincent 115, Rotzel
T 8:05 St. P. Ext. Center 216, Tuttle

Constructive Accounting. 3 Extension credits. \$15.

The 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. Prerequisite: see instructor.

Fall Semester

W 6:20 St. P. Ext. Center 216, Tuttle

Accounting Systems. 3 Extension credits. \$15.

Classification of industry according to types of accounting problems; special features of each, constructive, operative, interpretative features. Case method used. Prerequisite: see instructor.

Spring Semester

W 6:20 St. P. Ext. Center 216, Tuttle

B.A. 133 Standard Cost Accounting and Distribution Costs. 3 credits. \$15.

Methods of standard costs; meaning of standards; setting of standards for materials, labor and overhead; analysis of and accounting for variations; development and application of standards to distribution as well as to production activities. Prerequisite: B.A. 130 or B.A. 153 or consent of instructor.

Fall Semester

W 8:05 St. P. Ext. Center 216, Tuttle

Spring Semester

W 6:20 Vincent 115, Rotzel

B.A. 118 Auditing Procedure. 3 credits. \$15.

An introduction to auditing procedure with the preparation of a coordinated set of working papers and related statements, from ledgers, journals, original documents. A course prerequisite to B.A. 135, Auditing and Public Accounting. Prerequisite: B.A. 151 or 139.

Fall Semester

Th 6:20 Vincent 306, Reighard

B.A. 135 Auditing and Public Accounting. 3 credits. \$15.

Preparation of audit reports from working papers; development of accepted auditing procedures under S.E.C. and A.I.A. releases; consideration of C.P.A. auditing problems and special case studies. Prerequisite: B.A. 118.

Spring Semester

Th 6:20 Vincent 306, Reighard

B.A. 134 Income Tax Accounting I-II. First eight weeks, 3 credits; next sixteen weeks, 3 credits for certificate. Students must register for both I and II; fee: \$30.

Application of income tax laws to various business conditions; possible errors in preparation of income tax reports; state and federal problems. Course I meets once a week for three hours and twenty minutes for the first eight weeks; Course II, which is a continuation of Course I, meets once a week for one hour and forty minutes for next sixteen weeks. Prerequisite: B.A. 151 or consent of instructor.

September 27-November 16

I M 6:20 St. P. Ext. Center 216, Connolly
T 6:20 Vincent 306, Connolly

November 22-March 15

II M 6:20 St. P. Ext. Center 219, Connolly
T 6:20 Vincent 301, Connolly

B.A. 180A Accounting Topics—Budgetary Control. 3 credits. \$15.

Budget systems in business-type and kinds; profit and cost trends; profit engineering; budget administration, committees, etc.; budget reports and statements—form content, and use; problem studies, solutions; recent developments in foundations for budgetary control. Prerequisite: see instructor.

Fall Semester

W 6:20 Vincent 115, Rotzel

B.A. 181A Senior Topics—Advanced Accounting Problems. 3 credits. \$15.

A sequence course following courses B.A. 150-151. Students who possess considerable accounting experience may also be admitted at the option of the instructor. Designed to meet the needs of advanced students, professional accountants, and comptrollers; concerned primarily with the analysis of accounting problems and their solution; representative problems from various state C.P.A. examinations. Qualified students may receive credit in B.A. 181A.

Fall Semester

M 8:05 Vincent 115, Rotzel

Spring Semester

T 8:05 St. P. Ext. Center 217, Rotzel

Industrial Engineering Accounts and Accounting I-II. 3 Extension credits each semester. \$15.

Management accounts from the standpoint of the "management engineer." Analysis of accounts to set forth the interrelationship—both manufacturing and commercial—of (a) fixed cost (b) variable cost (c) profitless point (d) volume (e) mixture or proportions of merchandise and (f) the resulting profit and/or loss. Of the greatest importance in drafting a plan for satisfactory operations or installing an efficient cost accounting or budgetary control program. Profitgraphs and charting of interrelated factors. Recommended for comptrollers, chief accountants and students who have completed the course in Budgetary Control. A treatise, reading and problem work assignments. Prerequisite: see instructor.

Fall Semester

I W 8:05 Vincent 115, Rotzel

Spring Semester

II W 8:05 Vincent 115, Rotzel

Elements and Principles of Accounting (A.I.B.) I and II. 3¾ credits each semester. \$18.75.

A special class primarily for members of the American Institute of Banking, Minneapolis chapter, covering the essentials of Econ. 22-23, for which see p. 39. Students completing both semesters receive 7½ credits and may continue with advanced classes in accounting. Begins September 28. No prerequisite.

Fall Semester

I TF 6:30 McKnight Bldg. 250, Lund

Spring Semester

II TF 6:30 McKnight Bldg. 250, Lund

ADVERTISING

B.A. 88 Elementary Advertising. 3 credits. \$15.

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: Economics 6-7, Psychology 1-2, 56, and B.A. 77, Marketing.

Spring Semester

W 6:20 Vincent 205

Advertising Practice. 3 Extension credits. \$15.

An orientation course in advertising embracing all phases of advertising procedure. Includes a study of: the structure of the advertising agency business; the workers in advertising and what they do; consumer, market and product research; selection of media; preparation, testing and coordinating of advertising; advertising appropriations; and planning of an advertising campaign. Various case histories in advertising presented in class sessions; also numerous factors relating to the knowledge test section of the annual AAAA examination will be discussed. No prerequisite.

Fall Semester

M 6:20 Nicholson 100, Greenwood

The Creation of Advertising. 3 Extension credits. \$15.

A somewhat advanced course in planning, writing, and designing advertisements. Depending upon enrolment, emphasis will be placed on retail or agency-type problems—but both will be covered. Course to be taught by professional writers and artists, and assignments will involve practical problems in advertising creation of all kinds. Prerequisite: Advertising Practice, actual advertising experience, or consent of instructor.

Spring Semester

M 6:20 Nicholson 100, Forney and others

Psy. 56 Psychology of Advertising. See Psychology, page 31.

97 Advertising Copy, Layout, and Typography. See Journalism, page 25.

BUSINESS ENGLISH

1 Business English. 3 Extension credits. \$15.

A practical class for business people who recognize the value of good English in business and in general writing and conversation. Various kinds of business writing are studied with some attention to letter type; application of good grammar and correct forms in all business writing. Repeated spring semester. No prerequisite.

Fall Semester

T 6:20 St. P. Ext. Center 212, Gudas
T 8:05 TSV 209, Haga
W 6:20 TSV 209, Haga

Spring Semester

T 6:20 St. P. Ext. Center 212, Gudas
W 6:20 TSV 209, Haga

2 Business Correspondence. 3 Extension credits. \$15.

A more advanced class with less emphasis on grammar and mechanics. Practical adaptations of successful letter writing to specialized correspondence under such headings as: executive, personnel, and financial problems. Each student will work out an individual communications project related to his own most imperative business needs. No prerequisite, but Business English or its equivalent is, for practical reasons, strongly recommended.

Spring Semester

W 8:05 TSV 209, Haga

BUSINESS LAW

B.A. 51-52-53, 56 Business Law. 3 credits each semester. \$15. (51 and either 52 or 53 must be completed before credit for degree or certificate is granted.)

Comprehensive course in the fundamental principles of law for the business and professional man. B.A. 51: contracts—formation, operation, transfer, discharge. B.A. 52: business associations—nature, creation and terms of the relation, rights and liabilities of the parties when doing business through agents, partnerships and corporations. B.A. 53:

law of sales of goods under the Uniform Sales Act and law of commercial paper under the Uniform Negotiable Instruments Law. B.A. 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 52 or 53 unless the consent of the instructor is obtained for a different sequence.

