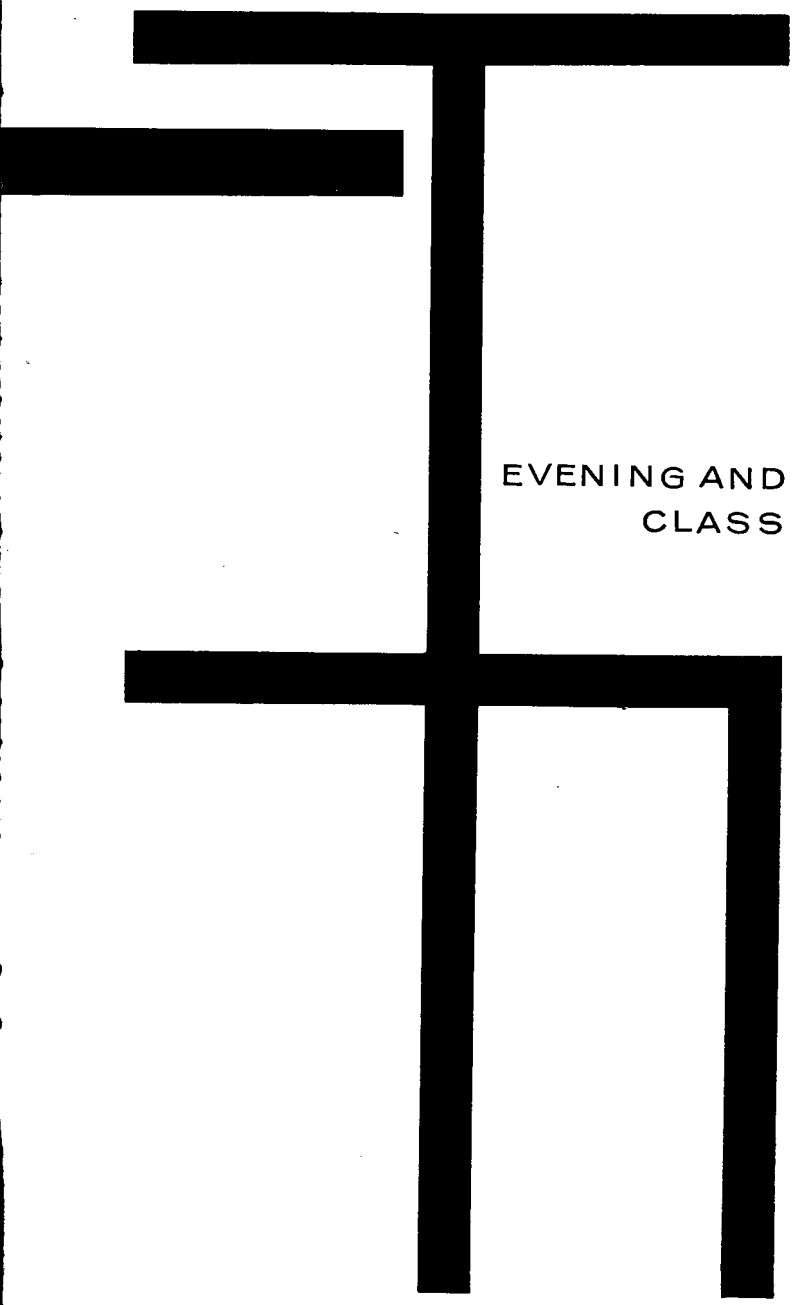


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GENERAL EXTENSION DIVISION ~~copy~~ 7-6-64

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EVENING AND SPECIAL
CLASSES

UNIVERSITY OF MINNESOTA BULLETIN

UNIVERSITY OF MINNESOTA

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The Committee on Student Scholastic Standing of the General Extension Division consists of the following: Albert M. Fulton, *chairman*; Harold J. Alford, F. Lloyd Hansen, Gilford W. Remington, and Eleanor S. Fenton, *secretary*.

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Number 10

May 15, 1964

UNIVERSITY OF MINNESOTA BULLETIN

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Calendar

Evening and Special Classes—Twin Cities Area

Academic Year, 1964-65

Registration for all classes must be made during the official registration period designated in this calendar. Most classes are a semester in length. Some parallel the quarter system. Others carry special dates. *However, all credits are quarter credits.*

Offices will be closed and classes will not meet on holidays listed in this calendar, unless specified to the contrary.

Fall Semester

September	14	Monday	<i>Fall Semester registration begins.</i> Special registration hours listed on page 4.
September	23	Wednesday	<i>Last day for registration and payment of tuition.</i> Late fee goes into effect at midnight. Mail registrations postmarked after midnight must include late fee (see Mail Registrations, page 9).
September	24-25		All offices closed.
September	28	Monday	<i>Fall Semester classes begin.</i> All offices resume regular office hours listed on page 5.
October	12	Monday	Columbus Day, holiday.
November	11	Wednesday	Veterans Day, holiday.
November	26	Thursday	Thanksgiving Day, holiday.
December	19	Saturday	Christmas recess begins.
December	25	Friday	Christmas Day, holiday.
January	1	Friday	New Year's Day, holiday.
January	4	Monday	Classes resume.
January	25-29		Final examination period.
January	30	Saturday	<i>Fall Semester closes.</i>

Spring Semester

February	1	Monday	<i>Spring Semester registration begins.</i> Special registration hours listed on page 4.
February	10	Wednesday	<i>Last day for registration and payment of tuition.</i> Late fee goes into effect at midnight. Mail registrations postmarked after midnight must include late fee (see Mail Registrations, page 9).
February	11-12		All offices closed.
February	12	Friday	Lincoln's Birthday, holiday.
February	15	Monday	<i>Spring Semester classes begin.</i> All offices resume regular office hours listed on page 5.
February	22	Monday	Washington's Birthday, holiday.
April	16	Friday	Good Friday, holiday.
May	31	Monday	(Sunday, May 30, Memorial Day) holiday.
June	7-11		Final examination period.
June	12	Saturday	<i>Spring Semester closes.</i>

Fall Quarter

September	14	Monday	<i>Fall Quarter registration begins.</i> Special registration hours listed on page 4.
September	23	Wednesday	<i>Last day for registration and payment of tuition.</i> Late fee goes into effect at midnight. Mail registrations postmarked after midnight must include late fee (see Mail Registrations, page 9).
September	24-25		All offices closed.
September	28	Monday	<i>Fall Quarter classes begin.</i> All offices resume regular office hours listed on page 5.
October	12	Monday	Columbus Day, holiday.
November	11	Wednesday	Veterans Day, holiday.
November	26	Thursday	Thanksgiving Day, holiday.
December	14-18		Final examination period.
December	19	Saturday	<i>Fall Quarter closes.</i>

