

9/11/53

1/12/54

Bulletin of the
UNIVERSITY OF MINNESOTA



General Extension Division, 1953-1954

Evening and Special Classes, Twin Cities Area

CALENDAR

1953

September	14	Monday	Fall registration begins
September	26	Saturday	Last day for registration without late fee
September	28	Monday	Fall quarter and semester classes begin
October	10	Saturday	Last day for transfer without late fee
December	19	Saturday	Christmas recess begins. Fall quarter closes
December	21	Monday	Winter quarter registration begins

1954

January	4	Monday	Classes resume. Winter quarter begins
January	25	Monday	Second semester registration begins
February	5	Friday	Fall semester closes
February	6	Saturday	Last day for registration without late fee
February	8	Monday	Spring semester begins
February	20	Saturday	Last day for transfer without late fee
March	20	Saturday	Winter quarter closes
March	29	Monday	Spring quarter begins
June	4	Friday	Spring semester closes
June	12	Saturday	Spring quarter closes

Opening and closing dates for classes on other than semester or quarter basis are indicated below description of each class. Registration should be made during the two weeks preceding the opening of such classes; the customary privilege fees for late registration will be in effect after the opening session of all these classes. See page 2 for registration regulations.

EXTENSION OFFICES

Minneapolis Campus: Ground floor, southeast entrance, Nicholson Hall, University of Minnesota, Lincoln 8791, Midway 3965

Minneapolis (Downtown): 690 Northwestern Bank Building, Marquette Avenue and Sixth Street South, Main 0624

St. Paul: Extension Center, Wabasha and College Avenues, Cedar 6175

Duluth: 504 Alworth Building, 7-1317

SPECIAL OFFICE HOURS

Campus Office: September 14 through September 26 and January 25 through February 6: *weekdays*, 12:30 to 8:15 p.m.; *Saturdays*, 9:00 a.m. to 1 p.m.

Minneapolis Office: September 14 through September 26 and January 25 through February 6: *weekdays*, 12:00 to 8:15 p.m.; *Saturdays*, 9:00 a.m. to 1:00 p.m.

St. Paul Office: September 14 through October 3 and January 25 through February 13: *weekdays*, 12:00 to 8:15 p.m.; *Saturdays*, 9:00 a.m. to 1:00 p.m.

REGULAR OFFICE HOURS

Campus Office: Monday through Thursday, 8:00 a.m. to 8:15 p.m.; Friday, 8:00 a.m. to 5:00 p.m.; closed Saturdays.

Minneapolis and St. Paul Offices: Weekdays, 8:30 a.m. to 5:00 p.m.; Saturdays, 9:30 a.m. to 12:00 noon.

Special summer hours or closings may be in effect from June 1 to September 14. Consult offices for schedules.

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UNIVERSITY OF MINNESOTA

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Center for Continuation Study, Fred E. Berger, Center for Continuation Study Building
Community Program Service, James S. Lombard, 229 Northrop Memorial Auditorium
Correspondence Study, F. Lloyd Hansen, 251 Nicholson Hall
Evening and Special Classes, Huntington Miller, 54 Nicholson Hall
Municipal Reference Bureau, Clarence C. Ludwig, 15 Library Building
Radio Station KUOM, Burton Paulu, 1 Eddy Hall
State Organization Service, William C. Rogers, 104 Third Temporary, South of Mines

GENERAL EXTENSION DIVISION

Evening and Special Classes—Twin Cities Area

REGISTRATION REGULATIONS

The following regulations apply to veteran as well as nonveteran 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. Registration forms will be sent to nonveterans upon request to any Extension office.

Eligibility

The University's Extension classes are open to everyone who can handle them successfully. Service veterans may register under Public Laws 16, 346, and 550. 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, page 3) will bring you a full refund, or a transfer to another class will be accepted without penalty during the first two weeks of classes.

Fees

The full amount of the tuition and other special fees is payable at the time of registration. Checks or money orders should be drawn for the exact amount due and made payable to the University of Minnesota. The fee for each class is designated in the listing of the class in this bulletin.

Registration Periods

All registrations should be made during the two weeks preceding the first week of a class term (semester, quarter, or special). Registration will be permitted through the first three weeks of a semester and the first two weeks of a quarter or special term, subject to certain regulations and fees as set out below. No registrations will be accepted thereafter without special permission of the Committee on Student Scholastic Standing and permission of the instructor.

Late Registrations

All *initial* registrations received after the opening of a class term will be considered "late registrations" and will be subject to a privilege fee of \$2 through the first week of classes and \$3 thereafter. The time of registration by mail will be determined by the postmark. These special fees are not included in the privileges of Public Laws 16, 346, and 550 and must be paid by the veteran personally.

Additions and Transfers

Classes may be added to an initial registration and transfers will be permitted without penalty through the first two weeks of a semester or quarter. During the third week additions or transfers will be permitted only upon presentation of a *Special Registration Permit* endorsed by the instructor of the class which the student wishes to enter. A privilege fee of \$2 will be required (veterans included) to complete all such late additions or transfers. No classes may be added or transfers made after the third week of a class term without special permission of the Committee on Student Scholastic Standing.

Auditors

A student who does not expect to do all the required work of a class may register as *auditor* by writing "Aud." in the credit column of the registration form, or by asking his instructor to record him as an auditor any time before the final examination. 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 Office.

Cancellations and Refunds

Notice of cancellation and application for refund, accompanied by a fee receipt, must be in writing and submitted by the student to one of the Extension Division offices. *The effective date of cancellation* for the purpose of calculating refunds will be that on which notice is received, regardless of the date of last attendance.

Full refund will be made only when class offerings are changed or canceled by the Extension Division, or in certain cases upon certification of the instructor (see Eligibility, page 2).

Partial refunds, in accordance with general university regulations, will be made for all other cancellations which occur during the first half of the class term, provided proper notice is received. *The scale of refunds is available for inspection at any Extension Division office.*

No refunds can be made to students after the first half of the class sessions have been held.

Veterans please refer to *Special Registration Information* section for additional notes regarding cancellations by veterans.

Maximum Work Load

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

Present or Former University Day-School Students

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

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

VETERAN INFORMATION

Korean War Veterans

All Korean War veterans are entitled to educational and training benefits as set forth in Public Law 550. *The benefits under this bill are totally different from those authorized under the old G.I. Bill, Public Law 346.* (World War II veterans recalled to active duty in the Korean crisis are advised that it is more beneficial to them usually to continue their education under the old bill. See information under World War II Veterans.) The basic provisions of Public Law 550 and General Extension Division registration procedures are as follows:

1. Authorization for Educational Training. The Korean veteran must present a Certificate of Eligibility (VA Form 7-1993) at the time of his initial registration for Extension classes. If he has not previously applied for educational training under Public Law 550 he may make such application at the time of registration (VA Form 7-1990) through the Veterans Office of the General Extension Division. At the time of such application, he must present a photostat or certified copy of the DD 214 (original copy not acceptable) showing his separation or discharge from military service.

A Certificate of Eligibility filed with the General Extension Division can be used by the veteran until his educational objective has been reached or his entitlement exhausted.

Korean veterans who have not previously applied for educational training under Public Law 550 are urged to use the facilities of the Veterans Office of the General Extension Division in completing their application for training (VA Form 7-1990) because (1) their Certificate of Eligibility must designate an educational, professional, or vocational objective or goal, (2) registration will be accepted in only those Extension classes which are in keeping with this objective or goal, and (3) only one change may be made in their objective or goal before their delimiting date without Veterans Administration approval. After that date they may not be able to make any change.

2. Korean veterans must personally pay the tuition and fees for Extension classes at the time of registration. This money will be refunded to the veteran if the enrolment is for less than ½-time work load. If the enrolment is for more than a ½-time work load an educational allowance will be paid to the veteran.

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

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

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

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

5. All refunds of tuition and fees and/or payments of educational allowances are paid monthly by the Veterans Administration directly to the veteran. These payments are made on the basis of joint certifications made by the veteran and the Veterans Office of the General Extension Division. Full details regarding these certifications will be given at the time of registration.

6. The Veterans Administration will prorate the first monthly payment due any veteran who registers after the opening date of the semester, quarter, or term. Under the provisions of Public Law 550 the General Extension Division must certify to the Veterans Administration (VA Form 7-1999) the actual date the Korean veteran began his training in Extension classes. All payments due the veteran will begin that date. It is urgent, therefore, that registration be made during the normal two-week registration period prior to the opening date of the semester, quarter, or term involved. Korean veterans will not be permitted to transfer from or add to their initial registration except with special permission of the Veterans Office of the General Extension Division.

7. Korean veterans must furnish evidence of graduation from high school and an official transcript of all college credits previously earned at the initial

time of registration for Extension classes. These materials will be included in a personal file. They will be returned upon request at termination of training in the General Extension Division, University of Minnesota.

8. All registrations by Korean veterans must be made in the Veterans Office, Room 56 Nicholson Hall, University of Minnesota, Minneapolis Campus. We regret the inconvenience of requiring Korean veterans to come to the Minneapolis Campus to register but at the present time there is no other way we can be certain that their enrolment for Extension classes satisfies the provisions of Public Law 550.

9. Regulations and procedures of the Veterans Administration governing educational training for the Korean veteran are too technical and complicated for individual interpretation. It is strongly recommended that veterans consult with the Veterans Office, General Extension Division, Room 56 Nicholson Hall, Minneapolis Campus, Lincoln 8791 or Midway 3965, promptly on all problems affecting their present or future enrolment under the Korean Educational Training Bill, Public Law 550.

World War II Veterans

Veterans Administration regulations state that all World War II veterans taking educational training under the G.I. Bill, Public Law 346, must be in continuous training during the regular school year (normal summer vacation periods excepted) once the July 25, 1951, or individual deadline date (four years from date of discharge) has been reached.

All veterans previously enrolled in spring 1953 Extension classes must register for and complete at least one class during the fall of 1953 or lose their educational benefits.

Exceptions are as follows: Veterans whose educational training was interrupted because of recall to active military duty in the Korean crisis may under certain conditions continue their educational training under the G.I. Bill, Public Law 346. Any such veteran should get in touch with the Veterans Office, General Extension Division, not later than thirty days from his date of discharge for instructions in this matter. In most instances it will be to the veteran's benefit to continue his educational training under the old G.I. Bill, Public Law 346, rather than under the new Korean Educational Training Bill, Public Law 550.

Veterans eligible for educational training under Public Law 346 will have their tuition and supplies paid by the Veterans Administration and in some instances may qualify for partial subsistence payments. *All veterans must register in person at one of the Extension Division offices. Registrations cannot be made by mail.* The Veterans Office, Room 56 Nicholson Hall, Minneapolis Campus, Lincoln 8791, or Midway 3965, should be consulted on all problems related to Veterans Administration authorizations for educational training, transfers, interruptions, or cancellations, as well as Extension Division registration procedures. *Extension veterans are warned that advice or information given by any other source may not satisfy Veterans Administration and University regulations which are peculiar to educational training requirements of the General Extension Division.* Do not hesitate to use the services of the Veterans Office, General Extension Division, whenever your educational training benefits are involved.

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

GENERAL INFORMATION

How to Use This Bulletin for Registering

The listing of each class in this bulletin should in most cases give you all the information you need for filling out your registration forms. Most classes appear under their appropriate department or subject heading; where several classifications are possible, cross references will usually be given. Use of the index at the back of the bulletin plus a little search will usually determine whether the class you are seeking is being offered.

The first line or two of the listing gives you the class number, if any, the title, the number of credits, and the cost per term (semester, quarter, or special) plus special fees, if any. All numbered listings are university credit classes and are the same as those of corresponding day classes or have been approved for Extension use by the department concerned. Other classes are not numbered and are indicated as for "Extension credit"; any of these classes may be applicable toward an appropriate Extension Certificate (see Extension Certificates, page 9). A few class listings are daggered (†), others are continuation classes, i.e., run for two or three semesters or three quarters; for special information concerning registration in these classes see *Daggered Listings* and *Continuation Classes*.

The description of the course content follows. If the class is repeated each semester, or if the enrolment is limited, it is so indicated at the end of the description. The course prerequisites, if any, terminate the description (see *Prerequisites*).

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

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

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 paragraph on *Eligibility* in *Registration Regulations* section on page 2 for special refund or transfer privileges in such cases.

Daggered (†) Listings

The units of classes followed by the dagger symbol must be taken in sequence and credit cannot be received for the first unit until the second is completed. Students who have not completed the first unit of a daggered course at the University but who believe they are qualified to enroll in the second unit must receive permission of the Committee on Student Scholastic Standing before registering for the second unit.

Continuation Classes

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

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 Committee on Student Scholastic Standing.

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 Committee on Student Scholastic Standing.

Residence—Credits earned in undergraduate Extension classes in Minneapolis, St. Paul, and Duluth are "resident" credits, subject to the regulations of the school or college concerned.

Graduate—A graduate student may, upon the approval of his graduate adviser, petition the dean of the Graduate School to have transferred to his graduate record not more than 6 quarter credits under Plan A or 9 quarter credits under Plan B in courses numbered 100 and above offered by the Extension Division of the University of Minnesota in the Twin Cities area, and taught by regularly approved members of the graduate faculty (for this information, consult the chairman of the Committee on Student Scholastic Standing). Petition to transfer is limited to credits earned in Extension classes since September, 1943. Such transfer of credits will not give residence credit. (See box on page 64 for information on advanced engineering degree.)

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

Honor Points—For Extension certificates honor points are used normally only to ascertain whether a student has the required C average; they are not used to reduce the number of credits required for a certificate except upon special action of the Committee on Student Scholastic Standing. Students in 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.

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; a student who receives a failure in a continuation class may not 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 approximately 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 a year, 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 are sent them by the Extension clerk in the University Office of Admissions and Records and cannot be furnished by the Extension offices. The assistant dean's office, however, will check reports if necessary and will obtain transcripts of students' records upon request.

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 5 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, at \$14, including 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 5 credits in Extension classes.

ADVICE AND COUNSELING

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

Every effort will be made to have an adviser on duty at the campus office at all times during special office hours before each semester (see inside cover). If special advice is required, however, an appointment is recommended. Advisers will be on duty at downtown offices during registration periods at convenient hours; consult offices for schedule or make special appointments.

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 an interdepartmental 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 some 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. The major portion of the requirements for the master of science in engineering degree (Plan A) may be earned through Extension classes. For further information concerning this program, consult the Office of the Assistant Dean. (See box on page 64.)

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 Committee on Student Scholastic Standing 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 Senior College standing should apply to an Extension adviser for procedure to follow.

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 (see page 12), or both. Most 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 Committee on Student Scholastic Standing. Certificates are awarded to students who complete with a C average any of the following programs of study, upon the application of the student and the recommendation of the Committee on Student Scholastic Standing.

Liberal Education Certificate

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 Committee on Student Scholastic Standing to make a total of 45 credits for the certificate.

Public Administration Certificate

Core requirement:

Pol. 1-2 American Government and Politics

Pol. 60 Introduction to Public Administration

Pol. 62 Public Personnel Administration

Pol. 63 Public Financial Administration

Pol. 58 Governmental Accounting

or

Econ. 5 Elements of Statistics

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

Accounting

Child Welfare

Economics and Finance

Engineering

Industrial Relations

Insurance

Nursing Education

Political Science

Psychology

Recreation

Social Work

Sociology

Traffic and Transportation

* Other subject matter fields are not necessarily excluded, but may be approved upon petition.

Electives: at least 12 credits in the following courses:

Pol. 61 Municipal Law and Administration
 Pol. 64 Employee Training Techniques
 Pol. 66 Problems in Public Administration
 Pol. 67 Administrative Analysis
 Pol. 68 Administrative Communication
 Pol. 69 Problems in Tax Administration
 Pol. 73 City and County Planning
 Pol. 76 Business and Government
 Pol. 77 Administrative Regulation
 Jour. 78 Public Relations

Business Administration Certificates

Junior Certificate

Core requirement:

Business English 1 or 2 or Comp. 4, or exemption
 B.A. 51 Business Law
 Econ. 5 Elements of Statistics
 Econ. 6-7 Principles of Economics
 Econ. 24-25-26 Principles of Accounting

Spread requirement: at least one 3-credit course in any three of the following fields:

Business Administration: B.A. 89 Production Management
 Distribution: Advertising, Marketing and Merchandising, Traffic and Transportation
 Economics and Finance
 Industrial Relations
 Business Law: B.A. 52, 53, or 56

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

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

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

Senior Certificate

Core requirement:

Business English (2 units of Bus. Eng. 1-2-3) or Comp. 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. 24-25-26 Principles of Accounting
 Econ. 73 Manpower Economics and Labor Problems

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

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

Electives: additional courses approved by the Committee on Student Scholastic Standing to make a total of 90 credits for the certificate.

Industrial Relations Certificate

Core requirement:

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

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

Econ. 166 Settlement of Industrial Disputes
 *B.A. 86 Office Management
 B.A. 89 Production Management
 Psy. 119 Psychology of Personality
 Psy. 125-126 Psychology of Individual Differences
 Psy. 144-145 Abnormal Psychology
 Soc. 120 Social Psychology
 Wage and Salary Administration
 Elements of Supervision
 Advanced Supervision
 Work Simplification
 Work Measurement and Production Standards
 Industrial Plant Layout
 Elements of Union Administration
 Personnel Methods
 Wage and Salary Stabilization Programs
 Econ. 169 Labor Legislation: Economic Security

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

General Engineering Certificates

Junior Certificate

Core requirement:

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

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

Senior Certificate

Core requirement:

I.T.M. 11 College Algebra
 I.T.M. 12 Trigonometry
 I.T.M. 13 Analytic Geometry
 I.T.M. 24 Differential Calculus
 I.T.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

* Offered only by correspondence study.

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

Aeronautical Engineering
Civil Engineering

Electrical Engineering
Mechanical Engineering

Electives: additional courses approved by the Committee on Student Scholastic Standing to make a total of 90 credits for the certificate.

Industrial Engineering Certificates

Junior Certificate

Core requirement:

Comp. 4 or Business English 1 or Engineering English 85
I.T.M. 11 College Algebra
I.T.M. 12 Trigonometry
D.&D.G. 1-2 Engineering Drawing
Machine Tool Operation I
Econ. 6-7 Principles of Economics
B.A. 89 Production Management
Work Simplification
Work Measurement and Production Standards

Electives: additional courses may be selected from the list of requirements or recommended electives listed under senior certificate provided that sufficient courses are taken to make a total of 45 credits for the certificate.

Senior Certificate

Core requirement:

Business English 1-2 or Engineering English 85-86 or Comp. 4-5-6 or exemption
I.T.M. 11 College Algebra
I.T.M. 12 Trigonometry
I.T.M. 13 Analytic Geometry
D.&D.G. 1-2 Engineering Drawing
D.&D.G. 3 Descriptive Geometry
Machine Tool Operation I
Econ. 6-7 Principles of Economics
Econ. 73 Manpower Economics and Labor Problems
B.A. 167 Introduction to Industrial Relations
Econ. 5 Elements of Statistics, or Basic Industrial Statistics I
B.A. 89 Production Management
Production Planning and Control
Work Simplification
Work Measurement and Production Standards
Industrial Plant Layout
Elements of Quality Control
Manufacturing Cost Analysis

Electives: additional courses may be selected in other fields approved by the Committee on Student Scholastic Standing to make a total of 90 credits for the certificate. The following courses are recommended:

Psy. 1-2 General Psychology
B.A. 133 Standard Cost Accounting
Elements of Supervision
Wage and Salary Administration
D.&D.G. 52 Alignment Charts
Industrial Safety and Hygiene
Beginning Practical Speech Making
Basic Salesmanship
Motion Picture Photography

CORRESPONDENCE STUDY COURSES

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

General Classes

AGRICULTURE

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 5:50 and 6:10 p.m.