Fall Semester				Spring Semester			
51	M	8:05	St. P. Ext. Center 212, McClendon	51	M	6:20	St. P. Ext. Center 217, McClendon
	W	6:20	Vincent 207, Newhall		W	8:05	Vincent 113, Newhall
52	M	6:20	St. P. Ext. Center 217, McClendon	52	M	8:05	St. P. Ext. Center 217, McClendon
	W	8:05	Vincent 207, Newhall		W	6:20	Vincent 113, Newhall
53	T	6:20	Vincent 221, McClendon	56	Th	6:20	Vincent 113, Maloney

Common Legal Problems. 3 Extension credits. \$15 plus \$1 materials fee.

A course in everyday legal principles for the layman who wishes more intelligently and efficiently to fulfill his place as a citizen; not a "business law" course. 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 eased 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 legal aspects; property rentals, leases, purchases and sales, building contracts and liens, mortgages and loans; rights and liabilities of master and servant, husband and wife, agents or partners; liability for accidents, negligence, trespass, etc.; handling of wills, estates, tax returns, etc.; and many similar common operations or relationships.

Fall Semester		Spring Semester			
W	6:20	Nicholson 107, Thorfinnson	Th	8:05	Nicholson 107, Thorfinnson
Th	6:20	St. P. Ext. Center 219, Riley			

Current Problems in Federal Taxation for Lawyers. 3 Extension credits. \$15.

The course will constitute in general a review of the provisions of the Internal Revenue Code as applied to federal income, estate, and gift taxation, with some consideration of the legal implications of the Revenue Act of 1948. Both individual and corporate taxes will be covered with principal emphasis on income taxation, its special problems and general background. No prerequisite.

Fall Semester	
W	4:20-6:00 p.m. 690 N. W. Bank Bldg., Windhorst

ECONOMICS

Econ. 5 Elements of Statistics. 3 credits. \$15.

The principles of statistical methods applied to business; collection, tabulation, and interpretation of statistical data; averages, ratios, errors, index numbers, graphs, and charts. No prerequisite.

Fall Semester		Spring Semester			
W	6:20	Vincent 205	W	6:20	Vincent 210
			Th	6:20	St. P. Ext. Center 219

Econ. 6-7† Principles of Economics. 3 credits each semester. \$15.

Fundamental principles underlying the economic activities of society; utility and valuation; prices and the cost of production; the factors of production; division of labor and its relation to the development of industry; wages, rent, interest; capitalization, enterprise, business profits. Fundamental to the study of any business subject. No prerequisite.

Fall Semester				Spring Semester				
6	M	6:20	Vincent 207	6	T	8:05	Vincent 207	
	M	6:20	St. P. Ext. Center 214		7	M	6:20	Vincent 113
	T	6:20	Vincent 207			M	6:20	St. P. Ext. Center 214
	Th	8:05	Vincent 207			T	6:20	Vincent 207
7	T	8:05	Vincent 207			Th	8:05	Vincent 207

Econ. 80-81† Advanced General Economics. 3 credits each semester. \$15.

A study of some of the more important theoretical problems of economics; competitive and monopoly prices; equilibrium prices and costs; theories of valuation of producers' goods; capital earnings and interest rates; profits. Prerequisite: Economics 6-7.

Fall Semester		Spring Semester					
80	Th	6:20	Vincent 205, Waite	81	Th	6:20	Vincent 205, Waite

B.A. 112 Business Statistics. 3 credits. \$15.

The technique of time series analysis; methods of determining normal or trend values; methods of measuring seasonal variation and adjustment of data for seasonal fluctuation; measurement of degree of relation between time series, graphically and by correlation technique; analysis and comparison of index numbers of local and national business conditions. Prerequisite: Econ. 5, or 14, or equivalent.

Spring Semester		
Th	6:20	Vincent 207, Belcher

Econ. 175 Government Regulation of Business. 3 credits. \$15.

A general course on the economic aspects of legislation affecting the pricing process and the distribution of the national income. Topics studied include economic origins of modern business limitations on free competition; regulation of public institutes, trusts and combinations, and "unfair competitive practices"; positive assistance to industrial groups. Prerequisite: 20 credits in social science including Economics 6-7 or 83.

Fall Semester

Th 6:20 Vincent 221

For other Economics classes, see **Finance, Industrial Relations, and Insurance.**

FINANCE**Econ. 3 Elements of Money and Banking. 3 credits. \$15.**

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

Th 6:20 Vincent 115, Stehman

Th 6:20 St. P. Mechanic Arts 102

B.A. 142 Advanced Money and Banking. 3 credits. \$15.

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: Economics 3 and 6-7.

Fall Semester

T 6:20 Vincent 205, Myers

Econ. 149 Business Cycles. 3 credits. \$15.

Analysis of factors involved in business fluctuations. Comparison of theories of the cause of prosperity and depression. Introduction to the statistical data and methods of business forecasting. Prerequisite: Econ. 141 or B.A. 142 or consent of instructor.

Spring Semester

T 6:20 Vincent 205, Myers

Econ. 155 Corporation Finance. 3 credits. \$15.

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.

Spring Semester

Th 6:20 Vincent 115, Stehman

Fundamentals of Investment Banking I-II. 3 Extension credits each semester. \$15.

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 practices of various investor groups. No prerequisite.

Fall Semester

I M 6:20 Vincent 6, McNaghten

Spring Semester

II M 6:20 Vincent 6, McNaghten

GRAPHIC ARTS**Graphic Arts Association Curriculum.**

The University of Minnesota cooperates with the Graphic Arts Association of St. Paul in a program of educational training designed to increase the professional competence of members of the local graphic arts industry. Prospective students should consult the educational director of the Association for advice in the selection of courses to meet their individual needs. The following current course offerings have been approved by the Educational Committee of the Association as comprising a suitable core group of subjects from which a study program may be arranged.

Classes held at St. Paul Extension Center:

Econ. 22-23 Accounting Principles

B.A. 150-151 Intermediate Accounting

B.A. 152-153 Cost Accounting

Business English

B.A. 51, 52 Business Law

Econ. 6-7 Principles of Economics

Econ. 161 Labor Relations and Trade Unionism

B.A. 167 Introduction to Industrial Relations

Practical Speech Making

Application of Psychology to Living

Classes held on the University of Minnesota Campus:

Advertising	B.A. 68 Sales Management
Commercial Drawing I-II	B.A. 77 Survey in Marketing
Econ. 3 Money and Banking	B.A. 89 Production Management
Business Correspondence	B.A. 180G Senior Topics: Plant Layout

Note—Details of day, time, classroom, semester, etc., will be found in the individual class listings in this bulletin.

INDUSTRIAL MANAGEMENT

B.A. 89 Production Management. 3 credits. \$15.

Location and layout of industrial plants; types of operating organization; shop personnel; standards of operation; purchasing and inventory control; routing, scheduling, and dispatching of product; scientific management; practical problems in production control. (Same as Mech. Eng. 171.) Included in core group requirement for all candidates for a degree in business. Repeated spring semester. Prerequisite: Economics 6-7.

Fall Semester
M 6:20 Vincent 221, Immer

Spring Semester
M 6:20 Vincent 205, Immer

B.A. 170B Senior Topics: Plant Layout. 3 credits. \$15.

Study of principles of plant and office layout. Brief survey of methods and techniques employed. Problems taken from local companies. Repeated spring semester. Prerequisite: B.A. 89 or consent of instructor.

Fall Semester
M 8:05 Vincent 301, Immer

Spring Semester
M 8:05 Vincent 301, Immer

For Engineering classes in this field, see page 55.

INDUSTRIAL RELATIONS

See also Industrial Relations Classes, page 48 and Industrial Relations Certificate, page 10.

Econ. 161 Labor Problems and Trade Unionism. 3 credits. \$15.