Winter Quarter

December	21	Monday	<i>Winter Quarter registration begins.</i> Regular office hours all offices as listed on page 5.
December	25	Friday	Christmas Day, holiday.
December	31	Thursday	<i>Last day for registration and payment of tuition.</i> Late fee goes into effect at midnight. Mail registrations postmarked after midnight must include late fee (see Mail Registrations, page 9).
January	1	Friday	New Year's Day, holiday.
January	4	Monday	<i>Winter Quarter classes begin.</i>
February	12	Friday	Lincoln's Birthday, holiday.
February	22	Monday	Washington's Birthday, holiday.
March	15-19		Final examination period.
March	20	Saturday	<i>Winter Quarter closes.</i>

Spring Quarter

March	15	Monday	<i>Spring Quarter registration begins.</i> Regular office hours all offices as listed on page 5.
March	26	Friday	<i>Last day for registration and payment of tuition.</i> Late fee goes into effect at midnight. Mail registrations postmarked after midnight must include late fee (see Mail Registrations, page 9).
March	29	Monday	<i>Spring Quarter classes begin.</i>
April	16	Friday	Good Friday, holiday.
May	31	Monday	(Sunday, May 30, Memorial Day) holiday.
June	7-11		Final examination period.
June	12	Saturday	<i>Spring Quarter closes.</i>

Special Terms

The opening and closing dates of any class taught on a special term basis are listed below the description of each class. *Registration for these classes should be made during regular office hours at any office during the week before these classes begin.* Late fee goes into effect at midnight Friday of the week before the class begins. Mail registrations postmarked after midnight must include late fee (see Mail Registrations, page 9).

Department of Evening and Special Classes Offices

Campus Office (On the University's Minneapolis Campus): 57 Nicholson Hall (south-east entrance), University of Minnesota, Minneapolis, Minnesota 55455; telephone 373-3195.

Minneapolis Office (Downtown Minneapolis): 690 Northwestern Bank Building, Marquette Avenue and Sixth Street South, Minneapolis, Minnesota 55402; telephone 332-0624.

St. Paul Office (Downtown St. Paul): Ninth and Exchange, St. Paul, Minnesota 55102; telephone 222-7355.

Duluth Office: 110 New Garrick Building, 128 West First Street, Duluth, Minnesota 55802; telephone 722-1745. (Courses offered in Duluth listed in separate bulletin.)

Morris Office: University of Minnesota, Morris, Morris, Minnesota 56268; telephone 589-2211. (Courses offered in Morris listed in separate bulletin.)

Registration Office Hours

Fall Quarter and Semester (September 14-23, 1964)

Campus Office:

Monday through Friday 12 noon to 4 p.m.
5 p.m. to 8 p.m.
Saturday (September 19, 1964) 9 a.m. to 1 p.m.

Minneapolis Office:

Monday through Friday 12 noon to 8 p.m.
Saturday (September 19, 1964) 9 a.m. to 1 p.m.

St. Paul Office:

Monday through Friday 12 noon to 8 p.m.
Saturday (September 19, 1964) 9 a.m. to 1 p.m.

Robbinsdale Office:

(See separate bulletin for Robbinsdale registration hours.)

All Offices Closed September 24, 25, and 26.

Winter Quarter (December 21, 1964, to December 31, 1964)

Regular office hours for all offices.

Spring Semester (February 1-10, 1965)

Same as Fall Quarter and Semester registration hours.

Saturday (February 6, 1965) 9 a.m. to 1 p.m.

All Offices Closed February 11, 12, and 13.

Spring Quarter (March 15-26, 1965)

Regular office hours for all offices.

Regular Office Hours

Campus Office:

Monday through Thursday	8 a.m. to 12 noon 1 p.m. to 8 p.m.
Friday	8 a.m. to 12 noon 1 p.m. to 5 p.m.
Saturday	CLOSED

SUMMER HOURS:

Monday through Friday	7:45 a.m. to 12 noon 12:45 p.m. to 4:30 p.m.
Saturday	CLOSED

This office may be closed on Friday from 11 a.m. to 12 noon without notice. Telephone service not available during the lunch hour, except during official registration periods.

Minneapolis Office:

Monday through Friday	8 a.m. to 1 p.m. 1:45 p.m. to 4:45 p.m.
Saturday	CLOSED

This office may be closed without notice for short periods of time during the summer.

St. Paul Office:

Monday through Friday	8 a.m. to 12:30 p.m. 1:30 p.m. to 8 p.m.
Saturday	CLOSED

SUMMER HOURS:

Monday	8 a.m. to 12:30 p.m. 1:30 to 5 p.m.
Tuesday through Thursday	8 a.m. to 12:30 p.m. 1:30 to 8 p.m.
Friday	8 a.m. to 12:30 p.m. 1:30 to 5 p.m.
Saturday	CLOSED

This office may be closed without notice for short periods of time during the summer.

During Christmas recess, December 19, 1964, to January 3, 1965, the Campus and St. Paul offices will close Monday through Friday at 5 p.m., except December 28-29-30 when all offices will be open until 8 p.m.

Department of Evening and Special Classes

Twin Cities Area

(An index will be found on pages 169-171)

INTRODUCTION

The General Extension Division is organized to enable Minnesotans to use University facilities to their advantage.

The specific purpose of the Department of Evening and Special Classes is to supplement the full-time programs of instruction offered students in day residence on its campuses by providing various kinds of educational opportunities, formal and informal, for citizens, young and old, who are not able to make education their chief occupation. The department's programs and courses reflect the programs and general educational objectives of the University. They are planned particularly to help citizens toward more satisfying and useful lives.

The instructional staff for the evening classes is drawn chiefly from full-time members of the various faculties of the University, teaching their regularly assigned courses or in their particular field of specialization. The rest of our instructors, selected from business and industry, with the approval of the University department concerned with the subject area, are chosen for their teaching ability.

Most evening classes are held on the Minneapolis Campus of the University. A few are scheduled on the St. Paul Campus. A number of art classes are offered at and in co-operation with the Walker Art Center and the St. Paul Art Center. An Extension Center in St. Paul, with classroom facilities, schedules many classes. The downtown Minneapolis office serves as a registration office. The Northwest Suburban Extension Center offers a limited number of classes in Robbinsdale; and classes are offered on the Morris Campus.