6 Types and Breeds of Light Horses. (Offered 1954-55.)

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, sheep, swine, and poultry. Practice in judging the various kinds of farm animals. No prerequisite.

Fall Semester

T 7:00 Livestock Pavilion, St. Paul Campus,
Anderson

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 9, St. Paul Campus,
Gullickson

A.H. 10 Selection and Utilization of Meats. 3 credits. \$15 plus \$2 laboratory fee.

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

Fall Semester

M 7:00 Meat Shop, St. Paul Campus, Aunan

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 businessman, 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 prerequisite.

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 prerequisite.

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

Spring Semester

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

ANTHROPOLOGY**1 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 readings 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 Ford 180, Johnson

113 The Character of Culture. 3 credits. \$15.

A more advanced course in cultural anthropology. Explores the relations between culture, social structure, and personality. Case-study analysis of a few specific societies, nonliterate and modern. The problem of cultural change. The special problems raised in anthropological approach to large-scale civilizations.

Spring Semester

T 8:05 Ford 180, Johnson

ART

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 permission is obtained for registration in an advanced unit on the basis of background and ability. Advanced standing credit will be granted in special cases for work done elsewhere—consult chairman of Art Department.*

1 Introduction to Art. 3 credits. \$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 principles involved in their creation, and recognition of the place of art in its social setting. Particular emphasis will be given to original works of art in the Walker Art Center and the Minneapolis Institute of Arts. No prerequisite.

Fall Semester

T 7:30 Walker Art Center, Eitner

***20-21-22 First Year Drawing and Painting.** 2 credits each semester. \$15 plus \$2 laboratory fee.

Introduction to materials and techniques; still life, figures, and landscape. No prerequisite. Sections limited to 30 students.

Fall Semester

T 7:00 Jones 200B, Young
W 7:00 Walker Art Center, Arnest
Th 7:00 Jones 200B, Young

Spring Semester

T 7:00 Jones 200B, Young
W 7:00 Walker Art Center, Arnest
Th 7:00 Jones 200B, Young

***30-31-32 Commercial Drawing.** 2 credits each semester. \$15 plus \$1 laboratory fee.

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

Fall Semester

M 7:00 Jones 104, Klein

Spring Semester

M 7:00 Jones 104, Klein

***44 General Crafts.** 3 credits. \$15 plus \$5 laboratory fee.

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

Fall Semester

T 7:00 Jones 2, Gates

Spring Semester

T 7:00 Jones 2, Gates

***45-93-94-95 Ceramics.** 2 credits each semester. \$15 plus \$5 laboratory fee.

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

Fall Semester

M 6:20 Jones 10, MacKenzie

Spring Semester

M 6:20 Jones 10, MacKenzie

***60-61-62 Second Year Drawing and Painting.** 2 credits each semester. \$15 plus \$2 laboratory fee.

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

Fall Semester

W 7:00 Walker Art Center, Arnest

Spring Semester

W 7:00 Walker Art Center, Arnest

68 Modern Art: Contemporary Art in Europe and America. 3 credits. \$15.

Note—Properly qualified students may register for Art 156 for graduate credit. Consult chairman of Art Department.

A study of the development of painting, sculpture, and architecture in Europe and the United States during the twentieth century. Prerequisite: Art 1 or permission of instructor.

Spring Semester

T 7:30 Walker Art Center, Eitner

83 Interior Design 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. No prerequisite. Each section limited to 65 students, accepted in order of registration. Repeated spring semester.

Fall Semester

T 6:20 Nicholson 209, Lewis
W 6:20 Nicholson 209, Lewis
Th 8:05 Nicholson 209, Lewis

Spring Semester

T 6:20 Nicholson 209, Lewis
Th 6:20 Nicholson 209, Lewis

84 Interior Design II. 3 credits. \$15 plus 50 cents laboratory fee.

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

Spring Semester

W 6:20 Nicholson 209, Lewis
Th 8:05 Nicholson 209, Lewis

86-87 Art of the Film. 3 credits each quarter. \$15 plus \$5 laboratory fee.

Note—Properly qualified students may register for graduate credit in Art 196-197 with approval of chairman of Art Department.

The objective of this course is the critical study and analysis of the motion picture as an art form. Emphasis is on the finished product, demonstrated in a select program of films of exceptional merit or specific interest. Lectures, demonstrations, and discussion in seminar fashion. Analyses of film of various categories, such as narrative, poetic, documentary, experimental, etc.

Fall Semester

86 Th 8:00 Walker Art Center, Amberg

Spring Semester

87 Th 8:00 Walker Art Center, Amberg

103 Seminar in Interior Design. 3 credits. \$15 plus 50 cents laboratory fee.

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

Fall Semester

T 8:05 Nicholson 209, Lewis

123 Film Workshop. 3 credits. \$15 plus \$7.50 laboratory fee.

A practical study of the motion picture as an art form, dealing specifically with the visual characteristics and limitations of the medium. Studio problems in the use of color, light, and motion as creative media by means of the camera and editing techniques. One short experimental film will be completed during the term. Prerequisite: it is suggested that Art 86 be taken before 123, or Art 87 concurrently.

Spring Semester

W 7:00 Jones 104, Downs

For other courses in Photography, see page 35.

***140-141-142 Contemporary Jewelry Design.** 3 credits each semester. \$15 plus \$7.50 material fee.

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

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

Fall Semester

Th 6:20 Jones 11, Morton

Spring Semester

Th 6:20 Jones 11, Morton

Art Education. See page 21.

Architectural Drafting. See page 66.

Production Illustration. See page 66.

Gardening and Landscaping. See page 13.

Modern Home Planning. See page 29.

Photography. See page 35.

Engineering Drawing. See page 66.

Courses at Minneapolis School of Art

Registrations for these courses will be taken only at one of the Extension offices.

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

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

Fall Semester

W 7:00 Mpls. School of Art 111, DeCosse

Spring Semester

W 7:00 Mpls. School of Art 111, DeCosse

***20A-B Basic Drawing. 4 credits each semester. \$30.**

Emphasis is placed on the basic principles of perspective drawing and composition. Some life drawing is included in the class. A wide variety of media is used. No prerequisite.

Fall Semester

MW 7:00 Mpls. School of Art 206, Bradley
TTh 7:00 Mpls. School of Art 206, Rattner

Spring Semester

MW 7:00 Mpls. School of Art 206, Bradley
TTh 7:00 Mpls. School of Art 206, Rattner

***21A-B Life Drawing. 2 credits each semester. \$15.**

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

Fall Semester

T 7:00 Mpls. School of Art 205, Bradley
Th 7:00 Mpls. School of Art 205, Olsen

Spring Semester

T 7:00 Mpls. School of Art 205, Bradley
Th 7:00 Mpls. School of Art 205, Olsen

***22A-B Still Life Painting. 2 or 4 credits each semester. \$15 or \$30.**

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

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

Fall Semester

M 7:00 Mpls. School of Art 202, Havens
W 7:00 Mpls. School of Art 202, Havens

Spring Semester

M 7:00 Mpls. School of Art 202, Havens
W 7:00 Mpls. School of Art 202, Havens

***50A-B Painting II. 2 or 4 credits each semester. \$15 or \$30.**

This painting class follows the still life class. Work in oil composition with continued stress on tone relationship and shape organization. Prerequisite: Drawing 22A-B. (See note above.)

Fall Semester

T 7:00 Mpls. School of Art 207, Pynn
Th 7:00 Mpls. School of Art 207, Pynn

Spring Semester

T 7:00 Mpls. School of Art 207, Pynn
Th 7:00 Mpls. School of Art 207, Pynn

***61A-B Watercolor Painting. 2 credits each semester. \$15.**

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

Fall Semester

M 7:00 Mpls. School of Art 203, Pynn
Th 7:00 Mpls. School of Art 203, Havens

Spring Semester

M 7:00 Mpls. School of Art 203, Pynn
Th 7:00 Mpls. School of Art 203, Havens

***62A-B Life Painting. 4 credits each semester. \$30.**

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

Fall Semester

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

Spring Semester

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

GENERAL EXTENSION DIVISION

***74A-B Fashion Illustration. 2 credits each semester. \$15.**

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

Fall Semester		Spring Semester	
M 7:00	Mpls. School of Art 105, Peterson	M 7:00	Mpls. School of Art 105, Peterson

***75A-B Commercial Art. 2 credits each semester. \$15.**

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

Fall Semester		Spring Semester	
Th 7:00	Mpls. School of Art 111, Larsen	Th 7:00	Mpls. School of Art 111, Larsen

***110A-B Life Drawing. 2 credits each semester. \$15.**

An advanced class designed to acquaint the student with the relationships between abstract and realistic forms as related to those observed shapes in the human figure. Prerequisite: Art 21.

Fall Semester		Spring Semester	
T 7:00	Mpls. School of Art 204, Olsen	T 7:00	Mpls. School of Art 204, Olsen

Courses at St. Paul Art Gallery

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

***20-21-22 First Year Drawing and Painting. 2 credits each semester. \$15 plus \$2 laboratory fee. Laboratory—see note above.**

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

Fall Semester		Spring Semester	
W 7:00	St. P. Gallery, MacKenzie	W 7:00	St. P. Gallery, MacKenzie
Lab. T 7:00	St. P. Gallery	Lab. T 7:00	St. P. Gallery

***33 Textile Design: Weaving. 2 credits. \$15 plus \$2 laboratory fee.**

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

Fall Semester		Spring Semester	
T 7:00	St. P. Gallery, Kolb	T 7:00	St. P. Gallery, Kolb

***34 Textile Design: Weaving. 2 credits. \$15 plus \$2 laboratory fee.**

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

Fall Semester		Spring Semester	
Th 7:00	St. P. Gallery, Kolb	Th 7:00	St. P. Gallery, Kolb

***35 Textile Design: Weaving. 2 credits. \$15 plus \$2 laboratory fee.**

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

Fall Semester		Spring Semester	
Th 7:00	St. P. Gallery, Kolb	Th 7:00	St. P. Gallery, Kolb

***45-93-94-95 Ceramics.** 2 credits each semester. \$15 plus \$5 laboratory fee. **Laboratory**—see note on page 18.

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

Fall Semester			Spring Semester		
W 7:00	St. P. Gallery, Kolb		W 7:00	St. P. Gallery, Kolb	
Th 7:00	St. P. Gallery, MacKenzie		Th 7:00	St. P. Gallery, MacKenzie	
Lab. T 7:00	St. P. Gallery		Lab. T 7:00	St. P. Gallery	

***60-61-62 Second Year Drawing and Painting.** 2 credits each semester. \$15 plus \$2 laboratory fee. **Laboratory**—See note on page 18.

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 permission.

Fall Semester			Spring Semester		
W 7:00	St. P. Gallery, MacKenzie		W 7:00	St. P. Gallery, MacKenzie	
Lab. T 7:00	St. P. Gallery		Lab. T 7:00	St. P. Gallery	

***89 Textile Design: Weaving.** 2 credits. \$15 plus \$2 laboratory fee.

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

Fall Semester			Spring Semester		
Th 7:00	St. P. Gallery, Kolb		Th 7:00	St. P. Gallery, Kolb	

***101-102 Ceramics.** 2 credits each semester. \$15 plus \$5 laboratory fee.

Continuation of basic courses with advanced problems in same areas.

Fall Semester			Spring Semester		
W 7:00	St. P. Gallery, Kolb		W 7:00	St. P. Gallery, Kolb	
Th 7:00	St. P. Gallery, MacKenzie		Th 7:00	St. P. Gallery, MacKenzie	

ASTRONOMY

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 Ast. 11 and 13 and another related course approved by the Committee on Student Scholastic Standing.

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. The Spitz Projection Planetarium will be used extensively to provide superior demonstration opportunities regardless of weather conditions. Higher mathematics not necessary.

Fall Semester	
W 6:20	Physics 133, Luyten

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

Supplements Ast. 11, which, however, is not prerequisite; higher mathematics not necessary. A detailed description of the constellations and individual stars, and structure of the sidereal universe, determination of time from the stars; extended opportunity for the use of the telescope and the observation of the heavenly bodies, supplemented by use of the Spitz Projection Planetarium.

Spring Semester	
W 6:20	Physics 133, Luyten

CHEMISTRY

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

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			Spring Semester		
6	Lab. T 7:00-10:00	Chemistry 325, Herr	7	Lab. T 7:00-10:00	Chemistry 325, Herr
	Lect. Th 7:00-9:00	Chemistry 325, Herr		Lect. 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: Inorg. Chem. 2, 5, 7 or 10.

Fall Semester	
Lect. T	8:00-10:00 Chemistry 325, Herr
Lab. Th	7:00-10:00 Chemistry 325, Herr

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

Principles and methods of gravimetric analysis: typical problems and proper laboratory practice. Prerequisite: Inorg. Chem. 11 or 12.

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

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

General principles, methods, and calculations of volumetric analysis. Prerequisite: Inorg. Chem. 11 or 12.

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

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

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

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

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

Prerequisite: Anal. Chem. 1-2 or equivalent. Repeated spring semester.

Fall Semester		Spring Semester	
TTh	7:00-10:00	TTh	7:00-10:00
	Chemistry 310, Herr		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. Prerequisite: Psy. 1-2.

Fall Semester	
M	8:05 Folwell 101, Cummings

† See Information, page 6.

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: Psy. 1-2.

Fall Semester

M 6:20 Folwell 101, Koppe

Spring Semester

T 6:20 Folwell 101, Deno

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: C.W. 80 or equivalent.

Spring Semester

M 6:20 Folwell 101, Koppe

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

T 8:05 Folwell 105, Deno

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

T 8:05 Folwell 105, Deno

143 Problems of Mental Deficiency. 3 credits. \$15.

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

Fall Semester

T 6:20 Folwell 101, Deno

170 Parent Education. 3 credits. \$15.

Programs, materials, and methods for group study. Organization and administration. Demonstrations of group procedures.

Spring Semester

M 8:05 Folwell 101, Cummings

Preparation for Marriage. See page 34.

EDUCATION

Art Education

17 Pictorial Expression for Elementary Education. 3 credits. \$15.

Provides a background survey of art in life and education. Materials, techniques, and ideas important to children's art expression, relationship to adult expression, and significance in educational growth. No prerequisite.

Spring Semester

W 6:20 Jones 109, Gayne

18 Design Activities for Elementary Education. 3 credits. \$15.

Relationship between art and nature. Problems in invention, arrangement and decoration, color, lettering, posters, bulletin board displays, etc. No prerequisite.

Fall Semester

W 6:20 Jones 109, Gayne

81 Puppetry in Education. 3 credits. \$15 plus \$1.50 materials fee.

The use of various forms of simple puppetry as a teaching technique with problems of motivation and correlation with school subjects. Construction, manipulation, and stage techniques approached as they relate to typical elementary and secondary school situations. No prerequisite.

Fall Semester

Th 6:20 Jones 109

Curriculum and Instruction

103 The Teaching of Science in the Elementary School. 3 credits. \$15.

Emphasis on resources and materials and their application to the elementary grades. Prerequisite: Ed. 71A-B or teaching experience.

Spring Semester

M 6:20 Johnston 115, Boeck

105 Audio-Visual Materials in Education. 3 credits. \$15 plus \$6 laboratory fee.

Characteristics, advantages, limitations, and practical schoolroom use of visual materials of nonprojection and projection types. Practice in operation of projection machines. Available for selected state centers.

149 Teaching and Supervision of Arithmetic in the Elementary School. 3 credits. \$15.

Function of arithmetic instruction; curriculum studies; development of socialized units; measurement and diagnosis; experimental research on methods of arithmetic instruction; literature on arithmetic. Prerequisite: Ed. 71C or equivalent.

Spring Semester

Th 6:20 St. P. Ext. Center 201, Curtis

Educational Psychology

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. Prerequisite: Ed.Psy. 60 or equivalent.

Fall Semester

Th 6:20 St. P. Ext. Center 206, Hoyt

289 Survey of Special Education Problems. 2 credits. \$10.

Survey of special education problems. Advanced course for persons working in special education or in allied fields. Prerequisite: Ed.Psy. 182 or experience and permission of instructor.

Fall Quarter

M 6:20 Johnston 115, Reynolds, Schoenboem

Nursing Education

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

An introduction to the principles, techniques, and application of the personnel point of view to nursing through consideration of such topics as psychological principles; the nature, measurement, evaluation, and recording of individual differences in intelligence, special abilities, motivation, and personality; and study of counseling techniques appropriate for the nursing staff and faculty to use. Open to graduate nurses.

Fall Semester

T 6:20 Owre 113, Johnston

105 Helping Students with Patient Teaching. 3 credits. \$15.

A course primarily for teachers of basic nursing students. Problems met by students when teaching patients; the selection of first teaching experiences; the planning of teaching with students, and evaluation techniques to determine the effectiveness of patient-teaching by students. *This course does not carry graduate credit.* Prerequisite: 12 credits in education or nursing education or permission of instructor.

Note—This course will be offered outside the Twin Cities if enrolment warrants.

Additional courses in the nursing field are listed under *Nursing* and *Nursing Administration*, page 33.

See pages 26 and 27 for additional courses appropriate for the education field.

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 one of the following times and places.

Fall Semester

7:00	Tuesday, September 22	Nicholson Hall 211
7:00	Tuesday, September 22	St. P. Ext. Center 206
7:00	Monday, September 28	Nicholson Hall 211

Spring Semester

7:00	Tuesday, February 2	Nicholson Hall 211
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Grammar Review. 3 Extension credits. \$15.

A "refresher" course for those who need a quick and thorough review of grammar, mechanics, and usage. Includes theme and report writing. This course should be useful to those students who feel they need a sound background for further courses in Business English. No prerequisite. See English Placement Tests (above). Repeated spring semester.

Fall Semester

T 6:20 Folwell 104, Miller

Spring Semester

T 6:20 St. P. Ext. Center 205, Miller

Preparatory Composition. No credit. \$15.

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

Fall Semester

T 6:20 Folwell 209, Owens

Spring Semester

W 6:20 Folwell 209, Owens

Comp. 4-5-6 Freshman Composition. 4½ credits each semester. \$22.50.

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.

Fall Semester

4-5 T 6:20 Folwell 107, del Plaine
 W 6:20 Folwell 205, Gillette
 Th 6:20 St. P. Ext. Center 203, Orr
 5-6 W 6:20 Folwell 105, Aarsleff

Spring Semester

4-5 W 6:20 Folwell 105, Aarsleff
 5-6 T 6:20 Folwell 107, del Plaine
 W 6:20 Folwell 205, Gillette
 Th 6:20 St. P. Ext. Center 203, Orr

Comm. 1a-2a-3a Communication. 3 credits each quarter. \$15.

A practical course intended to prepare the student to meet more effectively the various vocational and social demands to write and talk to others and to receive communication from them. Constant practice in writing and speaking is uniquely based upon some understanding of how language functions to convey meaning. 1a: The fundamental patterns of meaning in English, word meaning, social meaning, good usage. 2a: The use of language to influence human behavior. 3a: Mass communication of press, film, and radio, and how to receive it with critical discrimination. The sequence is accepted by the University as meeting all requirements which are satisfied by Comp. 4-5-6 (Freshman Composition). Class meets for a period of 2½ hours each week. Prerequisite: Preparatory Composition or satisfactory score on English placement test, as explained above.

Fall Quarter		Winter Quarter	Spring Quarter
1a	T 6:20 Folwell 203, Stenerson	2a (same schedule as fall)	3a (Same schedule as fall)

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

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

Fall Semester		Spring Semester	
27	T 6:20 Folwell 205, Rice	28	T 6:20 Folwell 205, Rice
28	Th 8:05 St. P. Ext. Center 202, Macdonald	27	Th 8:05 St. P. Ext. Center 205, Macdonald

58 Business Reports and Letters. 3 credits. \$15.

Style, forms, and methods in business writing. Prerequisite: Comp. 4-5-6, Eng. A-B-C, or exemption from requirement.