Employment; hours; wages; extent and stronghold of unionism; open and closed shop; collective bargaining; industrial unrest; government regulation of labor disputes. Special emphasis on the current proposals for industrial recovery and the re-employment of labor. Prerequisite: Economics 6-7.

Fall Semester
W 6:20 St. P. Mechanic Arts 103, Heneman
Th 8:05 Vincent 205, Childs

Econ. 164 Labor Legislation and Social Insurance. 3 credits. \$15.

A course dealing with the economic aspects of labor legislation, including minimum wage laws; hours legislation; factory acts; accident, health, old age, and unemployment compensation; mothers' pensions. Prerequisite: Economics 161.

Spring Semester
T 6:20 Vincent 210

B.A. 167 Introduction to Industrial Relations. 3 credits. \$15.

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: Economics 161.

Spring Semester
W 6:20 St. P. Mechanic Arts 103, Heneman
Th 8:05 Vincent 205, Childs

Psy. 122-123† Vocational and Personnel Psychology. 3 credits each semester. \$15 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. Not open for credit to those who have taken Psychology 160-161 for credit. Prerequisite: consent of instructor.

Fall Semester
122 M 6:20 Psychology 211, Longstaff

Spring Semester
123 M 6:20 Psychology 211, Longstaff

Elements of Supervision. See page 48.

Wage and Salary Administration. See page 48.

INSURANCE

Econ. 50 Insurance Principles. 3 credits. \$15.

Deals with the nature and measurement of risk and with the development and uses of personal, property, and liability insurance. Forms of protection; policy contracts; social insurance and government regulation. Special emphasis on property insurance. Prerequisite: Economics 6-7.

Fall Semester

T 8:05 Vincent 6, Graves

College of Life Underwriters Curriculum. In cooperation with the Minneapolis and St. Paul Chapters of the American College of Life Underwriters (C.L.U.).

The General Extension Division plans to offer during the academic year 1948-49 the third of a series of courses based upon the sectional study outlines established by the C.L.U. and designed to aid in the preparation of students for the annual C.L.U. examinations. The course this year will cover the material in Part D, Finance, of the C.L.U. outline including Corporation Finance, Banking and Credit, and Investments. Classes will be held once a week for a two-hour session over a period of thirty-four weeks beginning the week of September 27 and ending the week of May 30; the day, time and place will be announced later.

Additional information on this course should be available after the first of September at the General Extension Division offices or through the Minneapolis or St. Paul chapters of Chartered Life Underwriters.

Minneapolis—M. J. Nolan, 500 First National Soo Line Building
St. Paul—W. F. Stone, 1300 Pioneer Building

Property and Casualty Insurance Curriculum. In cooperation with the American Institute for Property and Liability Underwriters, Inc.

The University of Minnesota cooperates with the American Institute for Property and Liability Underwriters, Inc. by offering an educational program that provides the basic courses needed by those who wish to take the institute's examinations for the Chartered Property Casualty Underwriter (C.P.C.U.) award. Complete details of this program of training are printed in the institute's annual announcements, copies of which may be obtained from the General Extension Division of the University of Minnesota. Following is an outline of the program, with a list of the appropriate courses offered by the General Extension Division.

Parts I-II Insurance Principles and Practices	Econ. 50 Insurance Principles B.A. 60 Fire and Marine Insurance* B.A. 61 Casualty Insurance*
Part III General Education Economics Government Social Legislation English	Econ. 6-7 Principles of Economics Pol. Sci. 1-2 American Government Econ. 164 Labor Legislation and Social Insurance Grammar Review or Business English
Part IV Law	B.A. 51-52-53-56 Business Law (does not include Law of Negligence)
Part V Accounting and Finance Accounting Finance Business Organization	Econ. 22-23 Principles of Accounting Econ. 3 Elements of Money and Banking B.A. 89 Production Management

MARKETING AND MERCHANDISING

Basic Salesmanship. 3 Extension credits. \$15.

Principles underlying salesmanship—aspects of human relations, buying motives, pre-approach, approach, the interview, meeting objections, closing the sale, demonstration sales. Repeated spring semester. No prerequisite.

Fall Semester

M 8:05 Vincent 205, Faragher
W 8:05 St. P. Ext. Center 212, Faragher

Spring Semester

M 8:05 Vincent 205, Faragher

Management of a Small Retail Business. 3 Extension credits. \$15 plus \$1 materials fee.

How to control your expenses; finding a store's break-even point; intelligent planning of sales promotion; importance of market research; selecting a suitable store location; what, where, when, and how to buy for profit. Twelve meetings. No prerequisite.

September 28-December 14

T 7:00 Vincent 113, Anderson

* Available by correspondence study only.

B.A. 68 Sales Management. 3 credits. \$15.

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 salesman; training in salesmanship; supervision and control. Case studies and discussions. Prerequisite: Economics 6-7.

Fall Semester

W 6:20 Vincent 113

B.A. 69 Retail Store Management. 3 credits. \$15.

Organization; location, layout, and equipment; buying and sales budgets and sales planning; sales promotion; interior and window display; stock and expense control; finance and general policy; credits and collections; personnel; store operation and services. Case studies, problems, and discussions. Prerequisite: B.A. 77.

Spring Semester

W 8:05 Vincent 221

B.A. 76 Credits and Collections. 3 credits. \$15.

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 Vincent 113, Belcher

B.A. 77 Survey in Marketing. 3 credits. \$15.

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: Economics 6-7.

Fall Semester

W 8:05 Vincent 210

Wholesale Credit and Collection Curriculum. In cooperation with the National Institute of Credit.

The University of Minnesota cooperates with the Minneapolis and St. Paul chapters of the National Institute of Credit in a program of educational training leading toward the awards of associate and fellow of the National Institute of Credit. The National Institute of Credit is the educational branch of the National Association of Credit Men. Course registrations may be made through the association offices, 502 Thorpe Building, Minneapolis 2, and 512 Guardian Building, St. Paul 1. Registration in the National Institute of Credit is required for credit toward awards of associate and fellow. Transfer credit may be applied for courses completed previously in recognized colleges, up to 50 per cent of the requirements listed below.

The following program has been approved as fulfilling the requirements for awards of associate and fellow of the National Institute of Credit:

Classes in Association Curriculum**Associate Award**

Economics and Business Organization
Management Accounting
Credits and Collections
Business Writing

Fellow Program (in addition to courses above)

Credit and Commercial Laws
Effective Speaking and Service Selling
Credit Problems and Statement Analysis
Techniques of Supervision
Applied Psychology
Electives

Equivalent Extension Classes

Econ. 6-7 Principles of Economics
Econ. 22-23 Principles of Accounting
B.A. 76 Credits and Collections
1 Business English

B.A. 51-52-53 Business Law
Beginning Practical Speech, Salesmanship
Information on request
Elements of Supervision
Psy. 1a Application of Psychology to Living
Consult Institute offices.

REAL ESTATE

The University of Minnesota cooperates 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. Coordinator for the Real Estate Boards: Bernard G. Rice, 612 National Building, Minneapolis.

Fundamentals of Real Estate Practice. 3 Extension credits. \$15.

Economic functions of the real estate business; fundamental practices of the real estate office and other realtors; real estate valuations; methods of appraising; ethics of real estate practice. A business course in real estate. Prerequisite: consult instructor.

Fall Semester

M 6:20 Vincent 2

Real Estate Sales Brokerage. 3 Extension credits. \$15.

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 Vincent 2

Real Estate Appraisal. 3 Extension credits. \$15.

Detailed consideration of principles and practices involved in appraising various types of real property for various purposes. Factors determining valuations; making and reporting appraisals. Appraisal procedures in various legal actions. Prerequisite: Fundamentals course.

Spring Semester

M 6:20 Vincent 221

Real Estate Law (Business Law 56). 3 credits. \$15.