This bulletin is assembled in five major sections. The first section includes general information, registration regulations, special information for veterans, and special services for all evening class students. The second section describes Certificate Programs of the General Extension Division. The third section lists and outlines Degree Programs of the University available through the General Extension Division. The fourth section describes the special Liberal Arts Programs of the division. The fifth section or main body of the bulletin lists the course offerings under six headings: Agriculture; Arts and Sciences; Business Administration; Education; Engineering, Physical and Technical Sciences; and Physical Education and Recreation. Quarter class listing, Northwest Suburban Extension Center class listing, St. Paul Extension Center class listing, index, and maps are found at the back of the bulletin.

I. INFORMATION

ADMISSION

Admission Requirements

There are no entrance or residence requirements for admission into the General Extension Division.

Registration in specific programs or classes may require prerequisite courses or experience. (See Prerequisites, page 13.)

Service Veterans may register under Public Laws 550 and 894. See Special Information for Veterans and Members of the Armed Forces, page 16.

Present or Former University Day-School Students

Students who are regularly registered in day school classes in any unit of the University who wish to register for Extension classes are urged to clear such registration with their day school adviser or college office.

A student who has been dropped from any unit of the University or placed on probation should clear with his college before registering for Extension classes.

The Department of Evening and Special Classes assumes no responsibility as to the appropriateness of such registrations made by students in either of the above categories; nor is the college involved committed to accept so-earned credits for the degree program involved.

A student who has had university or college work other than at the University of Minnesota and who intends to work on a degree or certificate program should submit a transcript of his record to the secretary of the Committee on Student Scholastic Standing, 53 Nicholson Hall, Minneapolis Campus, telephone 373-3905. This should be done immediately following the close of any registration period. A student who wants help in planning a program is urged to bring his transcript with him when he comes to see an Extension adviser. He may leave it with the adviser for evaluation. See Program Advising, page 18. Obtain transcripts from the registrar of an institution previously attended. Korean veterans, see page 16 for special instructions.

REGISTRATION REGULATIONS AND FEES

The following regulations apply to veteran as well as nonveteran students, unless otherwise indicated. In addition, all service veterans and military personnel should read the Special Information for Veterans and Members of the Armed Forces section starting on page 16.

Korean veterans, military personnel, and all other students who plan to register under the authority or with the assistance of any federal, state, or foreign agency, military service, institution, company, scholarship, or loan fund must register in person in 51 Nicholson Hall on the Minneapolis Campus.

Evening and Special Classes

Any exception to the regulations governing registration will be allowed only upon personal interview with a member of the Committee on Student Scholastic Standing and will be subject to fees as determined by that committee.

Business firms may register their employees in evening classes by special arrangement with the General Extension Division. When requesting registration material, specify whether for semester, quarter, or special term classes. Call Special Registration Clerk, telephone 373-3939.

How to Use This Bulletin for Registering

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

The first line or two of the listing gives the abbreviated departmental prefix, the class number, if any, the title of the class, the number of credits and the kind of credit, and the tuition per term (semester, quarter, or special term), plus special fees, if any. With a very few exceptions, all arabic-numbered listings are degree credit classes and are the same as those of corresponding day classes or have been approved for evening class use by the department concerned. Other classes are indicated as for certificate credit; any of these classes may be applicable toward an appropriate Extension certificate (see Credits, page 12).

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

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

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

Registration Periods

All registrations should be made and fees paid during the official registration period for the term involved. Any registration, initial or added, made after the official registration period will be considered a late registration and subject to a late fee.

The dates for all registration periods are designated in the calendar, beginning on page 2. The registration hours for all periods at all offices are stated on page 4.

Late Registrations and Additions

All registrations, whether initial or added, received either in person or by mail after the close of the registration period as designated in the calendar, pages 2 to 3, will be considered late registrations and will be subject to the late fee listed below:

Semester classes—during first week \$3.

Quarter classes—during first week \$3.

Special Term classes—during first week \$3.

Registrations after the late periods designated above are not encouraged and normally will not be permitted. If accepted they will be subject to a \$5 late fee the second week and a \$10 late fee thereafter.

The late fee applies whether a class carries degree credit, certificate credit, or no credit; it applies to special classes and it applies whether the student wants to audit or to take a class for credit. The time of registration by mail will be determined by the postmark.

These special fees are not included in the privileges of Public Laws 550 and 894, military personnel on Off-Duty Academic Instruction or Tuition Assistance Programs. They must be paid by the student personally.

There are no exceptions to payment of late fees.

Mail Registrations

Registrations by mail will be accepted subject to the following conditions:

1. Registrations must be made on appropriate official registration forms (semester, quarter, special term, special classes), with attached check or money order covering full amount of tuition and fees, payable to the University of Minnesota.

2. Checks or money orders for late registrations (postmarked after midnight of the last day of registration) must include the late fee specified below.

3. *No registration for limited classes* will be accepted by mail. These registrations must be made in person at any Extension office.

4. No veteran, military personnel, or any person registering under an authorization from a federal, state, foreign agency, institution, company, scholarship, or loan fund can register by mail without special permission from the Special Registration Office, Department of Evening and Special Classes, Room 51, Nicholson Hall, Minneapolis Campus; telephone 373-3939. Normally, such registrations must be made in person.

5. Students are especially warned that all registration forms are *multiple speed forms*. It is important therefore that a ball point pen on a hard surface be used in filling out these forms. If all copies are not clearly legible, they will be returned to the sender.

Any registration or request to register received by mail that does not meet the conditions prescribed above will be refused and will be returned to the sender.

Limited Classes

No class listed in this bulletin is limited in enrollment unless it is specifically identified by the symbol *. In such cases, the enrollment permitted is stated at the end of the respective class description. All such registrations must be made individually in person and must be tallied at the "Limited Class" tally desk.

Transfers

Students who wish to transfer after an initial registration will be subject to the following transfer fees:

Semester classes—before and during first week \$3.

Evening and Special Classes

Quarter classes—before and during first week \$3.

Special Term classes—before and during first week \$3.

Transfers after the periods designated above are not encouraged and normally will not be permitted. If accepted they will be subject to a \$5 transfer fee the second week and a \$10 transfer fee thereafter.

Exceptions as follows: (1) no transfer fee if University requests transfer be made; (2) if transfer required by failure in placement test or prerequisite course; or (3) if transfer required because of cancellation of course in which previously registered, provided such transfer is made within 1 week from date of cancellation of class.