Fall Semester	
M	6:20 Folwell 6

101-102 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		Spring Semester	
101	T 6:20 Folwell 207, Macdonald	102	T 6:20 Folwell 207, Macdonald

174 American English. 3 credits. \$15.

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

Spring Semester	
M	6:20 Folwell 204, Allen

Business English. See page 54.

Engineering English. See page 67.

Vocabulary Building. See page 34.

Efficient Reading. See page 34.

Efficient Listening. See page 34.

Courses in Literature

37 Twentieth-Century Short Story. 3 credits. \$15.

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

Fall Semester

W 6:20 Folwell 203, Rathburn

39 Twentieth-Century Novel. 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 *Victory*, Arnold Bennett's *The Old Wives' Tale*; and the following three American novels: Ernest Hemingway's *A Farewell to Arms*, Thomas Wolfe's *Of Time and the River*, John Steinbeck's *The Grapes of Wrath*. Prerequisite: Comp. 4-5-6 or exemption.

Spring Semester

W 6:20 Folwell 203, Kaufman

120-121 Interpretation of Poetry. 3 credits each semester. \$15.

A study of certain technical aspects of poetry in relation to poetic meaning. 120: Analysis of a number of short poems. 121: Emphasis on Coleridge, Housman, Frost, and Eliot. Prerequisite: Senior College standing, or permission of instructor.

Fall Semester

120 M 6:20 Folwell 105, Blum

Spring Semester

121 M 6:20 Folwell 105, Blum

FRENCH

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

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

Fall Semester

1 W 6:20 Folwell 201, Sullivan
2 W 6:20 Folwell 202, Butler

Spring Semester

1 W 6:20 Folwell 202, Butler
2 W 6:20 Folwell 201, Sullivan

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

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

Fall Semester

3 M 6:20 Folwell 203, Carduner

Spring Semester

4 M 6:20 Folwell 203, Carduner

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

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

Fall Semester

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

Spring Semester

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

54-55 French Conversation. 3 credits each semester. \$15.

Informal discussion of current affairs and everyday topics. Prerequisite: Fr. 3-4, or permission of instructor.

Fall Semester

54 W 6:20 Folwell 207, Nahas

Spring Semester

55 W 6:20 Folwell 207, Nahas

GEOGRAPHY

67 Geography of Minnesota. 3 credits. \$15.

A geographical analysis of the physical and human resources and commercial production of Minnesota. Discussion of map sources, literature, and problems of the geography of the state. Prerequisite: 5 credits in geography or permission of instructor.

Spring Semester

M 6:20 Ford 285, Borchert

113 Eastern Anglo-America. 3 credits. \$15.

A regional examination of the physical and human geographic patterns of south-eastern Canada and the eastern, southeastern, and middle-western United States. Prerequisite: 5 credits in geography or permission of instructor. Not open to students who have taken Geog. 71.

Fall Semester

M 6:20 Ford 285, Weaver

GEOLOGY**1 General Geology. 3 credits. \$15.****Geology Laboratory A. 2 credits. \$10.**

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

Fall Semester

1 T 6:20 Pillsbury 210

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

Spring Semester

T 6:20 Pillsbury 210

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

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

Stress on comprehension of written and spoken German. Minimum grammar essentials. No prerequisite.

Fall Semester

1 M 6:20 Folwell 207, Ramras

2 M 6:20 Folwell 209

Spring Semester

2 M 6:20 Folwell 207, Ramras

1 M 6:20 Folwell 209

3 Beginning German. 3 credits. \$15.

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

Fall Semester

M 6:20 Folwell 206, Menze

Spring Semester

M 6:20 Folwell 226

4 Intermediate German. 3 credits. \$15.

Modern narrative prose. Prerequisite: Ger. 3.

Spring Semester

M 6:20 Folwell 206, Menze

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

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

Fall Semester

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

Spring Semester

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

HEALTH**50 Personal and Community 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, 51, 52, 100 or G. C. 10C. No prerequisite.

Fall Semester

T 6:20 Millard 129, Thomson

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 permission of instructor.

Spring Semester

T 6:20 Millard 214, Thomson

62 Principles of Public Health Nursing. 5 credits. \$25.

Trends, principles, and techniques in public health nursing service including family health guidance. Prerequisite: Health 100. This class meets for a 2½-hour period weekly.

Spring Semester

W 6:20 Owre 113, Sandve

100 Elements of Preventive Medicine and Public Health. 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. This class meets for a 2½-hour period weekly. Prerequisite: 12 credits in biological science or permission of instructor.

Fall Semester

T 6:20 Millard 214, Knudsen

102 Environmental Sanitation. 3 credits. \$15.

Methods for promoting man's health and comfort by controlling environment. Prerequisite: Health 53 or 100 or permission of instructor.

Spring Semester

T 6:20 Millard 129, Bond

133 Mental Hygiene. 3 credits. \$15.

Emotional factors underlying wholesome family relations; problems interfering with successful adjustment in family and community. Prerequisite: Health 62 or experience in public health nursing.

Fall Semester

M 6:20 Millard 129, Cline

Industrial Safety. See page 69.

HISTORY

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

1-2-3 Civilization of the Modern World. 3 credits each quarter. \$15.

1: The rise of the European state system as the framework within which Western civilization developed, and the economic, cultural, political, intellectual, and religious implications of the emerging system. 2: The struggle for control over the Western states system, and the emergence of liberal democracy in the modern world. 3: The impact of industrialism upon Western and world civilization, the origins and backgrounds of the twentieth-century world. No prerequisite. Class meets for 2½-hour period weekly.

Fall Quarter	Winter Quarter	Spring Quarter
1 T 6:20 Ford 140	2 (same schedule as fall)	3 (same schedule as fall)

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

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

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

Fall Quarter	Winter Quarter	Spring Quarter
14 Th 6:20 Ford 155, Jones	15 (same schedule as fall)	16 (same schedule as fall)

20-21-22 American History (or 59-60-61. See note below). 3 credits each quarter. \$15.

A survey of the political, economic, and social history of the United States with emphasis on the forces that resulted in the emergence of modern America. 20: Colonial and Early National Period. 21: Sectionalism and National Development. 22: Modern America. No prerequisite. Class meets for 2½-hour period weekly.

Note—Students wishing Senior College credit may register for Hist. 59-60-61 with the permission of the instructor. Some additional work will be required for Senior College credit.

Fall Quarter	Winter Quarter	Spring Quarter
20 M 6:20 Ford 140 W 6:20 St. P. Ext. Center 202	21 (same schedule as fall)	22 (same schedule as fall)

68-69 American History Since 1900. 3 credits each semester. \$15.

A concentrated study of the social, political, economic, and cultural development of the United States since 1900 and of the rise of the United States as a world power. 68: The Spanish-American War and America's overseas empire; the rise of big business; problems of the city; the Progressive Era of Reform; America in the First World War. 69: Social and intellectual crises of the 1920's; prosperity and depression; the New Deal; the rise of organized labor; from isolation to intervention; the post-war scene. No prerequisite.

Fall Semester	Spring Semester
68 M 6:20 Ford 115, Chambers	69 M 6:20 Ford 115, Chambers

79a-79b Foundations of National Power. 3 credits each semester. \$15.

A discussion of the present and potential strength of the major powers in the world today and of the areas of possible conflict. 79a: A brief survey of the rise of the modern state system will be followed by a more detailed evaluation of the geographic, social, political, and military factors that constitute the elements of national power. An analysis will then be made of those states lying in the Western European and Mediterranean regions. No prerequisite. 79b: An analysis of the power potentials of states lying in Eastern Europe, Asia, the Far East, and the Western Hemisphere, with emphasis on the Soviet Union and the United States. No prerequisite, but 79a is recommended for full understanding of 79b.

Fall Semester			Spring Semester		
79a	Th 6:20	Ford 160, Bowditch	79b	Th 6:20	Ford 160, Bowditch

98a-99a The South in American History, 1850-1950. 3 credits each semester. \$15.

A study of the unique role of the southern region in national life stressing the social and intellectual, political and economic forces that have made the South a distinct yet integral part of the United States. 98a: A discussion of the Civil War and Reconstruction in terms of growing southern self-consciousness and alienation from the rest of the country. Slavery, the Free Negro, Northern rule, Bourbon rule, Agrarian revolt. 99a: An analysis of the South in the twentieth century emphasizing the reintegration of the South into the nation but also the retention of a distinct southern character. Industrialism, politics and demagogues, rural poverty and the race problem, increasing prestige of southern writers.

Fall Semester			Spring Semester		
98a	Th 6:20	Ford 75, Noble	99a	Th 6:20	Ford 75, Noble

109-110 Europe in the Twentieth Century. 3 credits each semester. \$15.

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

Fall Semester			Spring Semester		
109	W 6:20	Ford 115, Deutsch	110	W 6:20	Ford 115, Deutsch

118-119 History of World War II. 3 credits each semester. \$15.

118: Origins and backgrounds; the principal powers and their relationships; the rise of totalitarian ideologies and systems; international relations of the 1930's; how the war came; the period of Axis preponderance. 119: The breakdown of Nazi-Soviet relations; war in the East and at sea; decline of Axis fortunes; the United States entry; interrelation of European and Far Eastern wars; inter-allied relations; the battles of France and Germany; liquidation of the War; occupation problems and policies; affairs of the U.N.; relations of the victor powers and the peace settlements. No prerequisite.

Fall Semester			Spring Semester		
118	W 8:05	Ford 115, Deutsch	119	W 8:05	Ford 115, Deutsch

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

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

Fall Quarter		
W 8:05	Murphy Aud, Nagle	

HUMANITIES

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

1-2 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 the time of Voltaire to the present. The readings will include such authors as: for course I, Voltaire, Goethe, Paine, Rousseau, Burke, Tolstoi; for II, Dostoevski, Mill, Malthus, Marx, Ibsen, Zola, Flaubert. No prerequisite.

Fall Semester

1 M 6:20 Ford 170, Bryan

Spring Semester

2 M 6:20 Ford 170, Bryan

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

Science (especially the theory of evolution), religion, and humanism. Study and discussion of selected works by Matthew Arnold and T. H. Huxley; William James, *Essays in Pragmatism*; Nietzsche, *Thus Spake Zarathustra*; G. B. Shaw, *Back to Methuselah*; Turgenyev, *Fathers and Sons*; Thomas Mann, *The Magic Mountain*. No prerequisite.

Fall Semester

T 6:20 St. P. Ext. Center 201, Ames
Th 8:05 Ford 20, Rosenfeld

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

Science (especially Freudian psychology and anthropology), humanism, and the theory and practice of communism, fascism, and liberal democracy in the modern age. Study and discussion of Lenin, *State and Revolution*; Koestler, *Darkness at Noon*; Freud, *Introduction to Psychoanalysis*; Ortega y Gasset, *Revolt of the Masses*; Aldous Huxley, *Brave New World*; Kafka, *The Trial*. No prerequisite.

Spring Semester

T 6:20 St. P. Ext. Center 201, Ames
Th 8:05 Ford 20, Rosenfeld

13a Early Renaissance. 3 credits. \$15.

Our European cultural heritage, continued from Hum. 11 and 12. The scholastic tradition, readings from St. Thomas and Dante; medieval and early Renaissance daily life, the code of chivalry, readings from Chaucer and the romances; birth of the Renaissance, readings from Rabelais and Machiavelli. Music and art. No prerequisite.

Fall Semester

Th 6:20 Ford 150, Sherman

13b Renaissance and Reformation. 3 credits. \$15.

A continuation of Hum. 13a. The reformers, Luther and Calvin; the tradition of faith through skepticism, Descartes, Montaigne, Pascal; the Renaissance man, readings from Marlowe, Cervantes, and others. Music and art. No prerequisite.

Spring Semester

Th 6:20 Ford 170, Sherman

ITALIAN

1a-2a Beginning Conversational Italian. 3 credits each semester. \$15.

Conversational approach. No prerequisite.

Fall Semester

1a T 6:20 Folwell 201, Pacific

Spring Semester

2a T 6:20 Folwell 201, Pacific

JOURNALISM

18 Principles of Advertising. 3 credits. \$15.

Theory, principles, and function of advertising; its role in the economic, social, and marketing structure. Newspapers, magazines, radio, and other advertising media. Prerequisite: Jour. 13 and Comp. 28.

Fall Semester

T 6:20 Murphy 311, Perry

55 Typography for Publications and Advertising. 3 credits. \$15 plus \$5 laboratory fee.

Selection of typefaces for headline forms and text. Copy-fitting practice in design of type layouts. Practice in hand composition in typography laboratory. No prerequisite. Class limited to 20 students.

Fall Semester

Th 6:20 Murphy 315-320, Wilson

65 Graphic Processes in Publications and Advertising. 3 credits. \$15 plus \$5 laboratory fee.

Study of letterpress, offset, gravure and silk screen printing in publications and advertising. Preparation of copy for engravings. Laboratory projects. Prerequisite: 55 or permission of instructor. Class limited to 20 students.

Spring Semester

Th 6:20 Murphy 105, Wilson

B.A. 188 Advertising. See page 62.**73 Magazine Writing I.** 3 credits. \$15.

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

Fall Quarter

Th 6:20 Murphy 311, Kahm

Spring Quarter

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 communications media, to employer and employee, consumer and citizen. The production of public relations programs and campaigns for business and industry, social work agencies, educational institutions, and government. Prerequisite: 13 or permission of instructor.

Fall Semester

W 8:05 Murphy 308, Emery

LIBRARY SCIENCE**151 Invention and Spread of Printing.** 2 credits. \$10.

History of the development of printing and its spread to the end of the sixteenth century. No prerequisite. Twelve meetings.

Fall Quarter

W 6:20 Library 5, Shove

152 History of Printing to Modern Times. 2 credits. \$10.

The development and spread of printing and the publishing industry, 1600-1900. No prerequisite. Twelve meetings.

Winter Quarter

W 6:20 Library 5, Shove

MATHEMATICS

See pages 69-71.

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. (G.C. 24A-B). 3 General College or 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
24A T 8:05 Nicholson 111, Hill

Spring Semester
24B T 8:05 Nicholson 111, Hill

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

A course in historical appreciation, designed to give an understanding of musical masterpieces as part of the general development of western culture from the crusades to the present day. The lectures include copious musical illustrations with emphasis on the style of the music itself rather than on theoretical questions. Parallels but does not duplicate Mu. 34-35-36 in the College of Science, Literature, and the Arts. No prerequisite.

Fall Semester
34-35 M 6:20 Scott 104, Downes

Spring Semester
35-36 M 6:20 Scott 104, Downes

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

Standard orchestral literature is performed. Open to players of orchestral instruments. Prerequisite: permission of instructor. Students enrolled in this course with the permission 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 7:30 Northrop Aud, Oberg

Spring Semester
41-42 T 7:30 Northrop Aud, Oberg

43-44-45 University Chorus. 1 credit each quarter. \$5.

The University Chorus is available to Extension students through the General Extension Division. Students may register for any unit number each quarter with permission of director.

Fall Quarter
T 7:30 Nicholson Aud, Aliferis

Winter Quarter
(same schedule as fall)

Spring Quarter
(same schedule as fall)

NATURAL HISTORY

Birds of Minnesota. No credit. \$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 on *Sunday mornings at 7:30*. No prerequisite. Class limited to 20 students.

Spring Semester
Th 6:20 Museum of Natural History 309,
Breckenridge and Gunderson

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. No prerequisite. Twelve meetings. Class limited to 20 students.

Fall Quarter
W 6:20 Museum of Natural History 309,
Gunderson

NURSING

101 Nursing in Atomic Warfare. 3 credits. \$15.

Nursing responsibilities in preparing community for atomic warfare and caring for patients in areas involved in atomic bombing. Registration restricted to graduate professional nurses.

Fall Semester
Th 6:20 St. P. Ext. Center 202, Hanson

103 The Role of Nursing in Cancer Care and Control. 3 credits. \$15.

Consideration of nursing responsibilities in the prevention and early diagnosis of cancer, and in the treatment and rehabilitation of the cancer patient. Emphasis on the emotional, social, and economic problems of the patient with cancer, and the utilization of community resources in working toward a solution of these problems.

Spring Semester

T 6:20 Owre 113, Hanson

Nursing Administration**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**Spring Semester**

M 5:00 Owre 111, Grainger

M 5:00 Owre 111, Grainger

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

85 Fundamentals of Nursing Service Administration. 3 credits. \$15.

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

Fall Semester**Spring Semester**

M 6:20 Owre 113, Florentine

M 6:20 St. P. Ext. Center 203, Florentine

Nursing Education

See page 22.

PARLIAMENTARY LAW**Parliamentary Law.** 3 Extension credits. \$15.

Fundamental principles and practices of parliamentary law in organized meetings, especially for executive officers and members of organizations. The course is designed to equip the student to take an active and informed part in the organizations of which he is a part. By demonstration and laboratory techniques it will be possible for the students to actually participate in and conduct meetings in connection with the course. Topics to be considered will include formation of organizations, drafting of constitutions, duties of officers, motions, amendments, nominations, and elections. Meets for 2½ hours each week for 12 weeks. No prerequisite.

Fall Quarter

W 7:00 Ford 75, Miller

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. Two credits may be granted in S.L.A. with permission of instructor. No prerequisite. Class limited to 35. Repeated spring semester.

Fall Semester**Spring Semester**

M 6:20 Johnston 106

M 6:20 Johnston 106

Vocabulary Building: How to Expand Your Word Power. 3 Extension credits. \$15 plus 25 cents materials fee.

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

Fall Semester

M 6:20 Folwell 104, Cronin
Th 8:05 St. P. Ext. Center 205, McCoy

Spring Semester

M 6:20 Folwell 104, Cronin
M 8:05 St. P. Ext. Center 204, McCoy

Efficient Reading. 3 Extension credits. \$15 plus \$2 materials fee.

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

Fall Semester

T 6:20 Ford 185, Wright
T 8:05 Ford 185, Wright
W 6:20 Ford 185, Brown
W 8:05 Ford 185, Brown
Th 6:20 St. P. Ext. Center 204, Wright
Th 8:05 St. P. Ext. Center 204, Wright

Spring Semester

T 6:20 Ford 185, Wright
T 8:05 Ford 185, Wright
W 6:20 Ford 185, Brown
W 8:05 Ford 185, Brown
Th 6:20 St. P. Ext. Center 204, Wright
Th 8:05 St. P. Ext. Center 204, Wright

Efficient Listening. 3 Extension credits. \$15.

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

Fall Semester

W 6:20 Ford 60, Nichols

Spring Semester

W 6:20 Ford 60, Nichols

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

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

Fall Semester

T 6:20 Johnston 126, Dyer

Spring Semester

T 6:20 Johnston 126, Dyer

PHILOSOPHY

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

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

Fall Semester

M 6:20 Johnston 113, Terrell

2 Logic. 3 credits. \$15.

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

Fall Semester

Th 8:05 Johnston 113, Raab

Spring Semester

M 6:20 Johnston 113, Terrell

3 Ethics. 3 credits. \$15.

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

Spring Semester

T 6:20 Johnston 113, Raab

10 Science and Religion. 3 credits. \$15.

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

Fall Semester

Th 6:20 Johnston 113, Raab

40 Logic of Scientific Reasoning. 3 credits. \$15.

An introduction to the principles of scientific method; definition and classification; observation, measurement, experiment; elementary statistical concepts; hypotheses, theories, evidence, and confirmation; the nature and limits of the scientific enterprise. Prerequisite: Phil. 2.