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 for credit in School of Business Administration: B.A. 53 Business Law.

Spring Semester

Th 6:20 Vincent 113, Maloney

Planning Your Modern Home. See page 23.

Building Material Estimating. See page 51.

TRAFFIC AND TRANSPORTATION

B.A. 71-72 Transportation: Services and Charges. 3 credits each semester. \$15.

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. 71 to precede 72. Prerequisite: Economics 6-7.

Fall Semester

71 M 6:20 Vincent 1, Nightingale

Spring Semester

72 M 6:20 Vincent 1, Nightingale

B.A. 180-181 Senior Topics: Transportation. 3 credits each semester. \$15.

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: 71-72.

Fall Semester

180 M 8:05 Vincent 1, Nightingale

Spring Semester

181 M 8:05 Vincent 1, Nightingale

Advanced Traffic and Transportation I-II. 3 Extension credits each semester. \$15.

Advanced study of state and federal regulatory laws governing rail and highway transportation. Detailed study of highway rates and problems. 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. 71-72 and B.A. 180 or equivalent.

Fall Semester

I T 6:20 Vincent 1, Nightingale

Spring Semester

II T 6:20 Vincent 1, Nightingale

INDUSTRIAL RELATIONS CLASSES

Beginning this year the Extension Division, in cooperation with the Industrial Relations Center of the University, offers a sequence of courses, leading to the award of a Certificate of Industrial Relations (see page 10 for certificate requirements). The classes offered this year by the Industrial Relations Center are listed in full detail below; it is hoped that these offerings may be expanded in future years. Other evening classes in economics, business administration, and engineering which are designated as certificate requirements are listed below by title only with cross reference to the pages elsewhere in this bulletin where their descriptions and schedules appear in detail.

Econ. 6-7 Principles of Economics. See page 42.

Econ. 161 Labor Problems and Trade Unionism. See page 44.

Econ. 164 Labor Legislation and Social Insurance. See page 44.

B.A. 167 Introduction to Industrial Relations. See page 44.

Survey of Current Problems in Industrial Relations. 3 Extension credits. \$15.

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. Course open to experienced union officers and business agents, experienced personnel and industrial relations managers, and experienced government officials doing industrial relations work. A limited number of students who cannot meet these requirements, but have successfully completed B.A. 167 (Personnel Administration) may also be admitted. Class will be limited to thirty and early registration is recommended. Prerequisite: consent of instructor.

Fall Semester

T 7:30 Vincent 2, Heneman and other members of Industrial Relations Center staff

Elements of Supervision. 3 Extension credits. \$15.

Descriptive analysis of various industrial relations techniques which are important in supervision; survey of the nature and levels of supervision, selection and training of foremen and supervisors, compensation of supervisors, organization of supervisors for collective bargaining, changing nature of the foreman's job, supervisory morale, and appraisal of supervisors' performance.

Fall Semester

W 8:05 Vincent 205, Green

Wage and Salary Administration. 3 Extension credits. \$15.

Wage plans and wage policy; discussion of wage surveys, cost of living wages, job evaluation, family allowances, going wages, "fringe" items, bonus and incentive systems, wage laws, differentials, and labor costs. Prerequisite: B.A. 167.

Spring Semester

W 8:05 Vincent 205, Belcher

Psy. 1-2 General Psychology. See page 31.

Psy. 4-5 Introductory Laboratory Psychology. See page 31.

Psy. 122-123 Vocational and Personnel Psychology. See page 31.

B.A. 89 Production Management. See page 44.

Psy. 144-145 Abnormal Psychology. See page 31.

Psy. 119 Psychology of Personality. See page 31.

Motion Study. See page 55.

Time Study. See page 55

Plant Layout. See page 55.

Quality Control. See page 55.

ENGINEERING CLASSES

AERONAUTICAL ENGINEERING

Commercial Pilots' Ground School

The University Extension Division operates a Commercial Pilot's Ground School on a short course basis, designed to give prospective commercial air pilots thorough instruction in aerial navigation, meteorology, aircraft and flight theory, power plants, civil air regulations, aircraft instruments, radio aids, and related subjects. The primary purpose of the course is to prepare students for the C.A.A. written examination for the commercial pilot license.

In each full course there are five "terms." Each term lasts five weeks, the class meeting on Tuesday and Thursday evenings, from 7:15 p.m. to 9:45 p.m., in Room 105 Armory, on the Minneapolis Campus of the University.

First term: Civil air regulations, radio aids, instruments and parachutes. Dates: September 7-October 7.

Second term: Dead reckoning and the use of computers. Dates: October 11-November 11.

Third term: Meteorology. Dates: November 16-December 16.

Fourth term: Aircraft structures and flight theory. Dates: December 21-January 20.

Fifth term: Aircraft engines and propellers. Dates: January 25-February 24.

A student may enter the course at the beginning of any term. The fee is \$14.40 per term. A student may enroll for only one term, or for any combination of terms, according to his needs. The total cost of textbooks and computer for all five terms is approximately \$10.

Registration may be made through any of the General Extension Division offices.

AGRICULTURAL ENGINEERING

42A Art Metal Work. 3 credits. \$15 plus \$1 laboratory fee.

A course designed for persons interested in creating articles of permanent beauty and value from metals, including copper, pewter, brass, steel, aluminum, nickel silver and sterling silver. Forming of plates, bowls, and trays; use of jeweler's saw in pierced work; etching; soft soldering; making candlesticks; bookends; desk sets; lamps; bracelets. Students may choose project and kind of metal. Open to men and women. Class limited to 25. No prerequisite.

Fall Semester

W 6:20 Agricultural Engineering 20, 106, Dent

42B Art Metal Work. 3 credits. \$15 plus \$1 laboratory fee.

Silver soldering; use of flat graver; embossing and chasing; making silver chains; forging spoons in copper and silver; coloring metals with chemicals and heat; high temperature enameling; use of oxyacetylene torch in annealing, brazing and welding; working in plastics; grinding and polishing semiprecious stones. Open to men and women. This course may be taken either as a supplement to Agr. Eng. 42A or separately. Class limited to 25. No prerequisite.

Spring Semester

W 6:20 Agricultural Engineering 20, 106,
Dent

CIVIL ENGINEERING

Engineering Properties of Soils. 3 Extension credits. \$15.

A course intended for engineers and students who wish to become familiar with the basic principles of soil behavior, the terminology, the types of tests, and the application to practical problems. Origin and development of soils; their physical characteristics; and procedure of tests for their identification and suitability for use. Soil survey methods; field density tests; design of graded mixtures, soil stabilization, and theory of flexible base design. Prerequisite: consent of instructor.

Fall Semester

W 6:20 Exp. Eng. 215, Kersten

14 Surveying. 3 credits. \$15 plus \$10 instruction and laboratory fee.

Complete topographical survey, stadia method, is made and plotted. Prerequisite: C.E. 13, or equivalent with consent of instructor.

April 7 to July 28

Th 6:20 Main Engineering 225, Klingle

15 Surveying. 2 credits. \$10 plus \$7.50 instruction and laboratory fee.

Purpose and theory of triangulation, meridian determination, base line measurements, computations. Theory and use of the sextant. Hydrographic surveying. Aerial mapping. Applied problems. Prerequisite: C.E. 13 or equivalent with consent of instructor.

Fall Semester

Th 7:00 Main Engineering 227, Klingle

DRAWING AND DESCRIPTIVE GEOMETRY

1 Engineering Drawing, 3 credits. \$15.

Elements of drafting, geometry, sketching, lettering, dimensioning, conventions, working drawings, tracing. Repeated spring semester. No prerequisite.