Cancellations

Any student who drops out or wishes to drop out of classes is urged to make an official cancellation at once, either in person or by writing any Extension office. By so doing, he will receive a refund when *eligible* (see below) and will likewise insure the appropriate grade on his grade report. If a student officially cancels a class *before* or during the ninth week of any semester, or the sixth week of any quarter or special term, he will be automatically given a "W" on his grade report. This symbol means "official withdrawal without grade." If the official cancellation is made *after* the above-stated period, the instructor will give him a "W" if the student is doing passing work. If he is doing failing work, the instructor will give a grade of "F" (failure). *It is urgent, therefore, that students officially cancel whenever they stop attending a class.* It is advisable that the student inform his instructor of the reason for his action.

No student is permitted to cancel the last 2 weeks of any quarter, semester, or special term. Official cancellation of registrations may be made in person or by writing any extension office; telephone calls are not acceptable. *No instructor is authorized to accept cancellation of any registration.* The effective date of cancellation will be the day on which the cancellation is received in any Extension office, regardless of the date of last attendance.

Refunds

Refunds for canceled classes will be in accordance with the following schedule:

1. Full refund of all tuition and special fees when a class is canceled by the Extension Division; when the hour, day, or location of the class is changed by the Extension Division, after a student has registered in it; or when, *in the opinion of the instructor*, the student does not have the necessary prerequisites or the class does not meet the student's needs or the student has already had the equivalent material in another class. In this last case, the student must, *before the end of the second week of classes*:

- a. Ask the instructor for his copy of the student's class card with an appropriate statement on the back, endorsed by the instructor.
 - b. Present this class card, together with his fee statement, in person at any Extension office. *After the second week of classes the regular refund regulations will apply.*
2. A \$3 registration fee will be charged for cancellation of classes on or before the first class meeting in any semester, quarter, or special term. The balance of the tuition and special fees will be refunded.
3. Late fees and/or transfer fees are not refundable.

4. Refunds for the cancellation of classes *after* the opening date of each semester, quarter, or special term (except as indicated in item 2 above), will be made as follows:

	Semester	Quarter	Special Term
a. Refund during first week	75%	75%	75%
b. Refund during second week	75%	50%	50%
c. Refund during third week	50%	25%	25%
d. Refund during fourth week	25%	none	none
e. Refund during fifth week	none	none	none

The Department of Evening and Special Classes is a self-supporting unit of the University of Minnesota. Its classes are organized for those who request instruction. After the department has thus accepted its obligation to conduct classes and to assume the instructional costs of a full semester, quarter, or special term, *no refunds or readjustment of charges* can be made except in accordance with the above refund policy.

Refunds cannot be made in cash; they must be paid by check. Normally, it requires 4 weeks to process a request for a refund. Refund checks will be mailed to the student.

Symbols

The following symbols will be used throughout the Course Offerings section of this bulletin and will carry no page footnote. Their explanation is as follows:

- A hyphen between numbers indicates a sequence course, the units of which must be taken in order, unless otherwise indicated.
- ° Limited class. Registration must be made, individually, in person.
- † To receive credit, all courses listed before dagger must be completed.
- ‡ A sequence course which may be taken out of order.
- § No credit is given if credit has been received for equivalent course listed after section mark.
- ¶ Means "concurrent registration in" (i.e., course must be taken simultaneously).
- ‡ Prerequisite may be equivalent experience, with consent of instructor.
- ° Course carries alternative numbers and may be taken at the level for which the student is qualified, provided consent of instructor is obtained, together with approval of the Committee on Student Scholastic Standing of the General Extension Division. Students registering for such alternative numbers should advise the tally clerk at time of registration so that the class card(s) may be appropriately stamped.

Work Load

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

Departmental Cancellation of, or Change in, Scheduled Classes

The General Extension Division, University of Minnesota, reserves the right to cancel, postpone, split, or combine classes and to change teachers.

Tuition and Fees

The tuition for each class is designated in the listing of the class in this bulletin. Special fees may be laboratory, materials, or audio-visual equipment fees, and may or may not be for the student's personal use. Fees do not cover books.

Evening and Special Classes

The full amount of the tuition and other special fees is payable at the time of registration. No arrangements for partial payment can be made. Checks or money orders must be drawn for the exact amount due and made payable to the University of Minnesota. Students in need of special financial assistance see Extension Student Loan Fund, page 18.

A student is not registered until his fees are paid.

GENERAL INFORMATION

Credits

All credits listed in the class descriptions are *quarter* credits even though the majority of evening classes are of semester length. All credits are clearly labeled as to use:

1. "Degree credit"—means that a course carrying such a designation may be used on a degree program at the University of Minnesota, provided certain other conditions are met.
2. "Certificate credit"—means that the course so marked may be used in appropriate Extension certificate programs (certificate credits usually are not usable in teacher certification).
3. "Entrance credit"—designates a course which may be used to meet University admission requirements.
4. "No credit"—means that no credit is given for the course, although grades may be assigned.
5. "Special class"—means that the class carries no credit and no grades will be assigned.

Occasionally a course may carry less degree credit in evening classes than in day classes. If it carries the same course number as the day course, it will satisfy the same requirements met by the day course.

Course Numbering—Courses carrying degree credit are numbered as follows: Lower Division courses, numbered 1 through 49, are intended primarily for freshmen and sophomores; Upper Division courses, numbered 50 through 99, are intended primarily for juniors and seniors; courses numbered 100 through 199 are considered Upper Division and graduate level; courses numbered 200 and above are graduate level only. If you wish to take a course numbered 100 or above for graduate credit, be sure to ask at time of registration that the appropriate class card be stamped *graduate credit requested*.

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 a member of the Committee on Student Scholastic Standing of the General Extension Division.

Established by Special Examination—A student who, by independent study or by experience, has gained knowledge which is equivalent to that covered by a particular evening course may establish credit for such course by passing a special examination on the subject matter covered by the course, provided he is a University evening student at the time he takes the examination. A student may establish credit for work done at a nonaccredited institution in the same way.

If a grade of C or better is earned in the examination, the course and the credit will be entered on the student's record; if the examining committee so indicates, the grade will also be entered. If a grade of C or better is not earned, no entry is made on the record. Credit by special examination is not residence credit.

The examination is administered by the department in which the course is offered. It may be a typical final examination, an oral test, written papers or projects, or any combination of these, or other work.

A student wishing to take a special examination should consult the subject matter department in which he expects to take the examination, where he will be advised as to the wisdom of his taking the examination. If it is determined that he should take an examination, he shall arrange the date and time for examining with the department concerned. He must then pay a fee of \$5 to the Department of Evening and Special Classes, at which time he will be given a "Special Examination Form" to be presented at the time of the examination.