Spring Semester

W 6:20 Johnston 113, Hospers

151 Esthetics. 3 credits. \$15.

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

Fall Semester

T 6:20 Johnston 113, Hospers

PHOTOGRAPHY

Students in all photography classes must furnish their own cameras.

Basic Photography I (Art 10). 3 credits. \$15 plus \$5 laboratory fee.

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

Fall Semester

M 6:20 Murphy 20, Liebling

Spring Semester

M 6:20 Murphy 20, Liebling

Basic Photography II (Art 11). 3 credits. \$15 plus \$5 laboratory fee.

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

Fall Semester

W 6:20 Murphy 20, Dean

Spring Semester

W 6:20 Murphy 20, Dean

Color Photography I. 3 Extension credits. \$15 plus \$5 laboratory fee.

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

Fall Semester

W 7:00 Wesbrook 3, Webb

Spring Semester

T 7:00 Wesbrook 3, Webb

Color Photography II. 3 Extension credits. \$15 plus \$5 laboratory fee.

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

Fall Semester

T 7:00 Wesbrook 3, Webb

Spring Semester

W 7:00 Wesbrook 3, Webb

Motion Picture Production I. 3 Extension credits. \$15 plus \$5 laboratory fee.

A basic course designed to give the businessman and beginning film producer a well-rounded foundation in the several phases of motion picture production. Exercises in script writing, cinematography, editing, sound recording, and laboratory procedures provide a basis for producing educational and industrial films in your various institutions. Prerequisite: an interest in motion picture production. Class limited to 25 students.

Fall Semester

T 6:20 Wesbrook Hall 3, Cain

Art of the Film. See page 16.**Film Workshop** (Art 123). See page 16.**PHYSICS****1-2†-3 Introduction to Physical Sciences.** 3 credits each quarter. \$15.

Lectures and experimental demonstrations of the principles underlying physical phenomena. A course designed for those who wish a general cultural introduction to physics but do not plan to major in that subject. Phys. 1 (mechanics); Phys. 2 (heat, electricity, and modern physics); Phys. 3 (acoustics, optics, and modern physics). Prerequisite: high school algebra and plane geometry. Class meets for 2½ hours.

Fall Quarter

1 T 6:20 Physics 166, Christensen

Winter Quarter

2 (same schedule as fall)

Spring Quarter

3 (same schedule as fall)

1a-2a†-3a Introduction to Physical Sciences (with laboratory included). 4 credits each quarter. \$25.

The complete sequence 1a-2a-3a fulfills the laboratory-science group requirement in S.L.A. Lecture group meets with class described above. Prerequisite: high school algebra and plane geometry. Eight 2-hour laboratory periods scheduled for the quarter.

Fall Quarter

1a Lect. T 6:20 Physics 166, Christensen

Lab. T 9:00 Physics 153

Winter Quarter

2a (same schedule as fall)

Spring Quarter

3a (same schedule as fall)

POLITICAL SCIENCE
and
Public Administration

Qualified students may register for certain political science courses under a graduate course number (see double course headings below) provided they obtain instructor's permission and satisfactorily complete a certain amount of extra work under his supervision. Consult department head or Extension Division or Committee on Student Scholastic Standing as to necessary qualifications and procedures.

† See Information, page 6.

This year for the first time the General Extension Division, in cooperation with the Political Science Department, is offering a 45-credit Certificate in Public Administration. The course program for this award is outlined in detail on page 9 of this bulletin. The completed program represents the equivalent of one academic year of full-time study at university level.

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

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

Fall Semester

M 6:20 Ford 120, 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. No prerequisite.

Spring Semester

M 6:20 Ford 120, Christensen

7 Government and Politics of Western Europe. 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 Ford 60, Turner

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

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

Spring Semester

T 8:05 St. P. Ext. Center 204, Tucker

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 Ford 180, Mills

50 Political Behavior.

167 Political Behavior.

3 credits. \$15.

} See note above.

More and more attention is being turned to such matters as why people prefer one candidate or political party to another; how political attitudes and public opinions are formed and changed; and what factors influence elections. This course takes up these and such related matters as the psychological aspects of leadership; the nature of political organization, the effect of campaigns; opinion surveys; interest and pressure groups; and the role of personality.

Fall Semester

T 6:20 Ford 160, McClosky

† See Information, page 6.

55 Government of the Soviet Union.**143 Government of the U.S.S.R. and Adjacent States.** }
3 credits. \$15.

} See note on page 36.

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

Spring Semester

T 6:20 Ford 160, McClosky

58 Governmental Accounting. 3 credits. \$15.

A course in the principles and procedures of governmental accounting including: fund accounting; budgetary accounting as it relates to preparation and control of appropriation and program budgets, and control of periodic allotments; revenues, expenditures, assets, and liabilities; account classification; organizational and administrative aspects including systems and simplification techniques; financial reporting; principles of governmental cost accounting. (See B.A. 158, page 53.) No prerequisite.

Spring Semester

Th 6:20 Ford 140, Magraw

60 Introduction to Public Administration.**131 Public Administration: Organization and Areas.** }

} Not offered 1953-54.

61 Municipal Law and Administration.**121 Municipal Administration.** }
3 credits. \$15.

} See note on page 36.

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

Spring Semester

W 6:20 Ford 140, Peterson

62 Public Personnel Administration.**132 Public Administration: Personnel.** }
3 credits. \$15.

} See note on page 36.

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

Fall Semester

W 6:20 Ford 140, Short

63 Public Financial Administration. 3 credits. \$15.

Survey of purchasing, contracting, revenues, taxation, special assessments, service charges, borrowing, expenditures, budgeting, accounting, cost accounting, auditing, and reporting. Course places considerable emphasis on state and municipal practice. No prerequisite.

Spring Semester

T 6:20 St. P. Ext. Center 204, Robertson

64 Employee Training Techniques. 3 credits. \$15. (Not offered 1953-54.)**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.

Spring Semester

Th 8:05 St. P. Ext. Center 202, Tucker

66 Problems of Public Administration. 3 credits. \$15.

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

Spring Semester

M 6:20 Ford 80, Warp

67 Administrative Analysis. 3 credits. \$15.

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

Fall Semester

Th 6:20 Ford 80, Magraw

68 Administrative Communication. (Not offered 1953-54.)**69 Problems in Tax Administration.** (Not offered 1953-54.)**73 City and County Planning.** 3 credits. \$15.

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

Fall Semester

T 6:20 Ford 80, Jones

76 Business and Government.**126 Government and the Economic Order.**

} Not offered 1953-54.

77 Administrative Regulation.**127 Government and the Economic Order.**

3 credits. \$15.

} See note on page 36.

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

Fall Semester

M 6:20 Ford 80, Warp

84 International Organization I.**184 International Organization I.**

3 credits. \$15.

} See note on page 36.

Historical development of arbitration, administrative agencies, and conferences; the League of Nations; the United Nations and regional organizations. No prerequisite.

Fall Semester

M 6:20 Ford 160, Levi

85 Problems of World Politics.**195 Colonial Government and the Problems of Imperialism.**

3 credits. \$15.

} See note on page 36.

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

Spring Semester

W 6:20 Ford 180, Mills

- 86 International Organization II.
185 International Organization II. } See note on page 36.
3 credits. \$15.

Organization and work of the specialized agencies of the United Nations: Educational, Scientific and Cultural Organization; Economic and Social Council; Trusteeship Council; Health Organization. International administration. No prerequisite.

Spring Semester

M 6:20 Ford 160, Levi

- 87 The Far East in International Relations.
191 Far Eastern Politics I. } See note on page 36.
3 credits. \$15.

Political development of China, Japan, and Korea, with emphasis on the period since World War I; Western-Asiatic diplomacy; current problems and military conflict in Asia.

Spring Semester

Th 6:20 Ford 150, Turner

- 98 U. S. Foreign Affairs Administration.
175 Conduct of American Foreign Relations. } See note on page 36.
3 credits. \$15.

Presidential powers in foreign affairs, organization and work of the Department of State and other principal foreign affairs agencies, participation in international agencies, the Foreign Service, overseas economic and military administration. No prerequisite.

Fall Semester

T 6:20 Ford 170, McLaughlin

- 99 U. S. Foreign Policy.
176 Conduct of American Foreign Relations. } See note on page 36.
3 credits. \$15.

The role and limitations of public opinion in foreign policy; contributions to the formation of foreign policy by interest groups, political parties, Congress and the Congressional committees, the President and executive agencies; problems in coordinated action and democratic control of policy. No prerequisite.

Spring Semester

T 6:20 Ford 170, McLaughlin

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 Psy. 1-2. Repeated spring semester. Elective credit in S.L.A. Not to be confused with Elementary Psychology A.

Fall Semester

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

Spring Semester

M 8:05 Nicholson 216, White
T 8:05 St. P. Ext. Center 201, White
Th 6:20 Nicholson 216, 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 202, White

Spring Semester

2 W 6:20 Nicholson Aud, White
F 7:00 St. P. Ext. Center 202, White

† See Information, page 6.

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 Psy. 1-2.

Fall Semester
4 W 8:05 Psychology 211, Gee

Spring Semester
5 W 8:05 Psychology 211, Gee

70 Principles of Psychological Measurement. 3 credits. \$15.

Designed to present statistical methods necessary to the practical application of psychological concepts. Especially useful to persons who work with psychological tests or with any sort of objective evaluation technique. Special emphasis is given to psycho-physical methods and to techniques of attitude scaling, directed toward the needs of persons engaged in analysis of public opinion or in market research. Topics discussed include presentation and arrangement of data, measures of central tendency and dispersion, attitude scaling techniques (including the Likert, Thurstone, and Guttman methods), psycho-physical methods, sampling methods and problems of forecasting, tests of significance of differences, and correlation analysis. This course furnishes an excellent background for Psy. 167, Psychology of Attitudes and Public Opinion, offered spring semester.

Fall Semester
Th 6:20 Psychology 115, Dunnette

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: Psy. 1-2.

Fall Semester
W 8:05 Psychology 115, Rosen

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 Psy. 160-61 for credit. Prerequisite: permission of instructor.

Fall Semester
122 M 6:20 Psychology 211, Longstaff

Spring Semester
123 M 6:20 Psychology 211, Longstaff

125-126 Psychology of Individual Differences. 3 credits each semester. \$15.

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

Fall Semester
125 T 6:20 Psychology 115, Beldo

Spring Semester
126 T 6:20 Psychology 115, Beldo

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: Psy. 1-2.

Fall Semester
144 M 8:05 Psychology 115, Schofield

Spring Semester
145 M 8:05 Psychology 115, Schofield

† See Information, page 6.

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, but elementary statistics desirable.

Spring Semester

Th 6:20 Psychology 115, Jones

Introductory Psychiatry. See page 46.

Dynamics of Human Behavior. See page 46.

Public Administration. See page 37.

RADIO AND TELEVISION

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

Here is practical "how to do it" instruction in writing for radio and television based upon long professional experience in both fields. Class operates like a "workshop" where both professionals and beginners can find real incentive to write. Students are given the fundamentals of writing for the ear (radio) and for both the eye and ear (TV); then they put these techniques into practical use by actually writing a full 17-week schedule of radio and TV scripts. 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. Students are urged to select script subjects that fit their particular interests or jobs. Each writer begins with short announcements; then progresses through various announcement forms into short and longer programs of drama, comedy, interviews, music, etc. You get practical advice on handling radio sound effects and music, and suggestions on how to make the television camera work most effectively for you. Constant survey and discussion of current radio and television with emphasis on new developments in each. Seventeen-week course is climaxed by an "audition" of selected work each semester. Particular scripts may be presented on KUOM or other suitable stations. Prerequisite: a good command of English, and a desire to write. 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 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. Frequently used as refresher course by writers and former students. 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. Selected work presented in attractive "audition" program each semester. Approved scripts frequently presented on KUOM or other suitable stations. Prerequisite: I to precede II.

Spring Semester

T 6:20 Murphy 302, Weaver

Radio and Television Speech. See page 49.

Radio Drama. See page 49.

RECREATION

Note that the recreational activities are offered in four groups: for women only, for children 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 prerequisite. A health examination will be required in all Extension classes except golf. Information about lockers and health examinations will be given at first class meeting.

Activities Open Only to Women

Golf (Beginning)—for Women. \$7.50 plus \$2 special fee.

Class and individual instruction in the fundamentals of golf. Motion pictures and slides showing proper form of strokes. Discussion of rules, golf etiquette, and terminology. As much instruction as possible to be given in the spring at University Golf Course, weather permitting. Students furnish own clubs for outdoor play, an indoor practice ball, and one golf ball. Sections limited to 20 students. Repeated spring semester.

Fall Semester

T 5:30 Norris Gym 60, Jaeger
T 6:30 Norris Gym 60, Jaeger

Spring Semester

T 5:30 Norris Gym 60, Slocum
T 7:00 Norris Gym 60, Slocum
W 6:15 Norris Gym 60, Jaeger
W 7:00 Norris Gym 60, Jaeger
Th 5:30 Norris Gym 60, Lampe
Th 6:15 Norris Gym 60, Lampe

Golf (Intermediate)—for Women. \$7.50 plus \$2 special fee.

A review of the above fundamentals (as listed for Beginning Golf) with the work of the class planned to meet individual needs. Prerequisite: some knowledge of and experience in golf. Sections limited to 20 students.

Spring Semester

T 6:15 Norris Gym 60, Slocum
W 5:30 Norris Gym 60, Jaeger
Th 7:00 Norris Gym 60, Lampe

Swimming (Beginning and Advanced Beginning)—for Women. \$7.50 plus \$2 special fee.

For beginners and those who want to increase their skill in strokes and diving. A health examination will be given at the first class meeting. Sections limited to 30 students. Repeated spring semester.

Fall Semester

Beginners
T 6:00 Norris Gym 51, Tinker
T 6:50 Norris Gym 51, Larson
W 6:50 Norris Gym 51, Slaughter

Advanced Beginners

T 6:00 Norris Gym 58, Larson
T 6:50 Norris Gym 58, Tinker
W 6:00 Norris Gym 51, Larson

Spring Semester

Beginners
T 6:30 Norris Gym 51, Tinker
W 6:00 Norris Gym 51, Larson
Advanced Beginners
T 6:00 Norris Gym 58, Larson
T 6:50 Norris Gym 51, Larson
T 6:50 Norris Gym 58, Tinker

Swimming (Intermediate and Advanced)—for Women. \$7.50 plus \$2 special fee.

A course for those who know how to swim but wish to learn new strokes or polish up on those they already know. Instruction in diving and water safety included. Sections limited to 30 students. Repeated spring semester.

Fall Semester

W 6:00 Norris Gym 58, Slaughter

Spring Semester

W 6:00 Norris Gym 58, Slaughter
W 6:50 Norris Gym 51, Slaughter

Synchronized Swimming and Water Ballet—for Women. \$7.50 plus \$2 special fee.

Instruction in, and adaptation of, strokes and aquatic activities of synchronized and water ballet swimming. Experience in developing group and individual routines. Sections limited to 30 students. Repeated spring semester.

Fall Semester

W 6:50 Norris Gym 58, Larson

Spring Semester

W 6:50 Norris Gym 58, Larson

Tennis (Beginning)—for Women. \$7.50 plus \$2 special fee.

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. Tennis permits are necessary if university courts are used. Consult instructor.

Spring Semester

T 5:30 Norris Gym 151, Hauptfuehrer

Tennis (Intermediate)—for Women. \$7.50 plus \$2 special fee.

Group and individual instruction for those who have elementary skills. Practice on courts. Tennis permits are necessary if university courts are used. Consult instructor.

Spring Semester

T 6:20 Norris Gym 151, Hauptfuehrer

Activities Open to Children**Swimming for Small Girls. \$7.50 plus \$2 special fee.**

A course in swimming for girls between the ages of 6 and 12 years. The first meeting of the class will be given to health examination. 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. Caps are required for all swimmers. Classes are limited to 20 girls in each section.

Fall Semester

Beginners
S 8:45-9:30 Norris Gym 51, Lampe
Advanced Beginners
S 9:30-10:15 Norris Gym 51, Lampe
Intermediates
S 10:15-11:00 Norris Gym 51, Lampe

Spring Semester

Beginners
S 8:45-9:30 Norris Gym 51, Lampe
Advanced Beginners
S 9:30-10:15 Norris Gym 51, Lampe
Intermediates
S 10:15-11:00 Norris Gym 51, Lampe

Swimming for Boys. \$7.50 plus \$2 special fee.

A course for boys 6 to 12 years of age and at least 48 inches tall. The first meeting will be for the purpose of classifying swimmers into their proper groups: beginning, intermediate, advanced. Swimmers are required to bring their own towels.

Spring Semester

Beginners and Intermediates
S 10:00 Cooke Hall, Ostrander
Advanced
S 11:00 Cooke Hall, Boyce

Swimming for Boys and Girls. \$7.50 plus \$2 special fee.

A course in swimming for children, beginners and intermediates, at least 6 years of age and at least 48 inches tall. Class and individual instruction. Students must bring a permit from their own doctors, and furnish their own suits and towels. Woolen suits are not permitted.

Fall Semester

Beginners
S 9:00-9:45 Gymnasium,
St. Paul Campus, Nowotny
Advanced Beginners
S 9:45-10:30 Gymnasium,
St. Paul Campus, Nowotny
Intermediates
S 10:15-11:00 Gymnasium,
St. Paul Campus, Nowotny
Advanced Intermediates
S 10:45-11:30 Gymnasium,
St. Paul Campus, Nowotny

Spring Semester

Beginners
S 9:00-9:45 Gymnasium,
St. Paul Campus, Nowotny
Advanced Beginners
S 9:45-10:30 Gymnasium,
St. Paul Campus, Nowotny
Intermediates
S 10:15-11:00 Gymnasium,
St. Paul Campus, Nowotny
Advanced Intermediates
S 10:45-11:30 Gymnasium,
St. Paul Campus, Nowotny

Activities Open to Men and Women

Badminton Club—for Men and Women. One period, 6 months, \$12.50.

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 28 and continuing through March with a recess at Christmas. In addition to the regular class periods, those registered may use the badminton courts when available for general intramural play. In charge: Smith, Anway.

Activities Open Only to Men

Golf—for Men. \$10 plus \$1 materials 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 8. Lessons or appointments with competent golf instructors in the golf gymnasium will be scheduled for Tuesday or Wednesday evenings February 9 to April 1. The last six meetings will be held, weather permitting, at the University Golf Course, where Mr. Bolstad will supervise the work. The outdoor schedule is adjusted to light. Students will furnish their own clubs.

Spring Semester

M 7:00 Physics Aud., Smith, Bolstad

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.

Spring Semester

T 8:05 Cooke Hall, Boyce

Russian. See Slavic and Oriental Languages, page 46.

SCANDINAVIAN

13-14 Beginning Danish. 3 credits each semester. \$15.

This course will be taught according to modern language teaching methods with emphasis on the oral approach. Its aim will be to enable the student to understand and take part in a simple conversation and to read a newspaper text. Attention will be given to individual requirements. No prerequisite.

Fall Semester

13 Th 6:20 Folwell 12, Aarsleff

Spring Semester

14 Th 6:20 Folwell 12, Aarsleff

15-16 Intermediate Danish. 3 credits each semester. \$15.

This course is designed for students with some previous knowledge of Danish, whether acquired in last year's course in Beginning Danish or elsewhere. Equal attention will be paid to conversation and reading of modern Danish, primarily through recent newspaper and periodical texts. Attention will be given to individual requirements.

Fall Semester

15 Th 8:05 Folwell 12, Aarsleff

Spring Semester

16 Th 8:05 Folwell 12, Aarsleff

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

1 W 6:20 Folwell 12, Nelson

Spring Semester

2 W 6:20 Folwell 12, Nelson

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

Designed for students with some theoretical and practical knowledge of Norwegian. Provides a rapid review of grammar and considerable practice in conversation and composition. Readings in Norwegian.