Fall Semester		Spring Semester	
W 7:30	Main Engineering 101, Potter	W 7:30	Main Engineering 101, Potter
W 7:30	St. P. Ext. Center 218, Springer	W 7:30	St. P. Ext. Center 218, Springer
Th 7:30	Main Engineering 201, Bullen	Th 7:30	Main Engineering 201, Bullen

2 Engineering Drawing, 3 credits. \$15.

Detail drawings, auxiliary views, sectional views, assembly drawings, tracing. Repeated spring semester. Prerequisite: Drawing 1 or consent of instructor.

Fall Semester		Spring Semester	
W 7:30	Main Engineering 101, Potter	W 7:30	Main Engineering 101, Potter
W 7:30	St. P. Ext. Center 218, Springer	W 7:30	St. P. Ext. Center 218, Springer
Th 7:30	Main Engineering 201, Bullen	Th 7:30	Main Engineering 201, Bullen

3 Descriptive Geometry, 3 credits. \$15.

Elementary course in the methods of representation, correlated in part with analytical geometry. Graphical and algebraic solutions. Lectures, demonstrations, and drafting. Prerequisite: Drawing 2, Mathematics and Mechanics II.

Fall Semester	
W 7:00	Main Engineering 201, Quaid

20 Advanced Mechanical Drawing, 2 credits. \$10.

Working drawings, gearing, cams, developments, multiple auxiliary views, special projections. St. Paul class repeated spring semester. Prerequisite: Drawing 1.

Fall Semester		Spring Semester	
W 7:30	Main Engineering 201, Quaid	W 7:30	St. P. Ext. Center 218, Springer
W 7:30	St. P. Ext. Center 218, Springer		

29 Aeronautical Drafting, 2 credits. \$10.

Detail, assembly, and layout drawings. Standard practices in the aircraft industry Army-Navy standards and specifications; tolerances and allowances; graphical integration. Prerequisite: Drawing 2 or consent of instructor.

Fall Semester	
W 6:20	Main Engineering 201, Quaid

38 Reading Drawings, 2 credits. \$10.

Calculations of areas, volumes, and weights from drawings. Tabulation of quantities. Problems concerned with fabrication, manufacture, and construction. Repeated spring semester. Prerequisite: Drawing 1 or equivalent experience.

Fall Semester		Spring Semester	
W 7:30	Main Engineering 101, Potter	W 7:30	Main Engineering 101, Potter

55 Production Illustration I-II, 3 Extension credits (see below). \$15.

Pictorial drawing as used in industry. Detail and assembly drawing in pictorial form by the use of isometric, oblique, axonometric, and prospective projection. Prerequisite: Drawing 1. Students may register for either I or II in either semester. 2 university credits in D.&D.G. 55 may be granted for completion of I, consult instructor.

Fall Semester		Spring Semester	
W 7:30	Jones 200A, Doseff	W 7:30	Jones 200A, Doseff

Industrial Design I-II, 3 Extension credits. \$15 plus \$2 materials fee.

This course takes up the fundamental principles of practical design, as applied to plastics, leather and other materials, used in the commercial field. It deals mostly with three-dimensional designs by carving or by modeling in plasticine, although it is preceded by study of two-dimensional design through drawing. No prerequisite. Students may register for either I or II in either semester, consult instructor.

Fall Semester		Spring Semester	
W 7:30	Jones 200A, Doseff	W 7:30	Jones 200A, Doseff

Architectural Drafting I-II-III-IV, 3 Extension credits each semester. \$15.

A basic course for those needing training for work in architecture. Drawing, layout, floor plans, materials, standards in construction, conventions, etc. Students may register for any unit in any semester, with consent of instructor.

Fall Semester		Spring Semester	
T 7:00	Main Engineering 201, Smalley	T 7:00	Main Engineering 201, Smalley
Th 7:00	St. P. Mechanic Arts 101, Smalley	Th 6:20	St. P. Mechanic Arts 101, Smalley

Architectural Design I-II. 3 Extension credits. \$15.

Principles of planning and composition as applied to problems in various types of buildings. Intended to develop facility in conceiving and presenting ideas quickly from assigned data. Also various aspects of house design based on modern interpretation of historic styles, such as Colonial, Old English, etc. More advanced problems as time permits. Prerequisite: Architectural Drafting I and II, or equivalent with consent of instructor.

Spring Semester

Th 8:05 St. P. Mechanic Arts 101, Smalley

ELECTRICAL ENGINEERING

1-2 Fundamentals of Electrical Engineering. 5 Extension credits each semester. \$25.

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 alternating-current circuits, complex representation of AC quantities, series and parallel AC circuits, polyphase AC circuits, power measurements in AC circuits. No prerequisite.

Fall Semester

1 TTh 7:00 Electrical Engineering 237, Cartwright

Spring Semester

2 TTh 7:00 Electrical Engineering 237, Cartwright

3-4 Fundamentals of Electronics. 5 Extension credits each semester. \$25.

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: 1-2 or equivalent in experience.

Fall Semester

3 TTh 7:00 Electrical Engineering 138

Spring Semester

4 TTh 7:00 Electrical Engineering 138

5-6 Fundamentals of Radio and Television. 5 Extension credits each semester. \$25.

First semester: vacuum tube characteristics, gas tube characteristics, audio amplifiers, R.F. amplifiers, oscillators, amplitude modulators, detection, power supplies, trigger and sweep circuits, oscilloscopes. Second semester: radio receivers, transmitters, frequency modulation, transmission lines, antennas, television, ultra high frequency tubes and circuits, wave guides. Prerequisite: 3-4 or equivalent.

Fall Semester

5 TTh 7:00 Electrical Engineering 321, Fillmore

Spring Semester

6 TTh 7:00 Electrical Engineering 321, Fillmore

11-12 Elements of Electrical Engineering. 4 credits. \$20.

Direct current circuit analysis; network theorems; application of the theorems to circuit problems. Laboratory study of direct current circuits. Prerequisites: Calculus or concurrent registration in Calculus.

Fall Semester

MW 7:00 Electrical Engineering 237, Weiner

Spring Semester

MW 7:00 Electrical Engineering 237, Weiner

13-14 Elements of Electrical Engineering. 4 credits. \$20.

Magnetic circuits and electromagnetic theory; electrostatics. Laboratory study of magnetic and electrostatic phenomena. Prerequisite: E.E. 11 and 12.

15-16 Elements of Electrical Engineering } Not offered 1948-49. Will be offered
 111-112 Junior Electrical Engineering } 1949-50 if sufficient demand.

GENERAL ENGINEERING

Use of Engineer's Slide Rule. 1½ Extension credits. \$7.50.

Theory and computation practice necessary for those who wish to use the slide rule in ordinary office computations. Drills on fundamental processes.

Fall Semester

Th 7:00 Main Engineering 217

Building Material Estimating. 3 Extension credits. \$15.

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.

Fall Semester

Th 8:05 Main Engineering 217

MATHEMATICS AND MECHANICS

Basic Mathematics. 3 Extension credits. \$15.

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. Repeated spring semester. Prerequisite: grade school arithmetic.

Fall Semester

W 6:20 Main Engineering 106, Fulks

Spring Semester

W 6:20 Main Engineering 106, Fulks

Elementary Algebra I-II† Credit toward entrance. \$15.

Elements of algebra to quadratic equations. No prerequisite.

Fall Semester

I W 8:05 Main Engineering 106, Fulks

Spring Semester

II W 8:05 Main Engineering 106, Fulks

Plane Geometry I-II Combined. Credit: one entrance unit. \$30.

Elements of plane geometry, equivalent to one year of high school geometry; designed especially for those who wish to clear up their University of Minnesota entrance requirements. Two sessions a week.

Fall Semester

MW 6:20 Main Engineering 203, Schuck

Solid Geometry. Credit toward entrance. \$15.

Standard theorems and exercises; practice in special proofs and original exercises. Fall class will finish December 13; extra sessions arranged to complete semester's work. Repeated spring semester. Prerequisite: plane geometry.