Residence—Credits earned in undergraduate evening classes are "residence" credits. They may be used to satisfy the residence requirements of the University of Minnesota. They do not, however, meet the residence requirements of individual colleges of the University, until a student who is working on a degree program is formally admitted to the college from which he expects to get a degree. See University Degree Programs, page 38.

Graduate Credit—For the Master's degree, 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 9 quarter credits in evening courses taught by members of the graduate faculty and numbered 100 and above. For the Specialist Certificate programs in education, the same regulations apply as for the Master's degree. For the Doctor's degree, a maximum of 6 credits in evening courses may be transferred for use in the collateral field of knowledge only, provided the courses are taught by members of the graduate faculty and numbered 100 or above. Please see the *Bulletin of the Graduate School* for fuller explanation. A student registering for graduate credit *must request at the time of registration* that the appropriate class card be stamped *graduate credit requested*. (Students are urged to advise the instructor at the first class meeting that graduate credit is requested and to make certain he is a member of the graduate staff.) This will insure record of graduate credit on the instructor's grade report which will be filed with the Office of Admissions and Records. Upon completion of a course, or at a later date if more appropriate, the student must then initiate the petition to the dean of the Graduate School. Petition to transfer is limited to credits earned in evening classes since September, 1955.

Prerequisites

The purpose of a prerequisite is to establish who is eligible to register for the course. You will find the prerequisite of any course listed at the end of the course description. Usually there is no prerequisite for beginning courses. However, if these courses have two or more parts, these parts must be taken in sequence unless otherwise indicated. Most advanced courses do have prerequisites and cannot be carried satisfactorily unless the student has had the stated previous course or its equivalent. In some instances, mature students who have had a reasonable equivalent of study, training, or experience related to the course desired may be exempted from the prerequisite by the instructor. In such instances the symbol ‡ will appear in the prerequisite listing. If you are in doubt as to your qualifications for a course, but believe you are qualified, register for the course and consult the instructor at the first class session. If the instructor decides that you are not qualified, or that the course does not meet your needs, your class card prop-

Evening and Special Classes

erly endorsed to this effect on the back, by the instructor, will permit you to transfer to another course without penalty or to cancel with a full refund, provided this action is taken before the end of the second week of classes (see Refunds, page 10). A prerequisite course may not usually be taken for credit after the advanced course has been satisfactorily completed.

Grades

There are four permanent passing grades, A (highest), B, C, and D (lowest), which are acceptable for the completion of a course.

There is a permanent grade of F (failure), indicating noncompletion or unsatisfactory completion of a course. A student who cancels officially or drops out of class after the mid-point of any semester, quarter, or special term and is failing at the time shall receive an F.

There is a temporary grade of I (incomplete), assigned when the instructor has insufficient information to permit a permanent grade. It indicates that some required work is unfinished or that the student, though officially registered, did not attend or left without officially canceling. It is strongly urged, therefore, that a student officially cancel any class which he quits attending even after the refund period; otherwise a grade of I (incomplete) will appear on his record. An I which is not turned into a permanent grade within 1 year from the time it is assigned shall become an F at such time as the student indicates his intention of applying his credits to a degree or certificate or other University of Minnesota program, or of transferring his credits to another institution. An extension of time may be permitted for removal of an I grade upon recommendation of the instructor concerned and approval of the Extension Scholastic Committee. If an extension of time is granted, a special examination fee of \$5 will be required.

There is a symbol X, which may be reported in continuation courses in which a grade cannot be determined until the sequence is completed. Upon completion, a separate grade is submitted for each X.

There is a registration symbol W, indicating official cancellation without grade. This shall be assigned by the Department of Evening and Special Classes in all cases of official cancellation through the ninth week of any semester, or the sixth week of any quarter or special term irrespective of the student's standing. After the ninth week of any semester, or the sixth week of any quarter or special term, the symbol W is assigned by the instructor concerned, and only if the student was doing passing work at the time of official cancellation. If he was doing failing work, the instructor will assign the grade of F (failure). It is advisable, therefore, that any student considering cancellation of a class after the ninth week of any semester, or the sixth week of any quarter or special term, discuss the matter with his instructor.

There is a registration symbol V (visitor), indicating registration as an auditor or visitor.

Grade Reports—Reports of students' grades are sent them by the University Office of Admissions and Records, and cannot be furnished by the Extension offices. Students are asked to allow a month's time from the close of a term for the record office to get grades to them. A student who needs a grade sooner than that may leave a self-addressed postcard with his instructor, who will mail it to him as soon as his grade is determined. Students desiring complete transcripts of their records, see Transcripts, page 15.

Grade Point Average—For purposes of determining scholarship, grade points are assigned to the permanent grades as follows: A, 4 grade points; B, 3 grade points; C, 2 grade points; D, 1 grade point; F, 0 grade points. A student's scholastic average is determined by dividing the sum of grade points by the sum of credits attempted, both passed and failed.

Probation

Students taking classes for credit, *including all veteran students*, who consistently fail to maintain a C average, may be placed upon probation. This means that their registrations and work loads come under the surveillance of the Committee on Student Scholastic Standing.

Auditors

A student who does not expect to do all the required work of a class may register as an *auditor* by writing "Aud." in the credit column of the registration form and above his name on the class card, or by asking his instructor to record him as an auditor not later than the *ninth* week of a semester class or the *sixth* week of a quarter class, provided he is doing passing work at the time of the request. Auditor's status carries no credit. One may not later take for credit a course which has been audited; exceptions to this ruling may be allowed upon consultation with an adviser in the college or school concerned. Auditors pay the same fee as other students. No *veteran* may audit any class under Public Law 550 or 894. No *military personnel* may audit any class under Off-Duty Academic Instruction or Tuition Assistance Programs.

These regulations apply to all classes listed in this bulletin.

Transcripts

Extension students can secure transcripts showing all credits earned in evening classes by calling or writing the Office of Admissions and Records, University of Minnesota, Minneapolis, Minnesota 55455; telephone 373-2149.

Special Classes and Short Courses

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

Faculty

The teaching staff for Extension classes is drawn primarily from the regular faculty of the University of Minnesota. In some instances faculty members from other institutions of comparable rank and specialists in professional and business fields may be used.

Committee on Student Scholastic Standing

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

Correspondence Study Courses

A large selection of correspondence study courses is available. Much of the work required for Extension certificates and for some University degrees may be earned through correspondence study. Bulletins are available from any Extension office or from

Evening and Special Classes

Director, Correspondence Study Department, 254 Nicholson Hall, University of Minnesota, Minneapolis, Minnesota 55455.