Fall Semester
3 W 8:05 Folwell 12, Nelson

Spring Semester
4 W 8:05 Folwell 12, Nelson

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
7 T 6:20 Folwell 12, Gustafson

Spring Semester
8 T 6:20 Folwell 12, Gustafson

11-12 Swedish Conversation and Readings. 3 credits each semester. \$15.

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

Fall Semester
11 T 8:05 Folwell 12, Gustafson

Spring Semester
12 T 8:05 Folwell 12, Gustafson

SLAVIC AND ORIENTAL LANGUAGES**1-2 Russian Reading. 3 credits each semester. \$15.**

A beginning course with emphasis on reading. Comprehensive discussion of the Russian grammatical system, with special stress on the recognition of forms and the structure of the sentence. Interpretation and translation of easy texts. This course aims to give a general working knowledge of Russian and the basic preparation for reading tests required of graduate students in their specific fields. No prerequisite for 1. Prerequisite for 2: 1 or permission of instructor.

Fall Semester
1 M 6:20 Folwell 113, Niemi

Spring Semester
2 M 6:20 Folwell 113, Niemi

SOCIAL WORK**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. Prerequisite: 10 credits in social science or permission of instructor.

Spring Semester
T 6:20 Ford 150, Rowe

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 with normal and abnormal behavior, especially in relation to problems met by the social worker and teacher. Prerequisite: 6 credits in sociology and 6 credits in psychology and permission of an adviser in the School of Social Work.

Spring Semester
W 6:20 N.W. Bank Bldg. 690, Sukov

SOCIOLOGY

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. No prerequisite. Repeated spring semester.

Fall Semester

T 8:05 St. P. Ext. Center 204, Taves
Th 6:20 Ford 20, Ramsey

Spring Semester

T 6:20 Ford 20, Taves

49 Social Problems. 3 credits. \$15.

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

Spring Semester

Th 6:20 Ford 180, Johnson

53 Elements of Criminology. 3 credits. \$15.

A general survey of the field of criminology. Prerequisite: Soc. 1 or permission of instructor.

Fall Semester

W 6:20 Ford 80, Donohue

91A 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: S.W. 50 or 51 or permission of instructor.

Fall Semester

M 6:20 Ford 150, Saloshin

91B Interview Methods. 3 credits. \$15.

A course designed for the further study of the interviewing method applied in fields involving human relations. This course is not designed for social workers but rather for other professional fields where interviewing is an important tool of service. Prerequisite: S.W. 91A.

Spring Semester

M 6:20 Ford 150, Saloshin

120 Social Psychology. 3 credits. \$15.

Summary of research and theory regarding the relation of the individual to social groups. Emphasis on the socialization process; the effects of social interaction and isolation; individual behavior under conditions of social organization and disorganization; collective behavior in the crowd, the mass, the public, and the institution. Prerequisite: Soc. 1 and 15 credits in social science.

Spring Semester

W 6:20 Ford 170, Rose

141 The Family. 3 credits. \$15.

The evolution of the family: development of family unity or disunity, the roles of the several members of the family, methods of investigation of the family. Prerequisite: Soc. 1 and 15 credits in social science.

Fall Semester

Th 6:20 Ford 140, Johnson

162 Rural Social Institutions. 3 credits. \$15.

Factors in the rural environment which condition the functioning of rural social institutions, including the family, school, church, local government, health, and welfare. Prerequisite: Soc. 1 and 15 credits in social science.

Spring Semester

Th 6:20 Ford 85, Ramsey

Preparation for Marriage. See page 34.

SPANISH

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

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

Fall Semester				Spring Semester			
1	M	6:20	Folwell 202, Rundorff	1	Th	6:20	Folwell 203
	T	8:05	St. P. Ext. Center 205, Mousolite	2	M	6:20	Folwell 202, Rundorff
	Th	6:20	Folwell 202		T	8:05	St. P. Ext. Center 205, Mousolite
2	M	6:20	Folwell 204		Th	6:20	Folwell 202

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

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

Fall Semester				Spring Semester			
3	T	6:20	St. P. Ext. Center 200, Mousolite	4	T	6:20	St. P. Ext. Center 200, Mousolite
	W	6:20	Folwell 206, Floripe		W	6:20	Folwell 206, Floripe

38-39 Spanish Shorthand. 3 credits each semester. \$15.

Prerequisite: Span. 53 or equivalent and typing.

Fall Semester				Spring Semester			
38	W	6:20	Folwell 102, Marban	39	W	6:20	Folwell 102, Marban

54-55 Spanish Conversation. 3 credits each semester. \$15.

Informal discussion of current affairs and everyday topics. Prerequisite: Span. 3-4, or permission of instructor.

Fall Semester				Spring Semester			
54	W	6:20	Folwell 213, Irving	55	W	6:20	Folwell 213, Irving

57-58 Commercial Spanish. 3 credits each semester. \$15.

Commercial correspondence in Spanish, including the main parts of a Spanish letter, models of letters and commercial forms and documents, abbreviations used in Spanish correspondence and business vocabulary. Prerequisite: Span. 3-4.

Fall Semester				Spring Semester			
57	T	6:20	Folwell 202, Cuneo	58	T	6:20	Folwell 202, Cuneo

SPEECH

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

A practical course in which the fundamentals of speech are applied to present day problems and needs of adult students. Individual attention to cases of nervousness, embarrassment and stage fright. Each student speaks before the class each meeting. Voice recordings will be made. No prerequisite. Each section limited to 25 students.

Fall Semester				Spring Semester			
M	6:20	Folwell 5, Fulton	M	6:20	Folwell 5, Fulton		
W	6:20	Folwell 5, Fulton	W	6:20	Folwell 5, Fulton		
Th	6:20	St. P. Ext. Center 205, Fulton	Th	6:20	St. P. Ext. Center 205, Fulton		

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

An advanced speech course designed to develop skill in sound argumentative reasoning. Analysis and discussion of topics of current interest. Each student speaks before the class each meeting. Open only to students who have completed Beginning Practical Speech Making, except by special permission of instructor. Class limited to 25 students.

Fall Semester				Spring Semester			
M	8:05	Folwell 5, Fulton	M	8:05	Folwell 5, Fulton		

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	6:20	Folwell 308, Fletcher
	W	6:20	St. P. Ext. Center 204, Bystrom
2	M	6:20	Folwell 305, Paulson
	W	6:20	St. P. Ext. Center 204, Bystrom
3	M	6:20	Folwell 305, Paulson
	W	6:20	St. P. Ext. Center 204, Bystrom

Spring Semester

1	M	6:20	Folwell 308, Fletcher
	W	6:20	St. P. Ext. Center 204, Bystrom
2	M	6:20	Folwell 305, Paulson
	W	6:20	St. P. Ext. Center 204, Bystrom
3	M	6:20	Folwell 305, Paulson
	W	6:20	St. P. Ext. Center 204, Bystrom

Spch. 65 Radio and Television Speech. 3 credits. \$15 plus \$1 laboratory fee.

Speech and psychology of radio and television; announcing; interpretative reading, voice, diction, articulation, and pronunciation. Practice, exercises, projects, and reports on problems of appeal and audience response. Voice recordings will be made. Prerequisite: Spch. 1-2, or permission of instructor. Class limited to 25 students.

Fall Semester

W 6:20 Murphy 302, Christensen

Spch. 66 Radio Drama. 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: Spch. 1-2 or permission of instructor.

Spring Semester

W 6:20 Murphy 302, Smith

Beginning Acting (Spch. 32). See Theater, page 49.

Efficient Listening. See page 34.

Efficient Reading. See page 34.

Vocabulary Building. See page 34.

Writing for Radio and Television. See page 42.

TEXTILES

See page 63.

THEATER

Beginning Acting (Spch. 33). 3 credits (see below). \$15 plus \$1 laboratory fee.

This is a course designed to follow the creative work done in Beginning Acting, although that work is not necessarily a prerequisite to the present course. Some attention will be given to all basic techniques including the art of makeup, although the primary emphasis will be upon technique of the body and will include pantomimic dance. Students are eligible for tryout in acting and constructive phases of University Theatre activities. No prerequisite. Qualified students may receive credit in Spch. 33. Consult instructor at opening class.

Spring Semester

Th 6:20 Nicholson 3rd Floor, Moulton

† See Information, page 6.

Radio Drama. See page 49.

Radio Writing. See page 42.

Stage Costuming (Spch. 93). 3 credits. \$15.

Theory and practice of costuming for theatrical production. History, materials, design, and styling. Demonstrations of basic costumes and analysis of costumes being used for current University Theatre plays. No prerequisite.

Fall Semester

Th 6:20 Nicholson 302, Moulton

Business Classes

ACCOUNTING

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

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

Econ. 25 deals with the special problems of individual, partnership, and corporate accounts, with an introduction to manufacturing procedures.

Econ. 26 is concerned with accounting principles as applied to inventory, valuations, accounting for corporate securities and funds, retained income, surplus, reserves, and analysis of financial statements.

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

1. Regular semester class schedule, for 3 credits each semester
2. Quarter basis, 2½-hour classes, 3 credits each quarter
3. Combined course, meeting twice weekly in 2½-hour sessions, spring semester only

For students who wish regular class periods in order to take two classes the same evening or who prefer more time and less concentration in beginning an elementary technical study.

For students who wish to complete the entire course in one year of 3 quarters of 11 weeks each. Students who find this schedule too rapid are in a position to change to the semester basis.

For those who wish to concentrate on completion of the course in the spring semester, in order to begin advanced courses in the following fall semester.

Note—In registering, students are cautioned to observe under which plan the particular class is scheduled.

Econ. 24-25 Principles of Accounting. 3 credits each semester. \$15.

The first two units of the university course in accounting, on the semester basis. No prerequisite.

Fall Semester		Spring Semester	
24	M 6:20 St. P. Ext. Center 206, Montgomery	25	M 6:20 St. P. Ext. Center 206, Montgomery
	T 6:20 Vincent 301		T 6:20 Vincent 301

Econ. 26 Principles of Accounting. 3 credits. \$15.

Third unit of the three-term course on semester basis. May be followed by B.A. 65 in spring semester. Prerequisite: Econ. 25.

Fall Semester	
M	6:20 St. P. Ext. Center 203, Creviere
W	6:20 Vincent 205

Econ. 24-25-26 Principles of Accounting. 3 credits each quarter. \$15 each unit.

The first-year university course in accounting, quarter basis. Classes meet for approximately 2½ hours. No prerequisite.

Fall Quarter		Winter Quarter	Spring Quarter	
24	M 6:20-9:00 Vincent 301	25 (same schedule as fall)	26	(same schedule as fall)
	F 6:20-9:00 St. P. Ext. Center 206, Montgomery			

Econ. 24-25-26 Principles of Accounting (Combined). 9 credits. \$15 each unit.

This course offers Econ. 24-25-26 complete in one semester, six weeks for each, two classes per week. Classes meet for 2½ hours. Registration and fees accepted for combined course, or for single units provided Econ. 24 has preceded 25 and Econ. 25 has preceded Econ. 26.

Spring Semester

MF 6:20 Vincent 306, Lund
MF 6:20 St. P. Ext. Center 205, Creviere

Second Year Accounting Courses: For students who do not intend to prepare for technical or professional accounting work but wish to understand more about accounting as a tool in either finance or management, the following courses which are designed for nonaccounting majors should be taken when available: B.A. 65 Analysis of Financial Statements, B.A. 66 Managerial Costs, and B.A. 154 Budgetary Control. For students who intend to prepare for accounting work and take more than two additional courses after the first year, either B.A. 150-151 Intermediate Accounting or B.A. 152-153 Cost Accounting are necessary prerequisite courses and should be taken after the first year courses are completed.

B.A. 65 Analysis of Financial Statements. 3 credits. \$15.

A course in the use of financial statements by creditors, investors, and executives. The material is approached from the viewpoint of the reader of statements, and is not concerned with accounting technicalities. Reports of commercial, industrial, public utility, and railroad companies are used as basic material for the course. Prerequisite: Econ. 23 or 26 or permission of instructor.

Spring Semester

T 6:20 St. P. Ext. Center 203, Gaasedelen
W 6:20 Ford 160

B.A. 66 Managerial Accounting. 3 credits. \$15.

Cost accounting and analysis from the point of view of its use by management in making decisions and setting policies, and in establishing controls over costs. Prerequisite: Econ. 26 or equivalent or permission of instructor.

Spring Semester

Th 8:05 Vincent 2, Wheeler

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

Second year accounting for students intending to specialize in accounting. Standard text and problems designed to build on principles of the first year course, developing accepted accounting practices in valuation and amortization procedures, determination of periodic income and stockholders' interest. Prerequisite: Econ. 23 or 26 or equivalent with permission of instructor.

Fall Semester

150 M 6:20 Vincent 2, Heilman
T 6:20 St. P. Ext. Center 206,
Johnson
W 6:20 Vincent 306, Lund

Spring Semester

151 M 6:20 Vincent 2, Heilman
T 6:20 St. Paul Ext. Center 206,
Johnson
W 6:20 Vincent 306, Lund

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 permission.

Fall Semester

152 T 8:05 St. P. Ext. Center 206, Tuttle
W 6:20 Vincent 307

Spring Semester

153 T 8:05 St. P. Ext. Center 206, Tuttle
W 6:20 Vincent 307

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. 66 or 130 or 153 or permission of instructor.

Fall Semester

W 8:05 St. P. Ext. Center 206, Tuttle

Advanced Cost Accounting A-B†. 3 Extension credits each semester. \$15.

A detailed practical application to business situations of the principles of cost accounting, and the installation of cost systems; burdens and burden centers; *pro forma* journal entries; wage methods; change from job to process cost methods; by-product accounting; forms. Prerequisite: B.A. 152-153, or Cost Accounting I-II.

Fall Semester

A W 6:20 St. P. Ext. Center 203, Tuttle

Spring Semester

B W 6:20 St. P. Ext. Center 203, Tuttle

B.A. 118, 135 Auditing Procedure and Public Accounting. 3 credits each semester. \$15 each semester. (Students completing both semesters may receive credit applicable toward a degree in the School of Business Administration.)

An introduction to auditing procedure with the preparation of a coordinated set of working papers based on examination of accounting and other records. The writing of short and long audit reports, development of auditing standards, S.E.C and A.I.A. releases and audit case studies, C.P.A. examination questions in auditing. Prerequisite: B.A. 151, B.A. 65, or B.A. 139 for fall semester; B.A. 118 for spring semester, or permission of instructor.

Fall Semester

118 W 6:20 Vincent 301, Reighard

Spring Semester

135 W 6:20 Vincent 301, Reighard

B.A. 134 Income Tax Accounting. 4 credits plus 2 Extension credits. \$30.

Application of income tax laws to and preparation of both state and federal returns for individuals, partnerships, and corporations. Class meets once a week for three hours and twenty minutes. Prerequisite: B.A. 151 or permission of instructor.

Fall Semester

M 6:20 Vincent 306, Nelson

W 6:20 St. P. Ext. Center 201, Daly

B.A. 143 Tax Accounting Problems. 3 credits. \$15.

Special tax problems of corporation; administration of income taxes, amended returns; court appeals; state income taxes and allocation of income; social security, estate and gift taxes. Prerequisite: B.A. 134, or permission of instructor.

Spring Semester

M 8:05 Vincent 307, Nelson

B.A. 154 Budgetary Control. 3 credits. \$15.

Fundamentals of establishing and operating a budget. Budgetary control and the relationship to break-even analysis. Prerequisite: B.A. 153 or permission of instructor.

Fall Semester

M 6:20 Vincent 307, Wheeler

B.A. 158 Governmental Accounting. 2 credits plus 1 Extension credit. \$15.

Procedures and problems in accounting for government budgets, appropriations and funds. See Pol. Sci. 58, page 38.

Spring Semester

Th 6:20 Ford 140, Magraw

B.A. 159 Advanced Accounting. 3 credits. \$15.

Branch accounting, consolidated statements, estates and trusts, concerns in financial difficulties, and other specialized problems. Prerequisite: B.A. 151.

Spring Semester

T 8:05 St. P. Ext. Center 203, Johnson

ADVERTISING**B.A. 188 Advertising.** See page 62.

For other advertising courses, see pages 30 and 61.

† See Information, page 6.

BUSINESS ENGLISH**1 Review of Business English. 3 Extension credits. \$15.**

For those who have been out of school for a while or who had poor preparation for Business English while in school. Modern, streamlined sentence structure, paragraphing, punctuation, and spelling. Brief introduction to letter form and organization. Emphasis on brevity, accuracy, meaning, and vividness. No prerequisite.

Fall Semester
 T 6:20 St. P. Ext. Center 202, Lippert
 T 8:05 St. P. Ext. Center 202, Lippert

Spring Semester
 T 8:05 St. P. Ext. Center 202, Lippert

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

A practical class for people recognizing the value of effective expression in business letters. The principal types of letters will be analyzed and the written assignments will emphasize the development of a letter style capable of producing economical, clear, action-getting letters. No prerequisite. Repeated spring semester.

Fall Semester
 M 6:20 Main Engineering 205, Lippert
 W 8:05 Main Engineering 205, Haga
 Th 8:05 St. P. Ext. Center 206, Lippert

Spring Semester
 T 6:20 St. P. Ext. Center 202, Lippert
 W 8:05 St. P. Ext. Center 203, Lippert
 W 6:20 Main Engineering 205, Haga

3 Business Writing for the Executive. 3 Extension credits. \$15.

An advanced course for people working at the administrative level. Reports, policy and procedure manuals, instruction manuals, and goodwill and morale-building devices will be reviewed. In addition to the class assignments each student will work out an individual communication project related to his specific job. Some students may confine all the writing done to this project. No prerequisite.

Fall Semester
 W 6:20 Main Engineering 205, Haga

Spring Semester
 W 8:05 Main Engineering 205, Haga

Business Reports (English 58). See page 24.

Vocabulary Building. See page 34.

Efficient Reading. See page 34.

Engineering English. See page 67.

Other courses in English. See page 23.

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 senior certificate is granted.)

Comprehensive course in the fundamental principles of law for the business and professional man. 51: Contracts—formation, operation, transfer, discharge. 52: Business associations—nature, creation and terms of the relation, rights, and liabilities of the parties when doing business through agents, partnerships, and corporations. 53: Law of sales of goods under the Uniform Sales Act and law of commercial paper under the Uniform Negotiable Instruments Law. 56: Nature and classification of real estate; deeds and conveyances; landlord and tenant; recording and abstracting; Torrens titles; liens and mortgages; wills, probating of estates, and duties of administrators and executors. Prerequisite: B.A. 51 must precede or be taken in conjunction with either 52 or 53 unless the permission of the instructor is obtained for a different sequence.

Fall Semester
 51 M 8:05 St. P. Ext. Center 201, Moss
 W 6:20 Vincent 4, Ackman
 52 M 6:20 St. P. Ext. Center 201, Moss
 W 8:05 Vincent 4, Ackman
 53 T 6:20 Ford 85, Thomas

Spring Semester
 51 M 6:20 St. P. Ext. Center 201, Moss
 W 8:05 Vincent 4, Ackman
 52 M 8:05 St. P. Ext. Center 201, Moss
 W 6:20 Vincent 4, Ackman
 53 Th 6:20 St. P. Ext. Center 206, Thomas
 56 W 6:20 St. P. Ext. Center 201
 Th 6:20 Vincent 1, Carroll

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

A course in everyday legal principles for the layman who wishes more intelligently and efficiently to manage his own personal affairs and to fulfill his place as a citizen. Any individual, whether married or single, housewife or businessman, is bound to come up against many legal problems in varied fields during a lifetime. In many cases these problems might never arise or might be considerably minimized if the persons involved could anticipate them and know in advance what are the basic rights and liabilities and what steps should be taken to enforce or guard them, whom to consult, etc. This course will examine those everyday transactions which of necessity involve certain fundamental aspects in the following fields: Real property, rentals, leases, purchases and sales, building contracts and liens, mortgages and loans; handling of wills, estates, and probate proceedings; tax returns; accidents, negligence, trespass and other torts, and liability for such torts; and contracts and sales. No prerequisite. Repeated spring semester.