Fall Semester

M 8:05 Main Engineering 203, Schuck

Spring Semester

M 8:05 Main Engineering 203, Schuck

9 Higher Algebra. 5 credits. \$25.

A review and collegiate treatment of the topics of elementary algebra, which is prerequisite. Not open for credit to those who present higher algebra for entrance to college in Institute of Technology. Repeated spring semester. Prerequisite: elementary algebra.

Fall Semester

M 7:00 Main Engineering 107, McElrath
Th 7:00 Main Engineering 107, Scott

Spring Semester

M 7:00 Main Engineering 107, Braden
Th 7:00 Main Engineering 107, Wilcox

11 College Algebra. 5 credits. \$25.

Quadratic equations; logarithms; mathematics of investment; simultaneous quadratic equations; graphical representation; progressions; mathematical induction; binomial theorem; permutations; combinations; probability; determinants; theory of equations; partial fractions. Repeated spring semester. Prerequisite: higher algebra.

Fall Semester

M 7:00 Main Engineering 205, Braden
Th 7:00 Main Engineering 205, Smith

Spring Semester

M 7:00 Main Engineering 205, McElrath
Th 7:00 Main Engineering 205, Scott

12 Trigonometry. 5 credits. \$25.

Logarithms and plane and spherical trigonometry. Repeated spring semester. Prerequisite: college algebra.

Fall Semester

M 7:00 Main Engineering 227, Fischer
T 7:00 Main Engineering 107
W 7:00 St. P. Mechanic Arts 102, Wilcox

Spring Semester

Th 7:00 Main Engineering 203, Smith

13 Analytic Geometry. 5 credits. \$25.

Elements of plane analytical geometry including conic sections; brief introduction to solid analytical geometry. Prerequisite: trigonometry. Repeated spring semester.

Fall Semester

M 7:00 Main Engineering 215

Spring Semester

M 7:00 Main Engineering 215, Fischer

24 Differential Calculus. 5 credits. \$25.

Limit; derivative; simple applications of derivative; maxima and minima; differentials; rates; change of variable; radius of curvature; mean value; indeterminate forms; partial differentiation; series; expansion of functions. Prerequisite: analytic geometry.

Fall Semester

T 7:00 Main Engineering 106, Fischer

25 Integral Calculus. 5 credits. \$25.

Standard elementary forms; definite integral; partial fractions; integrations by substitution, by parts; reduction formulas; integration a process of summation; double and triple integration. Prerequisite: differential calculus.

Spring Semester

T 7:00 Main Engineering 106, Fischer

M.&M. 26 Technical Mechanics—Statics. 5 credits. \$25.

This class deals with the following aspects of statics: characteristics of a force, parallelogram law, moments, resultants, equilibrium, friction, graphical methods, work, and theory of the moment of inertia. Prerequisite: integral calculus.

Fall Semester

Th 7:00 Main Engineering 106, Fischer

M.&M. 127 Technical Mechanics—Dynamics. 5 credits. \$25.

This class deals with the following aspects of dynamics: mass, acceleration, governors, power, momentum, and the theorem of Coriolis. Prerequisite: statics.

Spring Semester

Th 7:00 Main Engineering 106, Fischer

MECHANICAL ENGINEERING**Use of Mechanical Engineering Handbooks I-II.** 3 Extension credits. \$15.

The purpose of this course is to train and acquaint those engaged in industrial work with the technical information readily available in the various mechanical engineering handbooks. Special emphasis is given to the application of handbook data and information to the solution of a wide variety of practical problems. The course includes a review of the various current mechanical handbooks and classification of these as to type of technical data. Typical problems involve standard specifications, design data, selection of mechanical equipment and other general mechanical subjects. It is an excellent refresher course for engineers and a practical basic course for others in the industrial field. Part II is a continuation of Part I in which more emphasis is given to the solution of comprehensive problems utilizing handbook information alone and the many shortcuts in problem solution possible through the efficient use of handbook data are stressed. Twelve 3-hour meetings. No prerequisite.

September 28-December 14

I T 7:00 Experimental Engineering 201,
LaJoy

February 8-April 26

II T 7:00 Experimental Engineering 201,
LaJoy

Kinematics of Machines I-II. 3 Extension credits each semester. \$15.

A course designed to give a fundamental background in mechanical movements. The make-up of complex machinery is studied as simple basic mechanisms. Displacement and velocity analysis of moving machine members such as pistons, cranks, connecting rods, cams, gears, and miscellaneous linkages. Part II is a continuation of Part I and includes more detailed work on velocity analysis and its relation to forces acting on various machine members during a complete cycle of operation. In addition some time will be devoted to the study of accelerations and inertia forces of moving machine members and their relation to the complete force system. Twelve 3-hour meetings. Prerequisite: consult instructor.

September 28-December 14

I T 7:00 Mechanical Engineering 251,
Larsen

February 8-April 26

II T 7:00 Mechanical Engineering 251,
Larsen

Instrumentation and Automatic Control. Part I. 3 Extension credits. \$15 plus \$5 laboratory fee.

An elementary course planned to cover the principle of operation of the many instruments and automatic controls in commercial use today. Control instruments and control circuits will be studied in detail. Both electrical and pneumatic methods of obtaining control modes such as on-off or two-position response and throttling or modulating responses will be covered. The course will be divided between lecture and laboratory. In the laboratory students will be familiarized with the actual instruments and control circuits. This will be integrated with lecture work and control design problems. Twelve 3-hour meetings. Prerequisite: consult instructor.

September 29-December 15

W 7:00-10:00 Experimental Engineering 201,
LaJoy

Instrumentation and Automatic Control. Part II. 3 Extension credits. \$15 plus \$5 laboratory fee.

This course is planned to cover more of the 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. Twelve 3-hour meetings. Prerequisite: consult instructor.

February 9-April 27

W 7:00-10:00 Experimental Engineering 201,
LaJoy

Tool Design I-II. 3 Extension credits each unit. \$15.

Analysis of piece parts and selection of proper tools and machines for the various operations. Determination of machining speeds and estimating the production time for various types of jigs and fixtures. Selection and design of the best type of jig, fixture, and special gages for the manufacture of the piece parts. Twelve 3-hour meetings. Prerequisite: Product Analysis I or Quality Control, or equivalent in shop experience.

September 28-December 14I T 7:00 Mechanical Engineering 151,
Crowder**February 8-April 26**II T 7:00 Mechanical Engineering 151,
Crowder**Machine Design I-II.** 3 Extension credits each unit. \$15.

Fundamental principles of design of machine elements: lubrication, theory and application; friction drives, shafts, screws, gears, belts, connectors, springs, flywheels, machine frames, shrink fits. Prerequisite: Analytic Geometry.

Fall SemesterI M 7:00 Mechanical Engineering 251,
Larsen**Spring Semester**II M 7:00 Mechanical Engineering 251,
Larsen**Airplane Engines I-II.** 3 Extension credits each semester. \$15 plus \$1 laboratory fee.

Types and development; mechanical detail of modern aircraft engines, radial, twin-row, corn-cob, in-line, etc.; lubrication, cooling and air systems; aircraft fuels and carburetors; geared superchargers; turbo-superchargers, elementary fundamentals of jet propulsion; aircraft fuel specifications; altitude performance; aircraft engine testing. No prerequisite.

Fall Semester

I M 7:30 Oak Street Lab., Murphy

Spring Semester

II M 7:30 Oak Street Lab., Murphy

Diesel Engines I-II. 3 Extension credits each semester. \$15 plus \$1 laboratory fee.

A study of diesel principles and the construction and operation of modern diesel engines, diesel fuels, fuel pumps, injection nozzles and combustion systems; stationary, industrial and marine diesels; automotive and aircraft diesels, diesel locomotives; diesel operation and maintenance. No prerequisite.