SPECIAL INFORMATION FOR VETERANS AND MEMBERS OF THE ARMED FORCES

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

Military Personnel

All branches of the Armed Services now provide Off-Duty Academic Instruction or Tuition Assistance Programs for military personnel on active duty. There are no application forms necessary for admission to the Evening and Special Classes division. Under these programs, eligible military personnel may be entitled to payment of \$6.75 per quarter credit hour for approved classes. (All classes in this bulletin are quarter credit whether designated quarter or semester length.) The remaining tuition and all fees must be paid by military personnel. Interested members of the Armed Services are urged to contact the educational officer or commanding officer of their command for proper authorization to participate in these programs. Written authorization designating classes and amount of tuition to be paid by Army, Navy, Air Force, or Marine Corps should be presented at time of registration, at which time payment of remainder of tuition and fees must be made. Military personnel who do not have the necessary authorization at the time of registration will be required to pay in full for their registration. When the government authorization is received, a refund for the authorized amount will be made. Registration must be made in person at the Veterans Office, 51 Nicholson Hall, Minneapolis Campus, telephone 373-3939.

World War II Veterans

Educational benefits under P.L. 346 were terminated July 25, 1956.

State of Minnesota Department of Veterans Affairs

Under some circumstances World War II and Korean Veterans whose educational benefits under Public Law 346 and 550 have been used and exhausted (not interrupted) may be eligible for tuition assistance from State of Minnesota Department of Veterans Affairs. Such veterans, if they believe themselves eligible, should contact State of Minnesota Department of Veterans Affairs, Veterans Service Building, St. Paul, Minnesota 55101 (telephone 221-2562).

Korean War Veterans

Educational benefits under P.L. 550 will terminate January 31, 1965.

Registration—All registrations by veterans must be made in person at the Veterans Office, 51 Nicholson Hall, Minneapolis Campus, telephone 373-3939. No Korean veteran

registration can be accepted at either the St. Paul or Minneapolis Extension offices. Consult the Registration section of this bulletin for exact dates.

Monthly Educational Allowance—When a veteran enrolls for a minimum ½-time credit or credit equivalent work load in evening or day time classes, he will be paid a monthly educational allowance on the basis of monthly certifications (see paragraph on Monthly Certifications). All entrance credit classes carry a credit equivalent for purposes of determining monthly educational or tuition refunds. Enrollment in correspondence courses does not entitle a veteran to a monthly educational allowance (see following section on Tuition refund by the Veterans Administration).

The Veterans Administration classifies all credit work loads in terms of quarter-length classes. Most evening classes are a semester in length. For this reason misinformation, confusion, and misunderstanding have resulted in determining the credit work load of the veteran registered for evening classes.

The following chart shows how payments are determined by the Veterans Administration.

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

Delinquent Attendance—Any veteran who fails to *officially* cancel his registration for any class in which he cannot or does not continue will receive a grade of F (Fail) or I (Incomplete) whichever is appropriate. If the grade of F or I is received because of delinquent attendance or failure to take the final examination, the Veterans Office will automatically notify the Veterans Administration of the last day of attendance as stated by the instructor concerned. If the veteran has signed monthly certifications (VA Form 7-1996a) subsequent to that date, *he will be required to make reimbursement for such overpayment of tuition refund or educational allowance* as may be determined by the Veterans Administration.

Monthly Certifications—All refunds of tuition and fees and/or payments of educational allowances are paid monthly by the Veterans Administration directly to the veteran. These payments are made on the basis of joint monthly certification made by the veteran and the Veterans Office of the General Extension Division.

Veterans are strongly advised to remember that signing monthly certifications is not a mere perfunctory act. Since all monies paid a Korean veteran by the Veterans Administration are based on said monthly certification, a veteran is making a legal affidavit that he is still in attendance and completing assignments in all classes in which originally enrolled unless there has been an official cancellation submitted to the Veterans Office, 51 Nicholson Hall.

Cancellations, Transfers, and Additions

Cancellation of any class, or transfer from or addition to an initial registration, must be made in person on official forms at the Veterans Office, 51 Nicholson Hall. *No instructor is authorized to accept cancellations.*

Evening and Special Classes

Counseling

The Veterans Office, 51 Nicholson Hall, Minneapolis Campus, telephone 373-3939, 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.

SPECIAL SERVICES FOR STUDENTS

Program Advising and Personal Counseling

Members of the evening class staff are available at all offices *by appointment* throughout the year for general advisory services on the selection of classes, programs of study, certificate and degree requirements, etc. The Committee on Student Scholastic Standing in the University 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.

During the special registration periods before the fall and spring semesters, advisers will be on duty from 1 to 4 p.m. and 5 to 8 p.m., Monday through Friday, and from 9 a.m. to 1 p.m. on Saturday in all Extension offices. No appointment is needed for advising during these hours. There is no fee for program advising.

Special evening meetings are arranged at the beginning of each semester registration for students who may be candidates for degrees in the College of Liberal Arts. Meetings will be held on September 14 and 16 and on February 1, from 7:30 to 10:00 p.m., in room 115, Johnston Hall. All students who have questions about degree programs in CLA are urged to attend one of the meetings.

Program advisers from the College of Liberal Arts, the College of Education, the School of Business Administration, and the Institute of Technology will be available in their offices on the University Campus during specific evening and Saturday morning hours in the course of the special registration periods. A student wishing to see such an adviser should telephone the University Campus Extension office for information as to the schedule and *make an appointment; telephone 373-3905*.

Appointments for the testing and counseling services of the University Student Counseling Bureau may be arranged by calling the bureau, 373-4193. Vocational, personal, and social problems may be brought to the bureau. The Counseling Bureau's fee for regularly enrolled evening students is \$10.

Extension Student Loan Fund

Extension students who need financial assistance to pay tuition costs may be eligible for a loan not to exceed \$50 in any semester, quarter, or special term. Such loans if granted are payable within 2 months from date of receipt. The interest charge is approximately 50 cents. Applications should be made during any official registration period at any Extension office.

Aids for Handicapped Students

"Rehabilitation funds" for the education of disabled persons are available through the State Department of Education. Applications for aid from these funds should be sent to the Division of Vocational Rehabilitation, State Department of Education, Centennial Office Building, St. Paul, Minnesota 55101.