Fall Semester

W 6:20 Ford 20, Thorfinnson
W 6:20 St. P. Ext. Center 205, Riley

Spring Semester

W 6:20 Ford 20, Thorfinnson
W 6:20 St. P. Ext. Center 205, Riley

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

Common Legal Problems I is not a prerequisite. The course will consider the following subjects with the same objective as in Common Legal Problems I: domestic relations, rights and liabilities of husband and wife, parent and child; rights and liabilities of master and servant, principal and agent, and partners; corporations and partnerships; sole proprietorships; crimes and prosecution of accused; negotiable instruments and banking; insurance; and adoption proceedings. Consideration will also be given to economic, business, and social legislation which necessarily affects the individual's legal rights, i.e., benefits under the Social Security Act, Railroad Retirement and Sickness Benefit Acts, Old Age Assistance legislation, Workmen's Compensation Act, etc.; the effects of State and Federal legislation on business management, employers, employees and the public; wage and price control; the Interstate Commerce Commission; State Public Service Commissions; and other governmental agencies. Repeated spring semester.

Fall Semester

W 8:05 Ford 20, Thorfinnson

Spring Semester

W 8:05 Ford 20, Thorfinnson

ECONOMICS AND 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

M 6:20 St. P. Ext. Center 205, Rozental
T 6:20 Vincent 205, Meyerding

Spring Semester

M 6:20 St. P. Ext. Center 203, Rozental
Th 8:05 Vincent 113, Meyerding

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

M 8:05 St. P. Ext. Center 206, Gaasedelen
W 6:20 Vincent 113, Sauerlender

Spring Semester

M 6:20 St. P. Ext. Center 206, Gaasedelen
Th 6:20 Vincent 113, Sauerlender

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

Principles underlying economic activity, prices, and the cost of production; the factors of production; division of labor and its relation to the development of industry; wages, rent, interest, profits; the level of national income and employment. No prerequisite.

Fall Semester

6 M 6:20 Vincent 205, Borak
M 8:05 St. P. Ext. Center 205, Rozental
T 6:20 Vincent 113, Borak
W 6:20 Vincent 207
Th 8:05 Vincent 207, McKenna
7 W 6:20 Vincent 1, Smith

Spring Semester

6 W 6:20 Vincent 207, Borak
.7 M 6:20 Vincent 205
M 8:05 St. P. Ext. Center 203, Rozental
T 6:20 Vincent 113
W 6:20 Vincent 205
Th 8:05 Vincent 207

B.A. 58 Elements of Public Finance. 3 credits. \$15.

Public expenditures, revenues, debts, fiscal policy, and financial administration. Special attention is given to tax principles, practices, burdens, and coordination of national, state, and local finance. Prerequisite: Econ. 6-7.

Spring Semester

T 6:20 Vincent 205, Borak

Econ. 64 Economics of 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: Econ. 3 and 6-7.

Spring Semester

W 6:20 Vincent 2, Smith

Econ. 73 Manpower Economics and Problems. See Industrial Relations, page 58.**B.A. 74 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 8:05 Vincent 205, McKenna

Econ. 75 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.

Fall Semester

M 8:05 Vincent 207, Sutton

Econ. 80 Intermediate Economic Analysis: Income and Employment. 3 credits. \$15.

The determinants of national income, employment, and the price level, with particular attention to aggregate consumption and investment. Prerequisite: Econ. 7.

Fall Semester

Th 6:20 Vincent 205, McKenna

Econ. 81 Intermediate Economic Analysis: Firms and Households. 3 credits. \$15.

The analysis of individual decision-making, by firms and households, under conditions of monopoly, competition, and monopolistic competition. Prerequisite: Econ. 7.

Spring Semester

Th 6:20 Vincent 205, McKenna

Econ. 84 Comparative Economic Systems. 3 credits. \$15.

Analyzes the meaning of planned, unplanned, centralized, and decentralized systems. Examines models of various types of economic systems. Compares the actual working of capitalism and socialism to the models. Prerequisite: Econ. 7.

Spring Semester

Th 8:05 Vincent 205, McKenna

Econ. 85 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; origins of limitations on free competition; regulation of public utilities, trusts and combinations, and "unfair competitive practices"; positive assistance to industrial groups. Prerequisite: Econ. 7.

Fall Semester

Th 6:20 Vincent 2, Boddy

B.A. 146 Investments. 3 credits. \$15.

A general or "cross cut" survey of the external and internal factors influencing the prices of securities, and of the principles of an investment policy for the individual investor. Emphasis is placed upon objective analysis from source materials of factors explaining price differentiation. Prerequisite: Econ. 75 or 155.

Spring Semester

M 8:05 Vincent 207, Sutton

Econ. 124 Economic Problems of Today. 3 credits. \$15.

A special survey of current economic problems and their analysis designed for the nonmajors and of particular interest to teachers and other social-minded people who wish to broaden their knowledge and to be brought up to date. Prerequisite: Econ. 7.

Note—This course is scheduled same period as Econ. 176, to be offered depending on enrolment.

Fall Semester

W 8:05 Vincent 205, Smith

Econ. 176 International Economics. 3 credits. \$15.

An introduction to the techniques of international economic analysis. The approach, while primarily theoretical, will indicate the relevance of the theory to current problems. The balance of payments; the foreign exchanges; free trade versus protection; techniques of trade control; international commercial policies; contemporary international economic problems and institutions. Prerequisite: Econ. 7. (See note to Econ. 124.)

Fall Semester

W 8:05 Vincent 205, Smith

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 T 6:20 Vincent 6, Power

Spring Semester

II T 6:20 Vincent 6, Power

INDUSTRIAL ENGINEERING

See Engineering Classes, page 68.

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 products; scientific management; practical problems in production control. Included in core group requirement for all candidates for a degree in business. Prerequisite: Econ. 6-7. Repeated spring semester.

Fall Semester

M 6:20 Vincent 4, Thompson

Spring Semester

M 6:20 Vincent 4, Thompson

B.A. 184 Scientific Management in Industry. 3 credits. \$15.

A study of the origin and development of the movement to apply the methods of science to the management of industrial enterprises; the effects upon individual plant management and the influence upon "rationalization" in industrial society. Prerequisite: B.A. 89 or concurrent registration.

Spring Semester

M 8:05 Vincent 4

INDUSTRIAL RELATIONS

Econ. 73 Manpower Economics and Labor Problems. 3 credits. \$15.

This course deals with: (1) the marketing of manpower resources; (2) the institutional structure of labor markets; (3) economic and social problems arising out of labor marketing processes; (4) methods, procedures, and proposals for solving these problems. Prerequisite: Econ. 6-7.

Note—Qualified students may earn graduate credit in Econ. 161. For information, consult the Committee on Student Scholastic Standing.

Fall Semester

T 6:20 St. P. Ext. Center 203, Fox
W 6:20 Vincent 2, Heneman

Econ. 162 Labor Movements. 3 credits. \$15.

Presents an analysis of the development of labor movements in Europe and the United States. It provides an examination of the origins of labor movements, their growth, the problems faced under various sorts of governments, and an analysis of the economic and social consequences of these developments. Prerequisite: Econ. 73 or 161.

Fall Semester

T 6:20 Vincent 2, Benewitz

Econ. 164 Labor Legislation: Collective Bargaining. 3 credits. \$15.

Analyzes (1) the interrelationships between the development of labor organizations and the techniques utilized by them in furthering their interests, and the actions and decisions of the executive, legislative, and judicial branches of the government, and (2) the economic and social implications of issues arising in this area. The subject matter covered ranges from an examination of applicable common law origins through the Labor-Management Relations Act of 1947. Prerequisite: Econ. 73 or 161.

Spring Semester

T 6:20 Vincent 2, Cheit

Econ. 166 Settlement of Industrial Disputes. 3 credits. \$15.

This course is designed to include the following three major subject areas: (1) the nature and scope of industrial disputes; (2) the various methods utilized in the settlement of industrial disputes—self-resolution, mediation and conciliation, arbitration, etc.; and (3) the economic and social implications and consequences of industrial disputes. Prerequisite: Econ. 73 or permission of instructor.

Spring Semester

W 8:05 Vincent 6, Turnbull

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: Econ. 73 or 161.

Spring Semester

M 6:20 St. P. Ext. Center 202, Fox
W 6:20 Vincent 113, Heneman

Psy. 122-123† Vocational and Personnel Psychology. See page 41.

Psy. 125-126 Psychology of Individual Differences. See page 41.

† See Information, page 6.

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

Note—The content of this course changes each time it is given and as the course title indicates, deals with current materials. Hence, experienced industrial relations workers may wish to repeat this course at intervals.

A discussion workshop for advanced students concerned with sources of information about modern industrial relations concepts, policies and practices; the nature and operation of labor markets, collective bargaining, labor legislation and social insurance; selection and training, wages and hours, and other related topics. Each session will consist of a short lecture by a specialist in the specific topic under consideration, followed by a conference-type discussion period led by the guest speaker and the instructor. Course open to experienced union officers and business agents, personnel and industrial relations managers, and government officials doing industrial relations work. A limited number of students who cannot meet these requirements, but have successfully completed B.A. 167 (Personnel Administration), may also be admitted. Class will be limited and early registration is recommended. Prerequisite: permission of instructor.

Fall Semester

W 8:05 Vincent 2, Heneman and other members of Industrial Relations Center staff

Elements of Supervision. 3 Extension credits. \$15 plus \$1 materials fee.

A general discussion of the basic principles of foremanship. Survey of the problems of industrial relations and personnel management met with in day-to-day supervision with emphasis on human relations. Practical aspects of such problems as the status of the supervisor, selection, induction and training of employees, merit rating, giving orders, quality and cost control, and labor legislation affecting supervisors. Extensive use of the class discussion technique and training films. No prerequisite. Repeated spring semester.

Fall Semester

M 6:20 Ford 85, Mahoney
T 6:20 St. P. Ext. Center 204

Spring Semester

T 8:05 Ford 85, Kirchner
Th 6:20 St. P. Ext. Center 202

Advanced Supervision. 3 Extension credits. \$15.

Advanced supervision emphasizes techniques based upon the theory outlined in Elements of Supervision. It includes discussion of research in supervisory methods and practices and their relative success in application. Methods of supervisory training, morale measurement, job evaluation, job analysis, job classification, safety programs, wage and salary administration, labor legislation, principles of organization and communications are among the topics discussed. Extensive use is made of discussion method and case studies. Prerequisite: Elements of Supervision or permission of instructor.

Fall Semester

M 8:05 Ford 85, Mahoney
M 8:05 St. P. Ext. Center 202, Kirchner

Spring Semester

T 8:05 St. P. Ext. Center 205, Kirchner
Th 6:20 Ford 15

Personnel Methods. 3 Extension credits. \$15.

A detailed analysis and evaluation of a limited number of specific, technical techniques of professional personnel management—such as job evaluation, wage surveys, incentive systems, supervisory training, morale surveys, testing. Prerequisite: B.A. 167 or permission of instructor.

Spring Semester

M 8:05 St. P. Ext. Center 202, Fox

INSURANCE

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

An analysis of the role insurance plays in combating risk; types of insurers; fundamentals of life, property, and liability insurance contracts; sales, underwriting, actuarial, finance, and claims functions of insurers; internal and external regulation; and social insurance. Designed primarily for the insurance consumer and the student who intends to pursue the insurance curriculum in the day school. Prerequisite: Econ. 6-7. Repeated spring semester.

Fall Semester

T 8:05 Vincent 6, Williams

Spring Semester

T 8:05 Vincent 6, Williams

Property and Casualty Insurance Curriculum.

The University of Minnesota cooperates with the Insurance Institute of America and the American Institute for Property and Casualty Underwriters, Inc., by offering an educational program that provides the basic courses needed by those who wish to take the examinations of either or both of the institutes. The Insurance Institute of America courses are considered excellent preparation for the more difficult American Institute courses which lead to the Chartered Property and Casualty Underwriters (C.P.C.U.) award. Complete details of the program of training under both institutes are printed in the institutes' annual announcements, copies of which may be obtained from the General Extension Division of the University of Minnesota. (Coordinator for C.P.C.U. program for 1953-54 will be Herbert Jungbauer, PR 6441.)

I.I.A. Parts A, B, and C. 3 Extension credits each semester. \$15.

Based on the Part A, Part B, and Part C Topical Outlines of the Insurance Institute of America. Provides a background in property and liability insurance and serves as a preparatory course for the C.P.C.U. program. Economic and social influences of insurance; risk and insurance; types of risk and kinds of insurance to meet them; historical development of insurance; types of insurers and their organization; underwriting and reinsurance; method for analysis of insurance contracts; regulation; intensive study of the contracts currently being used in fire, ocean marine, inland marine, and casualty insurance, and in fidelity and surety bonding.

Fall Semester

A M 6:20 Vincent 6, Williams

Spring Semester

B-C M 6:20 Vincent 6, Williams

C.P.C.U. Part I. Insurance Principles and Practices, A-B. 3 Extension credits each semester. \$15.

An intensive course in the basic principles of property and casualty insurance, designed as preparation for examination I for the Chartered Property Casualty Underwriter (C.P.C.U.) award offered by the American Institute for Property and Casualty Underwriters, Inc. The course will be conducted by a panel of instructors selected from practicing insurance men, coordinated and supervised by the University School of Business Administration. Prerequisite: at least three years' *general* experience or the equivalent in formal study and acceptance of special registration application; consult any Extension office.

Fall Semester

A M 6:20 Ford 180, Jungbauer

Spring Semester

B M 6:20 Ford 180, Jungbauer

C.P.C.U. Part II. Insurance Principles and Practices, A-B. 3 Extension credits each semester. \$15.

An intensive course in the basic principles of property and casualty insurance, designed as preparation for examination II for the Chartered Property Casualty Underwriter (C.P.C.U.) award offered by the American Institute for Property and Casualty Underwriters, Inc. The course will be conducted by a panel of instructors selected from practicing insurance men, coordinated and supervised by the University School of Business Administration. Prerequisite: at least three years' *general* experience or the equivalent in formal study and acceptance of special registration application; consult any Extension office.

Fall Semester

A M 8:05 Ford 180

Spring Semester

B M 8:05 Ford 180

C.P.C.U. Part V. Accounting and Finance, A-B. 3 Extension credits each semester. \$15.

This course is designed as preparation for examination V for the Chartered Property Casualty Underwriter (C.P.C.U.) award. The subject matter covers principles of accounting, principles of business and personal finance, and business organization and agency management. Prerequisite: one year of accounting or the completion of one or more parts of the C.P.C.U. program.

Fall Semester

A M 6:20 Vincent 207, Sutton

Spring Semester

B M 6:20 Ford 60, Nelson

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

This year the Extension Division is offering Part B of the C.L.U. educational program (see listing below). Many of the regularly listed courses elsewhere in this bulletin may be of assistance to those who are preparing for examination on other parts of the curriculum. Full information on the American College of Life Underwriters study program may be obtained from the annual announcement of C.L.U. which is available at Extension offices or through the Minneapolis or St. Paul chapters of the Chartered Life Underwriters.

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

C.L.U. Part B. General Education I-II. 3 Extension credits each semester. \$15.

This course is designed as preparation for the annual C.L.U. examination in Part B, General Education, as conducted by the American College of Life Underwriters. The subject matter will cover such topics as economics, government, and social problems.

Note—For information concerning the C.L.U. educational program and its requirements see description of preceding course.

Fall Semester

I M 4:00 N.W. Bank Bldg. 690
M 4:00 St. P. Ext. Center 203, Wheeler

Spring Semester

II M 4:00 N.W. Bank Bldg. 690
M 4:00 St. P. Ext. Center 203, Wheeler

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, voice requirements, closing the sale. No prerequisite. Repeated spring semester.

Fall Semester

M 6:20 Ford 185, Stanchfield
Th 6:20 St. P. Ext. Center 201, Stanchfield

Spring Semester

M 6:20 Ford 185, Stanchfield

Advanced Salesmanship. 3 Extension credits. \$15.

Self-management, organizing and planning territorial work, sales routine and office correspondence, finding prospects and getting the interview, individual sales demonstrations, development of potential in the territory, use of advertising. Prerequisite: Basic Salesmanship or permission of instructor. Class limited to 35 students.

Spring Semester

Th 6:20 Ford 185, Stanchfield

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.

Spring Semester

Th 6:20 Vincent 1, Kerns

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: Econ. 6-7.

Fall Semester

T 6:20 Vincent 207, Holloway

B.A. 113 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 salesmen; training in salesmanship; supervision and control. Case studies and discussions. Prerequisite: B.A. 77.

Fall Semester

T 6:20 Vincent 1, Lewis

B.A. 114 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 serv.ces. Case studies, problems, and discussions. Prerequisite: B.A. 77.

Spring Semester

W 6:20 Vincent 1

B.A. 188 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: Psy. 56 and B.A. 77, or permission of instructor.

Spring Semester

T 6:20 Vincent 207, Lewis

G.C. 49A-B-C Retailing and Selling. 5 credits each quarter (classwork, 3 credits; work experience, 2 credits). \$15 plus \$1 materials fee.

Open to full-time store employees who can arrange to attend Monday morning lectures. Instruction in the field of retailing with salesmanship receiving the greatest emphasis. Other phases of merchandising covered will enable one to perform with greater understanding at various capacities in a retail business. The student may follow specific interests: through directed studies. Assigned laboratory meetings include demonstrations, reports, group discussions, and observation trips into a variety of distributive businesses. Speakers from local stores, related businesses, and consumer groups provide current information and business contacts of importance. The three units should be taken in sequence but registration in any single unit may be approved by instructor. 49A—Salesmanship; personnel policies; store system; consumer credit; stock control; distributive vocations. 49B—Historical background of retailing; types of retail outlets; store organization; nonselling activities in merchandising. 49C—Selling through promotion; display, advertising, store services; trends in retailing; merchandise research, labeling, standardization; consumer education; coordination of retail store activities. Prerequisite for all units: permission of instructor.

Fall Quarter

A Lect. M 9:00-10:00 a.m. Nicholson 122,

Determan

A Lab. T 6:30-10:00 p.m. Nicholson 122,

Determan

Winter Quarter

B (same schedule as fall quarter)

Spring Quarter

C (same schedule as fall quarter)

PUBLIC ADMINISTRATION

See Political Science, pages 36-40.

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; brokerage; principles of real estate management; ethics of real estate practice. Basic course; should be taken prior to any other courses in real estate curriculum.

Fall Semester

M 6:20 Vincent 113, Rice, coordinator

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 Ford 120, Rice, coordinator

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. No prerequisite.

Spring Semester

M 6:20 Vincent 113, Rice, coordinator

Real Estate Financing and Insurance. 3 Extension credits. \$15.

A study of financing methods and practice relating to conventional, F.H.A., V.A., and combination loans; secondary financing; special loans on leases, farms, industrial and commercial properties; and primary phases of insurance procedure in the average real estate office. No prerequisite.

Spring Semester

W 6:20 Ford 80, Rice, coordinator

Real Estate Law (B.A. 56 Business Law). See Business Law, page 54.

Planning Your Modern Home. See page 29.

Building Material Estimating. See page 68.

TEXTILES

Textiles. 3 General College or Extension credits. \$15 plus \$2 materials fee.