Fall Semester

I T 7:30 Oak Street Lab., Lindquist

Spring Semester

II T 7:30 Oak Street Lab., Lindquist

Heating, Ventilating and Air Conditioning I-II†. 4½ Extension credits each semester. \$22.50.

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 of appliances for heating, ventilating and air conditioning installations. The subject matter of this course deals with heat transfer; heat transmission coefficients, heat transmission losses and heating loads; psychrometry and humidification; warm air, steam, hot water, vapor, vacuum, panel and fan system of heating; fuels and combustion; boilers, radiators, oil burners, gas burners and stokers; air duct design; air flow and air distribution; cooling loads and cooling load calculations. Class limited to 40 students accepted in order of registration. Prerequisite: high school mathematics or consent of instructor.

Fall Semester

I W 7:00 Experimental Engineering 110

Spring Semester

II W 7:00 Experimental Engineering 110

Heating, Ventilating and Air Conditioning III-IV†. 4½ Extension credits each semester. \$22.50.

A continuation of Heating, Ventilating and Air Conditioning I-II. The application of the principles of heating, ventilating and air conditioning to practical problems, the design of system to meet the requirements of occupied spaces and industrial plants; fan characteristics; controls; exhaust systems. Instructor will decide whether students have equivalent preparation. Class limited to 40 students accepted in order of registration. Prerequisite: I-II or equivalent.

Fall Semester

III Th 7:00 Experimental Engineering 110

Spring Semester

IV Th 7:00 Experimental Engineering 110

Refrigeration I-II. 4½ Extension credits each semester. \$22.50.

An elementary course for those engaged in the design, construction, maintenance, manufacture, and sale of refrigeration equipment. Fundamental terms, concepts, definitions; basic refrigeration cycles including compression, steam jet and absorption refrigeration; compressors, evaporators, and condensers; refrigeration controls, thermostatic and automatic expansion valves, high and low side-float systems and capillary tubes; psychrometry; refrigerants; high, intermediate and low temperature applications of refrigeration; determination of cooling and refrigeration loads; calculation of heat transfer coefficients; laboratory demonstrations of refrigeration equipment. Prerequisite: consult instructor.

Fall SemesterI T 7:00 Experimental Engineering 110,
Jordan**Spring Semester**II T 7:00 Experimental Engineering 110,
Jordan

Production Control. 3 Extension credits. \$15.

Detailed study of basic principles underlying economical production of manufactured goods; production planning, routing, scheduling, dispatching, and follow-up. Relationship of various departments to production control. No prerequisite.

Fall Semester

T 6:20 Mechanical Engineering 202, Imhoff

Time Study. 3 Extension credits. \$15 plus \$1 laboratory fee.

Detailed study of fundamental steps in time study procedure: breaking job into elements, performance rating, selection of elemental times, and allowances. Twelve 3-hour meetings, beginning September 27. Repeated spring semester, beginning March 28. No prerequisite.

September 27-December 16

M 7:00 Mechanical Engineering 202, Imhoff

March 28-June 11

M 7:00 Mechanical Engineering 202, Imhoff

Motion Study. 3 Extension credits. \$15.

Study and application of principles of work simplification to manufacturing and other activities. Process charts, operation charts, and micromotion studies. Lectures are followed by laboratory problems. Class limited to 25 students accepted in order of registration. Twelve 3-hour meetings, beginning January 3. No prerequisite.

January 3-March 21

M 7:00 Mechanical Engineering 202, Imhoff

Engineering Plant Layout. 4½ Extension credits. \$22.50 plus \$2 laboratory fee.

A study of plant design location and arrangements of departments and equipment to obtain orderly and economical flow of work through plant. Materials-handling methods and equipment. Lectures and laboratory. Class limited to 25 students accepted in order of registration. Class meets for 2½ hours. Prerequisite: Motion Study.

Spring Semester

T 7:00 Mechanical Engineering 202, Imhoff

Elementary Quality Control. 4½ Extension credits. \$22.50.

Lectures and problems in the theory and applications of statistical quality control methods—use of control charts and sampling schemes. Standard deviation, theory of probability, grouped frequency distribution, normal distribution, significance of differences, control charts for average and dispersion, control charts for per cent defective, control charts for defects, tolerances, single and double sampling schemes, use of IQ charts. Class will meet for 2½-hour period. Prerequisite: consent of instructor.

Fall Semester

W 7:00 Mechanical Engineering 202, Lifson

Problems in Advanced Quality Control A. 3 Extension credits. \$15.

This course will cover such topics as analysis of variance, analysis of covariance, correlation, multiple correlation, graphic correlation, etc. Prerequisite: Elementary Quality Control or equivalent with instructor's consent.

Fall Semester

W 7:00 Main Engineering 107, Berrettoni

Problems in Advanced Quality Control B. 3 Extension credits. \$15.

This course will cover sampling theory, fundamental distributions of sampling, significant differences, etc. Prerequisite: Elementary Quality Control or equivalent with instructor's consent.

Spring Semester

W 7:00 Main Engineering 107, Berrettoni

Elementary Safety Engineering I-II. 4½ Extension credits each semester. \$22.50 plus \$1 materials fee.

Introduction to industrial safety, development of industrial safety movement, accident costs, injury sources and causes, appraising safety performance, safety organization, new worker, job analysis for safety, arousing and maintaining interest in safety; first aid, layout and arrangement, the prevention of falls, materials handling, machinery safe-guarding, hand tools, industrial health hazards, fire prevention and protection fundamentals, eye protection, safety inspections, accident investigation, accident reports and records. Prerequisite: consult instructor.

Fall Semester

I M 7:00 Mechanical Engineering 254, Lee

Spring Semester

II M 7:00 Mechanical Engineering 254, Lee

Advanced Safety Engineering I. 5 Extension credits. \$25.

A course designed for practicing safety engineers or those who have completed the elementary course. Topics covered will include: Planning the safety program; industrial public presentations; promoting employee safety practices; safety training for foremen and supervisors; preparing and presenting reports; safety meeting procedures; industrial hygiene; insurance aspects and legal requirements. Class will meet for 3 hours. Prerequisite: Elementary Safety Engineering I-II or equivalent with consent of instructor.

Fall Semester

F 7:00 Mechanical Engineering 254, Lee

Machine Tool Operation I-II. 4½ Extension credits each semester. \$22.50 plus \$1 laboratory fee.

Lecture and laboratory covering the selection and use of jigs, fixtures, gages, and machine tools for the manufacture of a ½ H.P. electrical motor. Selection of the proper cutting tools and determination of the machine speeds for various materials. Preparation of manufacturing analysis and estimation of the machining time for the manufacture of metal products in small and large quantities. The laboratory project (ordinarily an electric motor) can be purchased at cost of material. Class limited to 20 students, accepted in order of registration. Prerequisite for Part II: previous quarter's work or equivalent.

Fall Semester

I M 7:00 Mechanical Engineering 206,
Crowder

Spring Semester

II M 7:00 Mechanical Engineering 206,
Crowder

Beginning Plastics. 3 Extension credits. \$15 plus \$2 materials fee.

A laboratory and lecture course dealing with the materials, equipment, and methods used in the fabrication of plastic products. Repeated spring semester. No prerequisite.

Fall Semester

T 7:30 Mechanical Engineering 153, Holtby

Spring Semester

Th 7:30 Mechanical Engineering 153, Holtby

Advanced Plastics. 3 Extension credits. \$15 plus \$2 materials fee.

A laboratory and lecture course dealing with the design of plastic products and molds, heat treatment and chrome plating of molds, product and mold costs, types of compression, transfer, injection, and extrusion molds and dies. Prerequisite: Beginning Plastics or consent of instructor.