English Classes for Foreign-Born Students

The Department of Evening and Special Classes does not offer any special English classes for foreign-born persons. However, we are pleased to inform all persons concerned that beginning, intermediate, and advanced classes in everyday English, oral and written, are available at the International House, 183 W. Kellogg at Exchange, St. Paul, and at the Minneapolis Vocational Evening School, Minneapolis. Interested persons should call for further information as indicated below.

Mr. Russell Peterson, International House, St. Paul, CApital 2-1754.

Miss Marie Kallio, Minneapolis Vocational Evening School, Minneapolis, FEderal 2-0381.

University Library

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

Coffman Memorial Union

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

Convocations

University convocations are open to the public. They are usually held on Thursday mornings at 11:30 in Northrop Memorial Auditorium.

University Theatre, Artists Course, and Special Lectures

Events of an educational and cultural nature are constantly being offered on the University campuses. Many of them are open to the student body and to the public without charge; for others there are admission charges. For information, telephone the University and ask for the Theatre office, the Artists Course office, or the Department of Concerts and Lectures.

Minneapolis Symphony Orchestra

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

Athletic Facilities

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

Evening and Special Classes

Season Athletic Tickets

Any student enrolled for at least 5 credits (not including audit or correspondence registration) in evening classes which carry credit may purchase one student athletic season ticket at \$12. Married students may purchase a second season ticket, for use by *spouse only*, at \$16. All tickets are nontransferable. If classes are canceled, athletic tickets must be returned to athletic office. Tickets may be bought at the special student athletic ticket sale headquarters on campus the week before classes begin. *Paid fee statement is required to purchase ticket.* The ticket sale schedule will be as follows:

Wednesday, September 16, 9 a.m.-4 p.m.

Thursday, September 17, 9 a.m.-9 p.m.

Friday, September 18, 9 a.m.-4 p.m.

Saturday, September 19, 9 a.m.-12 noon

Monday, September 21, 9 a.m.-9 p.m.

Tuesday, September 22, 9 a.m.-4 p.m.

All ticket sales will be held in Williams Arena Lobby. Reserved seat season tickets will be issued in Williams Arena Lobby on Thursday and Friday, September 24 and 25, from 9 a.m. to 4 p.m., and Saturday, September 26, from 9 a.m. to 2 p.m. Regulations governing purchase, transfer, and cancellation of these tickets are available on request to the Athletic Ticket Office. Extension student ticket holders will be assigned seats in the bowl, at the end of the regular student location. Any regular student wishing to sit with an Extension student will be assigned in the Extension location.

II. EXTENSION CERTIFICATE PROGRAMS

Students not certain they can devote the time necessary to earn a college degree are urged to consider seriously a certificate program. These programs are generally regarded by both business and industry as valuable professional and technical preparation for employment and promotion in areas requiring extensive knowledge. With careful planning a certificate can be, if the student wishes, a stepping stone to a degree.

Seventeen intensive certificate programs in the areas of liberal arts, business administration, and engineering science (for engineers and technicians) are conducted by the General Extension Division. These programs may be completed entirely in the Department of Evening and Special Classes. The curriculums are described in detail in the following pages. Certificate programs are organized at the collegiate level; students entering them should bring adequate educational preparation or other experience to work effectively with college materials.

Certificate programs are designed specifically for the part-time student. They consist of degree credit classes or a combination of degree and certificate credit classes. Certificate credit classes are college level in quality and represent an accelerated and specialized approach in subject matter in the areas represented. They are not, however, transferable to a degree program.

Senior certificates of 90 or more credits represent 2 years of college work, frequently at Upper Division level, and are equivalent to the Associate degree offered by many institutions. Junior certificates are equivalent to 1 year of college work at Lower Division level.

Work on a certificate may be done in evening classes, correspondence study, day school, summer session, or any combination of these. A student may also transfer credit from other accredited institutions of higher learning, although a minimum of 25 per cent of credits required for any certificate must be earned at the University of Minnesota. Core requirements must be completed by all applicants; the courses need not, however, be taken in order, except as prerequisites make it necessary.

Upon completion of a specified program with at least a C average the student is awarded a certificate. Senior certificates are dated and awarded at the regular University commencement exercises three times during the academic year. All other certificates are dated as of a University commencement date and mailed to the student.

A student interested in pursuing a certificate program is urged to complete an Application for Admission to Certificate Programs at the earliest possible time so proper counseling can be given. Advice and information about the various programs, including transfer of credits, may be secured from any member of the Committee on Student Scholastic Standing. A copy of Procedures for Obtaining a General Extension Division Certificate is available at any General Extension Division office.

Students who have completed the required work and are expecting to receive a certificate must file a Certificate Completion form at the beginning of the term in which the certificate is to be awarded.

Both the Application for Admission to Certificate Programs and the Certificate Completion forms are available at any General Extension Division office.

Evening and Special Classes

Liberal Arts Certificate

(45 credits)

The program of the Liberal Arts Certificate is offered to students who wish an introduction to a liberal arts education. It is the equivalent of 1 full-time year of university level study. With careful planning, the certificate may constitute the freshman year of a degree program in arts or business fields.

Students transferring credits to this certificate program from other institutions accredited by the University of Minnesota must take a minimum of 12 credits at the University of Minnesota.

English Requirement (12 credits):

Engl 1B-2B-3B, or Comm 1-2-3; or exemption

Spread Requirement (18 credits): At least 6 credits in each of the following fields:

Humanities: English composition (beyond Freshman English) or literature, fine arts, foreign languages, humanities, philosophy, speech

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

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

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

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

Interior Design Certificate

(45 credits)

The Interior Design Certificate is awarded upon successful completion of a program of courses in interior design and related fields. A student holding the certificate should have a background indicating proficiency in the field of home furnishings and decorating.

Students transferring credits to this certificate program from other institutions accredited by the University of Minnesota must take a minimum of 12 credits at the University of Minnesota, including the four courses in interior design.

Core Requirement (28 credits):

Art 83A—Interior Design I

Art 84A—Interior Design II

Art 103A—Seminar: Interior Design I

Art 104A—Seminar: Interior Design II

Layout for Interior Design I or Home Design and Planning

Art 1—Introduction to Art

Psy 1A—Application of Psychology to Living

Engl 1B—Freshman English

Business Correspondence

Spread Requirement: Not more than two courses in at least three of the following groups, to total 18 credits; courses subject to approval of the certificate program adviser, Mrs. Lewis, telephone 373-3918.