A class for consumers and for those making or selling clothing and home furnishings. Woven and knitted fabrics of cotton, linen, wool, silk, rayon, and the new fibers; manufacturing and finishing processes; qualities, tests, uses, maintenance; explanation of technical terms and of characteristics determining comparative values; application to men's, women's, and children's apparel as well as to household items such as draperies, rugs, upholstery fabrics, blankets, linens. The content of the course is somewhat flexible depending upon the needs and interests of the students enrolled. No prerequisite.

Fall Semester

W 7:00 Ford 85, Knight

TRAFFIC AND TRANSPORTATION

B.A. 71-174 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 precede 174. Prerequisite: Econ. 6-7.

Fall Semester

71 M 6:20 Vincent 1, Nightingale

Spring Semester

174 M 6:20 Vincent 1, Nightingale

B.A. 180-181-I 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: B.A. 71-174.

Fall Semester

180-I M 8:05 Vincent 1, Nightingale

Spring Semester

181-I M 8:05 Vincent 1, Nightingale

Interstate Commerce Practice and Procedure I-II. 3 Extension credits each semester. \$15.

Advanced study of state and federal regulatory laws and U.S. Supreme Court cases governing rail and highway transportation. Attention to practice and procedure before rate and classification committees, state commissions, and the Interstate Commerce Commission. Preparation of informal, formal, and investigation and suspension cases before regulatory commissions. Prerequisite: B.A. 71-174 and B.A. 180-I, or equivalent.

Fall Semester

I W 6:20 Vincent 6, Nightingale

Spring Semester

II W 6:20 Vincent 6, Nightingale

Engineering Classes

GRADUATE EXTENSION PROGRAM IN ENGINEERING

The Institute of Technology, the Graduate School, and the General Extension Division, in cooperation with a group of industrial firms in the Twin Cities area, have inaugurated a program of evening classes designed to satisfy the major portion of the master of science degree requirements in the engineering field.

The Extension course offerings have been chosen from the group of basic scientific subjects upon which advanced study in engineering fields rests. Under degree Plan A, i.e., with thesis, an entire minor of 9 credits in mathematics and varying portions of the major in eight other fields may be completed through Extension work. The balance of the classes needed for the major remain to be taken over a period approximating one full-time quarter of day classes in length. Thesis work will be done in the usual manner under the supervision of the departmental adviser.

Only those students duly admitted to the Graduate School will be allowed to enroll in the classes specified for the advanced degree.

For 1953-54 it is expected that the following classes will be offered: *Fall quarter*: Physics 101A. *Winter quarter*: Physics 103A. *Spring quarter*: An advanced class in certain specialized fields, depending upon sufficient demand.

For further information about this program and the schedules for the above-mentioned courses, please contact the Office of the Assistant Dean, General Extension Division, Lincoln 8791 or Midway 3965.

AERONAUTICAL ENGINEERING

Air Pilots' Ground School

The University Extension Division operates, on a short-course basis, a ground school for all pilots who are seeking a Private Pilot rating or a Commercial Pilot rating or an Instrument rating or a Flight Instructor rating. The course is open to all pilots and prospective pilots. The full course (five "terms") provides thorough instruction in aerial navigation, meteorology, flight theory, aircraft structures, power plants, civil air regulations, aircraft instruments, radio aids, and related subjects. However, the student may select whatever term or terms he needs. The primary objective of the course is to prepare students for the Civil Aeronautics Administration's written examinations for the various pilot ratings referred to above. C.A.A. examinations are given at the University, by C.A.A. personnel, at the end of each term for those who are interested in C.A.A. certification.

The ground school meets all requirements of, and is fully approved by, the Civil Aeronautics Administration as an Approved Advanced Ground School and offers to its students all of the privileges extended by the C.A.A. to such approved schools.

Each term lasts five weeks, the class meeting on Tuesday and Thursday evenings, from 7:00 p.m. to 10:00 p.m., in Room 309 of the Aeronautical Engineering Building on the Minneapolis Campus of the University. In addition to these scheduled meetings, there are extra meetings, by special arrangement, for those who need special help or who are unable to attend all of the regular class meetings. The instructor is Sam R. Hamilton.

A student may enter the ground school at the beginning of any term, and may enroll for only one term or for any combination of terms, according to his needs. The fee is \$17.25 per term, making a total of \$86.25 if all five terms are taken. The total cost of textbooks and materials for all five terms is approximately \$15.

Registration may be made through any of the General Extension Division offices, or through the instructor in the classroom. For more detailed information regarding the ground school call Mr. Hamilton at DE 2559, or MI 9195.

The current schedule is shown below. For information regarding succeeding schedules, consult any Extension Division office.

- Term I:** Civil Air Regulations, Radio Aids to Navigation, and Aircraft Instruments.
Dates: September 1, 1953, through October 1, 1953.
- Term II:** Navigation and the Use of Computers.
Dates: October 6, 1953, through November 5, 1953.
- Term III:** Meteorology.
Dates: November 10, 1953, through December 10, 1953.
- Term IV:** Flight Theory.
Dates: December 15, 1953, through January 14, 1954.
- Term V:** Engines and Aircraft.
Dates: January 19, 1954, through February 18, 1954.

Instrument Rating Ground School

The University of Minnesota C.A.A.-approved Advanced Ground School is prepared to offer a special course for pilots seeking an Instrument rating. This course will provide concentrated and accelerated instruction in the subjects on which the Civil Aeronautics Administration's written examination for the Instrument rating is based: aerial navigation, the use of computers, radio aids to navigation, flight and navigation instruments, meteorology, instrument flight rules, and civil air regulations pertaining to instrument flight.

A minimum of 30 hours of instruction will be given, over a period of approximately five weeks, on a schedule to be arranged by the instructor according to the needs of the students. The tuition fee is \$75. Enrolment will be limited to approximately fifteen qualified students. A class will be organized whenever a sufficient number of applications for enrolment have been received. Persons wishing to make application for this course should get in touch with the instructor, Sam R. Hamilton, at DE 2559 or MI 9195.

CIVIL ENGINEERING

Surveying I. 3 Extension credits. \$25.

Lectures and field problems in the use of tape, transit and level, adjustment of instruments, computation and plotting of field notes, area and earthwork computations, and elements of land surveying. The class meets 4 hours one night a week in a drafting room, with some of the class periods at arranged hours for field work. Prerequisite: trigonometry.

Fall Semester

W 6:20 Main Engineering 217, Fant

Surveying II. 3 Extension credits. \$25.

Lectures and field problems in horizontal and vertical curves, setting a slope stakes for earthwork, topographic mapping by transit stadia surveys, and determination of azimuth by solar observation. The class meets 4 hours one night a week in a drafting room, with some of the class periods at arranged hours for field work. Prerequisite: Surveying I.

Spring Semester

W 6:20 Main Engineering 217, Fant

Plain Concrete. 3 Extension credits. \$15.

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

Fall Semester

T 6:20 Experimental Engineering 110,
Thomas

Soil Engineering. 4½ Extension credits. \$22.50.

A course intended for students who wish to become familiar with the basic soil properties and use of soil information in highway and structural engineering. Origin and nature of soil, soil maps, properties and tests, texture, Atterberg limits, compaction, solids-volume relationships, permeability, engineering classification, frost action, thickness of flexible pavements, consolidation and shearing strength. Subject material is demonstrated by problems and by laboratory work and demonstrations. Class meets for a 3-hour period. No prerequisite, but knowledge of elementary algebra is desirable.

Spring Semester

T 6:20 Experimental Engineering 110,
Kersten

Industrial Statistics I-II. See Industrial Engineering, page 68.

DRAWING AND DESCRIPTIVE GEOMETRY**1 Engineering Drawing. 3 credits. \$15.**

An elementary course in engineering drawing including the fundamentals of shape and size description and drafting techniques. No prerequisite. Repeated spring semester. *See note following course 3.*

Fall Semester

T 7:00 Main Engineering 201, Bullen
W 7:00 Main Engineering 101, Palmer
W 7:00 St. P. Ext. Center 206, Springer

Spring Semester

T 7:00 Main Engineering 201, Bullen
W 7:00 Main Engineering 101, Palmer
W 7:00 St. P. Ext. Center 206, Springer

2 Engineering Drawing. 3 credits. \$15.

A continuation of course 1 dealing with advanced problems in shape and size description. Prerequisite: D.&D.G. 1 or permission of instructor. *See note following course 3.*

Fall Semester

T 7:00 Main Engineering 201, Bullen
W 7:00 Main Engineering 101, Palmer
W 7:00 St. P. Ext. Center 206, Springer

Spring Semester

T 7:00 Main Engineering 201, Bullen
W 7:00 Main Engineering 101, Palmer
W 7:00 St. P. Ext. Center 206, Springer

3 Descriptive Geometry. 3 credits. \$15.

Elementary course in the graphical solution of space problems by means of orthographic projection. Prerequisite: D.&D.G. 2. *See following note.*

Fall Semester

W 7:00 Main Engineering 201, Quaid

Note: Engineering Drawing 1, 2, 3 may be substituted by petition for the new day school sequence of 4, 6, 5, respectively.

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

Applications of engineering drawing as developed in specialized fields of engineering. Prerequisite: Engineering D.&D.G. 1 and 2.

Fall Semester

W 7:30 Main Engineering 201, Quaid

Spring Semester

W 7:30 St. P. Ext. Center 206, Springer

38 Reading Drawings I-II. 2 Extension credits per semester or 2 Institute of Technology credits for both semesters. See below. \$10 each semester.

Fundamental training in blueprint reading with emphasis upon visualization of views of objects in the mechanical engineering area. Two university credits in D.&D.G. 38 may be granted by petition for completion of both 38 and 39. No prerequisite.

Fall Semester

38 W 7:00 Main Engineering 101, Palmer

Spring Semester

39 W 7:00 Main Engineering 101, Palmer

55 Production Illustration. 3 Extension credits or 2 Institute of Technology credits. \$15.

Pictorial drawing as used in industry. Prerequisite: D.&D.G. 1 or equivalent experience.

Spring Semester

W 7:00 Main Engineering 201, Quaid

Architectural Drafting I-II-III-IV. 3 Extension credits each semester. \$15.

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

Fall Semester

T 7:00 Main Engineering 101, Smalley
Th 7:00 St. P. Mechanic Arts 101, Smalley

Spring Semester

T 7:00 Main Engineering 101, Smalley
Th 7:00 St. P. Mechanic Arts 101, Smalley

ELECTRICAL ENGINEERING

Elements of Electric Circuits I-II. 6 Extension credits each semester. \$30.

Fundamental laws of direct-current circuits, the magnetic field and magnetic properties of iron and steel, induced and generated electromotive forces, electric fields. Fundamental laws of AC circuits, complex representation of AC quantities, series and parallel AC circuits, polyphase AC circuits, power measurements in AC circuits. No prerequisite.

Fall Semester

I Lect. T 7:00 Electrical Engineering 237,
Cartwright
Lab. Th 7:00 Electrical Engineering 107a

Spring Semester

II Lect. T 7:00 Electrical Engineering 237,
Cartwright
Lab. Th 7:00 Electrical Engineering 107a

Elements of Electronics I-II. 6 Extension credits each semester. \$30.

Electronic emission, conduction, through vacuums and gases; characteristics of vacuum tubes, of gas and vapor tubes, and of mercury pool tubes; amplifier circuits, trigger circuits, oscilloscopes, and control circuits; application of electronic devices to industry; electronic power devices. Prerequisite: Elements of Electric Circuits I-II or equivalent in experience.

Fall Semester

I Lect. T 7:00 Electrical Engineering 138,
Liu
Lab. Th 7:00 Electrical Engineering 207c

Spring Semester

II Lect. T 7:00 Electrical Engineering 138,
Liu
Lab. Th 7:00 Electrical Engineering 207c

Elements of Electric Machinery I-II. 6 Extension credits each semester. \$30.

Theory of direct-current and alternating-current machinery. Study of operating characteristics. Elementary control equipment and maintenance. Prerequisite: Elements of Electric Circuits I-II.

Fall Semester

I Lect. T 7:00 Electrical Engineering 238,
Larson
Lab. Th 7:00 Electrical Engineering 107b,
Larson

Spring Semester

II Lect. T 7:00 Electrical Engineering 238,
Larson
Lab. Th 7:00 Electrical Engineering 107b,
Larson

ENGINEERING ENGLISH

85(I.T.) Advanced Technical Communication. 3 credits. \$15.

Technical writing, including reports and manuals, combined with the public speaking required of engineers, technical men, and those in the business and sales end of the technical industries. Stress in writing is on concise, definite, connected style; use of numbers, abbreviations, and illustrations; organization of material; and proper levels of writing for different levels of readers. Stress in speaking is on preparation and organization; getting and holding interest; and on use of visual methods and materials. Required in most courses in the Institute of Technology. IT: 3 credits with prerequisite of Engl. 4, 5, 6. Extension: 3 credits without prerequisite.

Fall Semester

M 8:05 Main Engineering 205, Lippert
F 6:20 St. P. Ext. Center 201, Lippert

86(I.T.) Advanced Technical Communication. 3 credits. \$15.

Technical and business letter writing combined with conference and interview technique for engineers, technical men, and those in the business and sales end of the technical industries. Letters include inquiry, reply, conference setup, adjustment, letter report, recommendation, and supervisory types (also job application, public relations, sales, and employee relations as the class may elect). Consideration of the technical magazine article. Speech work includes both planning and setting up, participating in, and following up conferences, and technical and supervisory interviews. Required in most courses in the Institute of Technology. Engl. 86 may be taken before or without Engl. 85, but the two make a well-integrated unit. IT: 3 credits with prerequisite of Engl. 4, 5, 6. Extension: 3 credits without prerequisite.

Spring Semester

M 6:20 Main Engineering 205, Lippert
F 6:20 St. P. Ext. Center 201, Lippert

Business English. See page 54.

Other courses in English. See page 23.

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 computations. Drills on fundamental processes. No prerequisite.

Fall Semester

Th 7:00 Main Engineering 217, Fant

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. This course is intended for the beginner who has no training or experience in reading blueprints or in estimating. Ability to use a slide rule is helpful but not necessary. No prerequisite.

Fall Semester

Th 8:05 Main Engineering 217, Fant

INDUSTRIAL ENGINEERING

Elements of Industrial Engineering and Management. 3 Extension credits. \$15.

An introduction to the problems and techniques of developing a highly efficient management team for a modern manufacturing concern. Includes discussions on business organization and financing, research and product development, standardization, plant layout and materials handling, production and inventory control, quality control, cost control, labor relations. Required for further work in industrial engineering. No prerequisite. Repeated spring semester.

Fall Semester

M 7:00 Mech. Engineering 110, Block

Spring Semester

M 7:00 Mech. Engineering 102, Block

Production Planning and Control. 3 Extension credits. \$15.

Development of systems for increasing plant efficiency through effective coordination of inventories, manpower, and equipment with sales. Lectures and discussions on sales forecasting, master scheduling, inventory control, work routing, scheduling of operations, dispatching, analysis of equipment requirements. Prerequisite: Elements of Industrial Engineering and Management or permission of instructor.

Fall Semester

W 7:00 Mech. Engineering 202, Block

Work Simplification (Motion Study). 3 Extension credits. \$15 plus \$2 laboratory fee.

Common sense principles can be combined with systematic analysis to eliminate waste motion and unnecessary effort in all fields of work. Lectures are combined with actual practice in the application of process charts, activity analysis, operation analysis, and micromotion study. Prerequisite: Elements of Industrial Engineering and Management or permission of instructor. Class limited to 20 students accepted in order of registration.

Spring Semester

T 7:00 Mech. Engineering 180, MacKenzie

Work Measurement and Production Standards (Time Study). 3 Extension credits. \$15 plus \$1 laboratory fee.

Determination of time standards for repetitive work, to provide factual data for wage incentives, cost accounting and estimating, production scheduling, and management control. Lectures and practice in job standardization, use of stop watch, performance rating, rest and delay allowances, development of standard data, and maintenance of current standards. Prerequisite: Work Simplification. Class limited to 20 students accepted in order of registration.

Fall Semester

M 7:00 Mech. Engineering 106, Cramolini

Spring Semester

M 7:00 Mech. Engineering 106, Cramolini

Industrial Plant Layout. 5 Extension credits. \$25 plus \$2 laboratory fee.

Lectures on the application of industrial engineering principles in simplifying and improving the layout of manufacturing plants, shops, and warehouses and in planning new layouts. Laboratory studies include the use of flow charts, the determination of equipment and space requirements, and the use of templates and scale models in planning new layouts. Students are invited to bring their own problems for laboratory analysis. Prerequisite: Work Simplification, concurrent registration, or permission of instructor. Class limited to 25 students accepted in order of registration.

Spring Semester

W 7:00 Mech. Engineering 106, MacKenzie

Elements of Quality Control. 5 Extension credits. \$25.

Determination of quality requirements and their relation to manufacturing costs. Establishment of quality control standards; inspection procedures and organization. Use of statistical sampling techniques and control charts for more effective inspection and reduction of costs. For those engaged in quality control and others such as production supervisors, plant managers, and design engineers who are concerned with quality problems. Prerequisite: permission of instructor.

Fall Semester

T 7:00 Mech. Engineering 110, McElrath

Advanced Topics in Quality Control. 5 Extension credits. \$25.

Additional topics in industrial sampling inspection methods including discussions of classification of defects, MIL-STD-105A, variables inspection. An introduction to applications of sequential sampling for attributes and measurements. Some industrial significance tests including elementary analysis of variance. Latest developments in quality control techniques. Prerequisite: Elements of Quality Control, or Basic Engineering Statistics I, or Business Statistics 74, or permission of instructor.

Spring Semester

T 7:00 Mech. Engineering 110, McElrath

Industrial Safety and Hygiene. 3 Extension credits. \$15.

Major industrial hazards are reviewed and preventive measures are discussed. Safe practices in relation to production equipment, work procedures, storage and handling of materials, and the layout of industrial plants are studied. Consideration is given to the organization and administration of effective industrial safety and hygiene programs. Course is intended for production supervisors and engineers as well as those actively engaged in industrial safety work. Prerequisite: consult instructor.

Spring Semester

Th 6:20 Mech. Engineering 106, Kavanaugh

Methods-Time Measurement (M.T.M.) 5 Extension credits. \$25 plus \$10 special fee.

Methods-Time Measurement is a procedure for analyzing manual work in terms of elemental motions for which standard times have been established. M.T.M. is a valuable tool for simplifying work methods and for setting accurate and consistent time standards for incentive, planning, estimating, and cost control. Lectures, discussions, and demonstrations will be integrated with practice in the application of M.T.M. to factory and office operations. Prerequisite: training or experience in time study and work simplification. Class limited to 15 students. Enrolment tentative, subject to approval of instructor.

Spring Semester

W 7:00 Mech. Engineering 102, Block

MATERIALS AND MECHANICS**26 Technical Mechanics—Statics.** 5 credits. \$25.

The composition and resolution of force systems in a plane and in space; conditions for equilibrium of forces; applications to rigid bodies and structures; friction; centroids and center of gravity; moment of inertia. Prerequisite: I.T.M. 25 or equivalent.

Fall Semester

Th 7:00 Main Engineering 215, Fischer

Spring Semester

T 7:00 Main Engineering 203, Chapin

127 Technical Mechanics—Dynamics. 5 credits. \$25.

The kinematics and dynamics of particles and rigid bodies. Translation, rotation; plane motion. The application of work-energy equations. Impulse and momentum; mechanical vibrations. Prerequisite: statics.

Fall Semester

Th 7:00 Main Engineering 206, Wilcox

Spring Semester

Th 7:00 Main Engineering 215, Fischer

128 Strength of Materials. 5 credits. \$25.

Mechanical and elastic properties of materials of construction; stresses and deformation in beams, shafts, and columns; stresses in statically indeterminate structures; combined stresses. Prerequisite: integral calculus and M&M 26, or equivalent.