Spring Semester

T 7:30 Mechanical Engineering 153, Holtby

Petroleum Products and Testing I-II. 3 Extension credits each semester. \$15.

Testing of petroleum products—gasoline, kerosene, heating oil, diesel fuel oils, lubricating oils and residual oils. The tests will be accompanied by lectures covering methods of tests. For the spring semester, the lectures will include characteristics and properties of petroleum products; the significance of test results and their relation with behavior of petroleum products in service. Both semesters are necessary for complete results. No prerequisite.

Fall Semester

I T 7:30 Experimental Engineering 215,
Peterson

Spring Semester

II T 7:30 Experimental Engineering 215,
Peterson

METALLOGRAPHY**1-2 Metallography and Heat Treatment.** 3 Extension credits each semester. \$15 plus \$2 laboratory fee.

A beginning course for those engaged in practical heat treatment, metal working, specification writing, buying or selling steel. Lectures and laboratory work in pyrometry, microscopic examination of metals, heat treatment of steel, case hardening, 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 1 must precede 2 unless student has had experience in heat treatment.

Fall Semester

1 T 7:00 Appleby Hall 315, Jerabek

Spring Semester

2 T 7:00 Appleby Hall 315, Jerabek

FACULTY

James Lewis Morrill, B.A., LL.D., President
Julius M. Nolte, B.A., LL.B., Dean of University Extension
Richard R. Price, M.A., Ed.D., Director of University Extension Emeritus
Immanuel C. Fischer, M.S., Assistant Professor of Engineering
Albert M. Fulton, Ph.M., Veterans' Counselor
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Huntington Miller, B.A., LL.B., Assistant Professor, Program Director
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Wendell White, Ph.D., Associate Professor of Psychology

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Clifford I. Haga, B.A., Instructor in Business English
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Dale B. Harris, Ph.D., Associate Professor of Child Welfare
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Fulton Holtby, M.E., M.S., Associate Professor of Mechanical Engineering
Johns Hopkins, A.I.D., Consultant Designer
John Hospers, Ph.D., Assistant Professor of Philosophy
John L. Imhoff, M.S. (M.E.), Instructor in Mechanical Engineering
John R. Immer, M.A., Assistant Professor of Business Administration
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Eloise M. Jaeger, M.Ed., Assistant Professor of Physical Education
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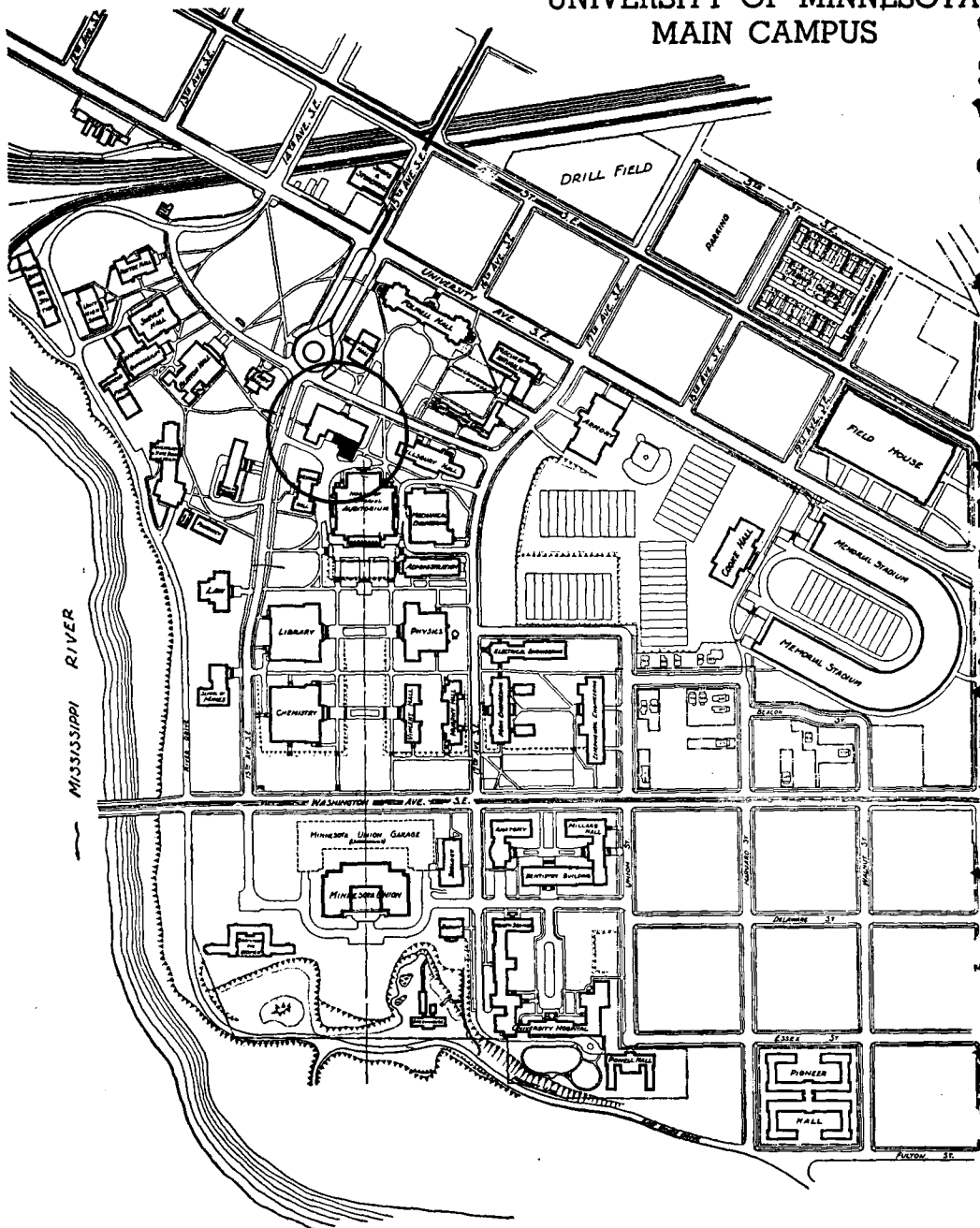
Toimi Kyllonen, M.A., Instructor in Sociology
 Millard H. LaJoy, M.S.(M.E.) Associate Professor of Mechanical Engineering
 Otis M. Larsen, M.S.(M.E.) Assistant Professor of Mechanical Engineering
 Louraine S. Larson, B.S., Instructor in Physical Education
 Henry S. Lee, Instructor in Safety Engineering
 Alice Lewis, B.A., Instructor in English
 Julius Lichtenstein, M.A., Instructor in Romance Languages
 Kalman Lifson, B.S.(M.E.), Instructor in Mechanical Engineering
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 Philip G. Morton, B.A., Instructor in Art
 Peter Mousolite, Ph.D., Instructor in Romance Languages
 Thomas E. Murphy, M.S., (A.E.), Assistant Professor of Aeronautical Engineer-
 ing
 Walter R. Myers, Ph.D., Associate Professor of Economics and Finance
 Richard Narvaez, M.A., Instructor in Romance Languages
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 Alvin E. Prottengeier, M.A., Instructor in German
 Lloyd J. Quaid, B.S.(C.E.), Instructor in Drawing and Descriptive Geometry
 Walter Quirt, Assistant Professor of Art
 Herman Ramras, M.A., Instructor in German
 Margaret Randall, R.N., B.S., Instructor in Nursing

John J. Reighard, M.A., C.P.A., Professor of Accounting
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 Neil A. Riley, LL.B., Instructor in Law
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 Virginia L. Rugh, M.A., Instructor in Physical Education
 Robert F. Schuck, B.S.(E.E.), Associate Professor of Drawing and Descriptive
 Geometry
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