Fall Semester

M 7:00 Main Engineering 215, Fischer

Basic Industrial Statistics I. 5 Extension credits. \$25.

Principles of statistical methods applied to engineering and industrial problems; collection and interpretation of data, averages and measures of variation, charts and graphs, introduction to probability and sampling theory. The above concepts in statistics form the basis for Industrial Quality Control. Class meets for a period of 3 hours each week. Prerequisite: higher algebra or equivalent with permission of instructor.

Fall Semester

W 7:00 Mech. Engineering 110, McElrath

Basic Industrial Statistics II. 5 Extension credits. \$25.

A continuation of Basic Industrial Statistics I with accent on industrial applications covering: small sampling tests, elements of curve fitting, some aspects of tolerances, introduction to experimental design. Class meets for a period of 3 hours each week. Prerequisite: Basic Industrial Statistics I; or Econ. 5, Elements of Statistics; or B.A. 74, Business Statistics; or equivalent with permission of instructor.

Spring Semester

W 7:00 Mech. Engineering 110, McElrath

MATHEMATICS (I.T.M.)**Basic Mathematics.** 4½ Extension credits. \$22.50.

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. Class meets for two sessions a week for twelve weeks. Prerequisite: grade school arithmetic. Repeated spring semester.

Fall Quarter

MTh 6:20 Main Engineering 203, James

February 8-April 29

MTh 6:20 Main Engineering 203, James

Elementary Algebra I-II†. Credit toward entrance. \$15.

Elements of algebra to quadratic equations. No prerequisite.

Fall Semester

I Th 8:05 Main Engineering 205, Thompson

Spring Semester

II Th 8:05 Main Engineering 205, Thompson

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 206, Schuck

Solid Geometry. Credit toward entrance. \$15.

Standard theorems and exercises; practice in special proofs and original exercises. Extra sessions arranged during fall quarter in order to complete a full course in a shorter period. Prerequisite: plane geometry. Repeated spring semester.

Fall Quarter

M 8:05 Main Engineering 206, Schuck

Spring Semester

M 6:20 Main Engineering 206, Schuck

† See Information, page 6.

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. Prerequisite: elementary algebra. Repeated spring semester.

Fall Semester

M 7:00 Main Engineering 106, Wilcox
F 7:00 St. P. Ext. Center 203, Polansky

Spring Semester

Th 7:00 Main Engineering 227, Fulks

11 College Algebra. 5 credits. \$25. (See note below)

A review of fundamental operations, factoring, fractions, linear simultaneous equations including solution by determinants, exponents and radicals, complex numbers, and quadratic equations. Ratio, proportion, variation, binomial theorem, progressions, theory of equations and numerical solutions of equations of higher degree, partial fractions and infinite series. Prerequisite: higher algebra. Repeated spring semester.

Fall Semester

M 7:00 Main Engineering 104, Braden

Spring Semester

M 7:00 Main Engineering 104, Wilcox
F 7:00 St. P. Ext. Center 204, Polansky

Note—Both College Algebra 11 and Trigonometry 12 must be completed to receive credit in College Algebra and Trigonometry I and II in the Institute of Technology.

12 Trigonometry. 5 credits. \$25. (See note above)

Logarithms, trigonometric functions, plane right triangles, fundamental relations between functions, various formulas, identities and equations, graphical representation, inverse functions, oblique triangles, de Moivre's theorem. Introduction to spherical trigonometry and study of the right spherical triangle. Prerequisite: College Algebra 11 or equivalent. Repeated spring semester.

Fall Semester

M 7:00 Main Engineering 227, Fulks
M 7:00 St. P. Ext. Center 204, Scott

Spring Semester

Th 7:00 Main Engineering 206, Braden

13 Analytic Geometry. 5 credits. \$25.

Rectangular coordinate systems in a plane, locus and equation, study of the straight line and its equations, the conic sections, transformation of coordinates, polar coordinates, higher plane curves and various other topics in plane analytic geometry. Introduction to solid analytic geometry. Prerequisite: College Algebra 11 and Trigonometry 12 or equivalent.

Fall Semester

T 7:00 Main Engineering 203, Culmer

Spring Semester

M 7:00 Main Engineering 227, Culmer
F 7:00 St. P. Ext. Center 203, Scott

24 Differential Calculus. 5 credits. \$25.

Functions and limits, the derivative. Applications of the derivative to problems in rates, maxima and minima, inflections, curve tracing. Differentials, approximation with differentials, polar coordinates, parametric equations, curvature, indeterminate forms, partial differentiation, infinite series. Prerequisite: I.T.M. 13 or equivalent.

Fall Semester

T 7:00 Main Engineering 215, Fischer

25 Integral Calculus. 5 credits. \$25.

The integration of standard elementary forms, integration by various devices, the evaluation of constant of integration, the definite integral, areas, volumes, length of curve, area of surfaces, centroids, moments of inertia, fluid pressures, multiple integration with applications, infinite series and the expansion of functions. Prerequisite: I.T.M. 24 or equivalent.

Fall Semester

T 7:00 Main Engineering 227, Chapin

Spring Semester

T 7:00 Main Engineering 215, Fischer

80 Elementary Differential Equations. 3 credits. \$15.

A first course in ordinary differential equations. Equations of the first order and various degrees. Equations of higher order with particular attention to linear equations. Total differential equations and systems of equations; integration in series. Prerequisite: I.T.M. 25 or equivalent.

Spring Semester

M 6:20 Main Engineering 215, Fischer

MECHANICAL ENGINEERING

Use of Mechanical Engineering Handbooks I-II. 3 Extension credits each semester. \$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.

Fall Quarter

I Th 7:00 Mech. Engineering 325, LaJoy

February 11-April 29

II Th 7:00 Mech. Engineering 325 LaJoy

Mechanisms of Modern Automatic Machinery I-II. 3 Extension credits each semester. \$15.

A course designed to give a fundamental background in mechanical movements. Part I includes a short historical résumé of inventions which have led to our present-day mechanization; a discussion of the modern components of machinery involved in industrial, automotive, and agricultural applications will follow, including toggle mechanism, quick-return mechanisms, straight line motion, cams, gear trains, clamps, etc. Part II is a continuation of Part I with special emphasis on power transmission and mechanisms involved in packaging, vending, and conveying applications. In addition, some time will be devoted to complete analysis of mechanisms in general. Twelve 3-hour meetings. Prerequisite: consult instructor.

Fall Quarter

I Th 7:00 Mech. Engineering 208, Larsen

February 11-April 29

II Th 7:00 Mech. Engineering 208, Larsen

Instrumentation and Automatic Control 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 of 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. Class limited to 20 students.

Fall Quarter

M 7:00 Mech. Engineering 325, LaJoy

Instrumentation and Automatic Control 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. Class limited to 20 students.

February 8-April 26

M 7:00 Mech. Engineering 325, LaJoy

Machine Tool Operation I-II. 4½ Extension credits each semester. \$22.50 plus \$5 laboratory fee.

Lecture and laboratory covering the selection and use of jigs, fixtures, gauges, 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. Prerequisite for Part II: previous semester's work or equivalent. Class limited to 24 students, accepted in order of registration.

Fall Semester

I M 7:00 Mech. Engineering 114, Crowder

Spring Semester

II M 7:00 Mech. Engineering 114, Crowder

Tool Design I-II. 4½ Extension credits. \$22.50 plus \$1 laboratory fee.

This course covers the analysis of piece part blue prints and of the best tools, machines, and method of holding the work piece during the manufacturing operations. Estimating the machine production time for manufacture through the use of various types of jigs and fixtures. Design of the best type of jig or fixture for the manufacturing operation. Meets 2½ hours. Prerequisite: Machine Tool Operation II or equivalent. Class limited to 24.

Fall Semester

I T 7:00 Mech. Engineering 325, Crowder

Spring Semester

II T 7:00 Mech. Engineering 325, Crowder

Inventions and Patents. 3 Extension credits. \$15.

A lecture course dealing with problems associated with inventions, their patenting, development, evaluation, and exploitation. Twelve 3-hour meetings. No prerequisite.

Fall Quarter

T 7:00 Mech. Engineering 214, Kemler

Tool and Gauge Inspection. 4½ Extension credits. \$22.50 plus \$5 laboratory fee.

This course covers the mechanics of tool and gauge inspection such as the following: calibration, repair and adjustment of micrometers and dial indicators, measurement of gauges with supermicrometers and gauge blocks, checking of thread gauges and adjustment of thread ring gauges, measurement of drill jig hole locations, use of toolmaker's microscope, microprojectors to measure form tools, hardness testing and measurement of surface finishes with Brush Surface Analyzer. Meets 2½ hours. No prerequisite. Class limited to 24 students. Repeated spring semester.

Fall Semester

Th 7:00 Mech. Engineering 155, Crowder

Spring Semester

Th 7:00 Mech. Engineering 155, Crowder

Machine Design Drafting I-II. 3 Extension credits. \$15.

Principles and objectives of machine design drafting and standard drafting room practices. Discussion of methods and objectives of empirical design and graphical solution of design problems. Problems in design layouts, detail design and assemblies. Graphical determination of displacements and velocities in machines. Special problems in the design of machines with emphasis on the selection of materials and methods of manufacture. Prerequisite: D.&D.G. 2 or drafting experience or permission of instructor. Twelve 3-hour meetings.

Fall Quarter

I T 7:00 Mech. Engineering 314, Palmer

Winter Quarter

II T 7:00 Mech. Engineering 314, Palmer

Press Working of Metals I-II. 3 Extension credits each semester. \$15 plus \$1 materials fee.

This is a design course dealing with: types of presses and their selection; preliminary steps in die engineering; specifications for selection of sheet materials and die steels; bending, forming, embossing, folding, shaving, burnishing, broaching and trimming dies; drawing dies; coining, swaging and cold sizing dies; temporary dies and low-cost tools for limited production; two-step die operations and progressive dies; assembly dies; considerations given to the press working of stainless steels, monel metal, and the nonmetallic materials—fiber, rubber, and rawhide. Twelve 3-hour meetings.

Fall Quarter

I M 7:00 Mech. Engineering 214, Benson

February 8-April 26

II M 7:00 Mech. Engineering 214, Benson

Fundamentals of Foundry Practice. 4½ Extension credits. \$22.50 plus \$5 laboratory fee.

A lecture and laboratory course dealing with the molding techniques, core making, melting, and cleaning of ferrous and nonferrous castings. Engineering properties of castings, casting design, standard foundry material tests. Meets 2½ hours.

Fall Semester

M 7:00 Mech. Engineering 102, Holtby

Beginning Plastics. 3 Extension credits. \$15 plus \$3 materials fee.

A laboratory and lecture course dealing with the materials, equipment, and methods used in the fabrication of plastic products. No prerequisite.

Spring Semester

Th 7:30 Mech. Engineering 114, Holtby

Product Engineering II-III. 3 Extension credits each period. \$15.

These courses are designed to be of special value to men engaged in machine design, development, product design, and manufacturing. The courses consist of a series of lectures and demonstrations by instructors from the University and from the manufacturing field. Subjects will include casting problems, stainless steel, aluminum, carbon steels, die casting, die forming, product design, and welding. All lectures will be from a machine design viewpoint. The subjects for Product Engineering III will be chosen by the students in Product Engineering II. Registrations for III will be accepted from qualified students who have not taken II. Twelve 3-hour meetings. No prerequisite.

Fall Quarter

II W 7:00 Mech. Engineering 4, Larsen,
coordinator

February 10-April 28

III W 7:00 Mech. Engineering 4, Larsen,
coordinator

Servomechanisms. 3 Extension credits. \$15 plus \$5 laboratory fee.

An elementary course covering the basic principles of servomechanisms. A brief review will cover the necessary mathematics. Elementary control systems will be discussed as well as basic error-indicators or follow-up mechanisms, both mechanical and electrical. Detailed analysis will also be made of servo systems with various types of damping. Methods of obtaining desired types of damping and other required system characteristics will be discussed in detail. Prerequisite: mathematics through calculus or permission of instructor. Twelve 3-hour meetings.

February 10-April 28

W 7:00 Mech. Engineering 114, LaJoy

Machine Design I-II. 3 Extension credits each semester. \$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: consult instructor. Twelve 3-hour meetings.

Fall Quarter

I T 7:00 Mech. Engineering 308, Larsen

February 9-April 27

II T 7:00 Mech. Engineering 308, Larsen

Automotive Engines—Operation and Maintenance I. 3 Extension credits. \$15 plus \$2 laboratory fee.

A study of construction and maintenance of principal engine parts, ignition systems, carburetors, lubricants, fuels, coolants, and anti-freezes in the automobile, truck, and bus engines of the gasoline type. No prerequisite.

Fall Semester

I Th 7:00 Mech. Engineering 321, Murphy

Aircraft Power Plants I. 3 Extension credits. \$15 plus \$2 laboratory fee.

Basic theory of jet propulsion, gas turbines, and reciprocating engines. Engine types, construction, compressor and turbine configurations, and combustion and combustion chambers. Problems of lubrication, cooling, and ignition. Performance and performance charts with relation to operating variables such as speed, temperature, pressure, and altitude. Fuels, fuel specifications, metering systems, and fuel controls.

Spring Semester

Th 7:00 Mech. Engineering 321, Murphy

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 terminology; heat transfer and heat transmission coefficients; all sources of heat loss from a structure; heating loads and heating costs; determination of temperatures in various parts of a structure; vapor transmission, problems; design of gravity and mechanical warm air heating systems; design of gravity and forced hot water heating systems; design of wet and dry panel heating systems; design of steam heating systems; fuels and combustion; and combustion equipment selection and controls. Prerequisite: high school mathematics or permission of instructor. Class limited to 40 students accepted in order of registration.

Fall Semester

I W 7:00 Mech. Engineering 302, Borry

Spring Semester

II W 7:00 Mech. Engineering 302, Borry

Heating, Ventilating, and Air Conditioning III-IV†. 4½ Extension credits each semester. \$22.50 plus \$2 laboratory fee.

A continuation of Heating, Ventilating, and Air Conditioning I-II with combined lecture and laboratory practice. The laboratory work will cover the use of scientific instruments for measurement of heating efficiency, adjustment of gas and oil burners for best operation, measurement of air flow and fan testing, performance testing of warm air, hot water and steam heating equipment, and demonstrations of other residential and industrial equipment. The lectures will cover subject matter related to the laboratory work and additional topics including fundamentals of air flow and pressure loss, duct design, psychrometrics, heat gains and cooling load calculations, physiological principles, humidification and dehumidification. Prerequisite: I-II or permission of instructor. Class limited to 20 students accepted in order of registration.

Fall Semester

III T 7:00 Mech. Engineering 302,
Whitnah

Spring Semester

IV T 7:00 Mech. Engineering 302,
Whitnah

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 Semester

I Th 7:00 Mech. Engineering 302,
Threlkeld

Spring Semester

II Th 7:00 Mech. Engineering 302,
Threlkeld

Production Control. See Production Planning and Control, page 68.

Time Study. See Work Measurement and Production Standards, page 68.

Motion Study. See Work Simplification, page 68.

Engineering Plant Layout. See Industrial Plant Layout, page 69.

Elementary Quality Control. See Elements of Quality Control, page 68.

Industrial Safety and Hygiene. See page 69.

† See Information, page 6.

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 the heat treatment of steel and correlation of properties with structure. Pyrometry, freezing of alloys, microstructures, the iron-carbon diagram, surface hardening, cast iron and specifications. Second semester: hardenability and weldability, hardenability tests, SAE alloy steels, tool and high speed steels, stainless steels, bearing metals, brasses, aluminum alloys. No prerequisite but 1 must precede 2 unless student has had experience in heat treatment.

Fall Semester

1 W 6:30 Appleby 315, Jerabek

Spring Semester

2 W 6:30 Appleby 315, Jerabek

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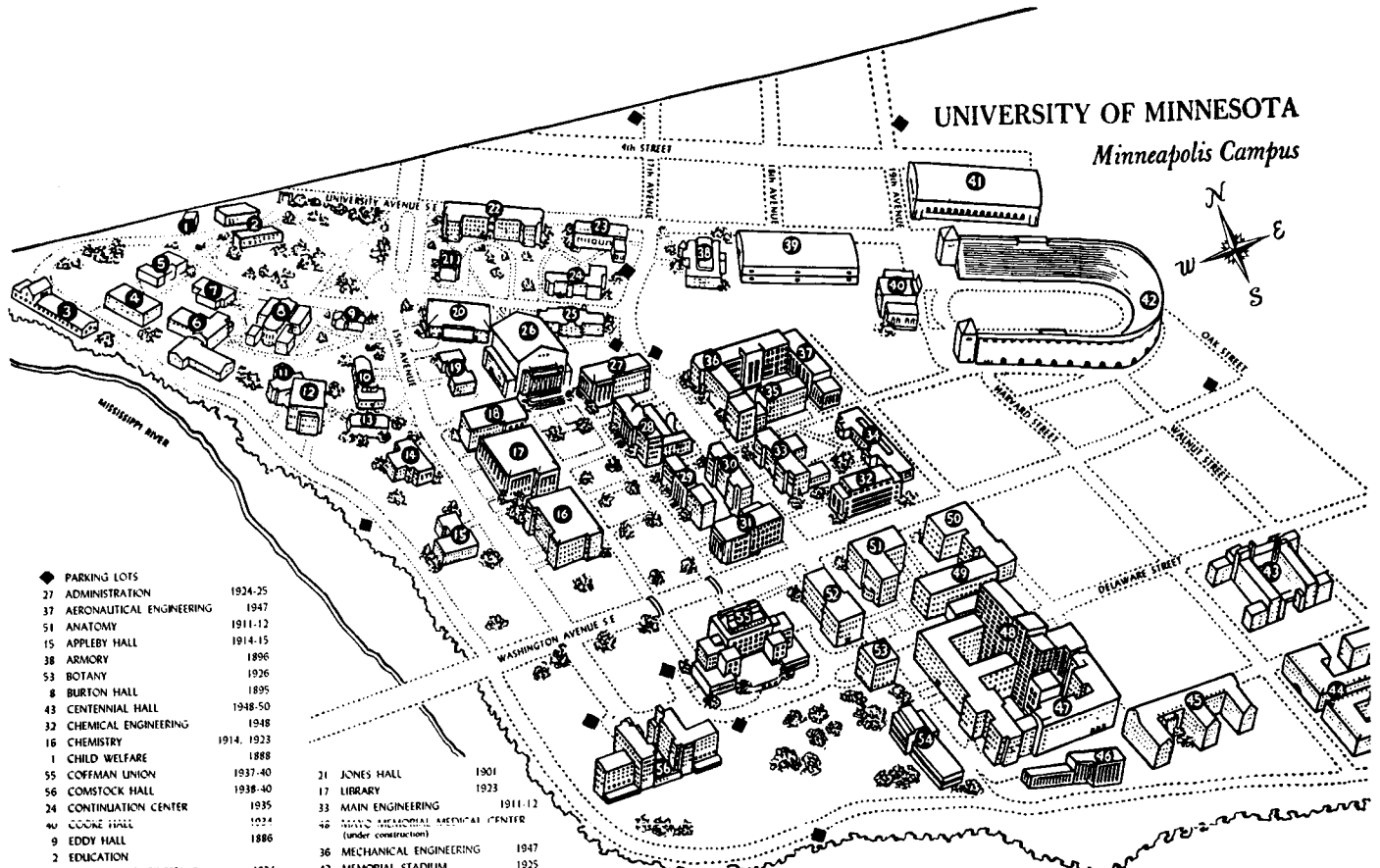
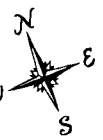
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