1. History of Art, Art Appreciation

2. Use of Color, Layout for Interior Design II, Photography

3. Ceramics, Sculpture, Weaving

4. French, Humanities, Psychology

Public Administration Certificate

(45 credits)

Planned for officers and employees of national, state, and local government, and for those preparing for careers in public service, the Public Administration Certificate program has three purposes. It is intended to provide an understanding of the fundamentals of public administration and an opportunity to study in detail some of the problems and techniques of administration. It may also supplement the in-service training programs of government agencies. In addition, it enables each student to carry out an individual program of study designed to fit his needs.

Students transferring credits to this certificate program from other institutions accredited by the University of Minnesota must take a minimum of 12 credits in public administration courses at the University of Minnesota.

Core Requirement (15 credits):

Pol 1-2—American Government and Politics
Pol 60—Organization and Management

Pol 62—Public Personnel Administration
Pol 63—Public Financial Administration

Spread Requirement: At least 15 credits in the following courses:

Pol 58—Governmental Accounting
Pol 61—Municipal Law and Administration
Pol 66—Problems of Public Administration
Pol 67—Administrative Analysis
Pol 68—Administrative Communication

Pol 73—City and County Planning
Pol 76—Business and Government
Pol 78—Administrative Responsibility
Jour 78—Public Relations Principles
QA 5—Elements of Statistics

Concentration Requirement: At least 15 credits in one of the following fields or in any approved combination thereof to make a minimum of 45 credits total for the certificate.

Accounting
Child Psychology
Economics and Business Finance
Engineering
Industrial Relations
Insurance
Nursing

Political Science
Psychology
Recreation Leadership
Social Work
Sociology
Transportation

Evening and Special Classes

Secretarial Certificate

(45 credits)

The Secretarial Certificate is awarded to those who, in addition to the necessary skills and experience in typewriting and shorthand, have completed a selection of courses appropriate to a background in business administration, such as needed for qualifying for Certified Professional Secretary examinations.

Students transferring credits to this certificate program from other institutions accredited by the University of Minnesota must take a minimum of 12 credits at the University of Minnesota.

Core Requirement (36 to 39 credits):

Review of Business English and Business Correspondence; or Comp 58, Business Reports and Letters
Econ 1-2—Principles of Economics
Acct 24-25—Principles of Accounting
OMgt 36—Office Procedures

BLaw 58, 88—Business Law
OMgt 79A—Administrative Secretarial Studies
OMgt 99—Office Management—Management of Administrative Services
Psy 1-2—General Psychology

Electives: Additional courses selected from the following or other approved courses to make a minimum of 45 credits total for the certificate.

QA 5—Elements of Statistics
Acct 26—Principles of Accounting
Ins 53—Risk Management and Insurance

Econ 67—Money and Banking
BLaw 78, 98—Business Law
OMgt 79B—Administrative Secretarial Studies

Industrial Relations Certificate

(48 credits)

This program of study is arranged and co-ordinated by the Department of Industrial Relations of the School of Business Administration. It is designed to provide professional training in the field of industrial relations and in the use of specialist techniques, and to assist industrial relations personnel to keep abreast of current developments in the profession. Training in this program is valuable in providing an entry into the profession, and completion of the certificate requirements may be regarded as an indication of technical competence in the field.

Students transferring credits to this certificate program from other institutions accredited by the University of Minnesota must take a minimum of 15 credits in industrial relations courses at the University of Minnesota.

Core Requirement (42 credits):

Econ 1-2—Principles of Economics
 IR 52—Systems of Industrial Relations: Labor Marketing
 IR 72—Systems of Industrial Relations: Manpower Management
 IR 182A—Intermediate Labor Marketing
 IR 182B—Intermediate Manpower Management
 Psy 1-2—General Psychology
 Psy 122-123—Vocational Development and Personnel Psychology
 One of:
 Psy 70—Principles of Psychological Measurement
 QA 5—Elements of Statistics

One of:
 Econ 152—Economic History of Labor
 IR 162—Union Government and Policies
 One of:
 Econ 192—Economics of Collective Bargaining
 IR 142—Conflict and Collective Bargaining
 One of:
 Econ 172—Labor Market Behavior and Regulation
 Econ 182—Economic Security

Electives (any two courses from the following):

Econ 152—Economic History of Labor
 Econ 172—Labor Market Behavior and Regulation
 Econ 182—Economics Security
 Econ 192—Economics of Collective Bargaining
 IR 62—Human Relations in Industry
 IR 82—Modern Labor Relations
 IR 142—Conflict and Collective Bargaining
 IR 162—Union Government and Policies
 Prod 50—Production Management
 OMgt 99—Office Management—Management of Administrative Services
 Pol 68—Administrative Communication

Psy 125-126—Psychology of Individual Differences
 Psy 144-145—Abnormal Psychology
 Soc 120—Social Psychology
 Soc 146—Industrial and Occupational Sociology
 Supervision I, II, III
 Industrial Engineering and Management
 Motion and Time Study
 Inventory and Production Control
 Introduction to Operations Research
 Corporate Standard Data I, II
 Plant Layout and Materials Handling
 Statistical Quality Control

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

Business Administration Certificates

These certificate programs have been approved by the School of Business Administration and arranged under the supervision of members of the faculties concerned. They are designed to present integrated, high quality, university-level courses of study of shorter length and scope than the full 4-year degree programs. They are designed especially for students who wish to obtain a general grounding in the basic principles and theories of business administration and for those who want training or an opportunity for advancement in some specific field of business.

It is possible for a student to move from a course of study for a certificate into a planned program leading to a bachelor of science in business or bachelor of science in economics degree. *Anyone who contemplates such a long-range objective, however, should consult an evening class adviser before proceeding further so as to avoid any loss of credits or possible future rejection from the degree program.*

Junior Business Administration Certificate

(45 credits)

This certificate, requiring the satisfactory completion of 45 credits of course work, is the equivalent of 1 academic year of full-time study. It offers a firm grounding in most of the basic fields of business administration. All of the credits received in completing the Junior Certificate are automatically credited toward a Senior Certificate and represent half of its required work load.

Students transferring credits from other institutions to this certificate program must take a minimum of 18 credits, including 12 credits in economics or business administration courses, at the University of Minnesota.

Prebusiness Requirement (35 credits):

Engl 1B-2B-3B; or Comm 1-2-3; or exemption
Econ 1-2—Principles of Economics
QA 5—Elements of Statistics

Acct 24-25-26—Principles of Accounting
Math 10—College Algebra (or equivalent)

Core Requirement (12 credits): Four courses selected from the following:

Prod 50—Production Management
QA 51—Business Statistics
IR 52—Systems of Industrial Relations: Labor
Marketing
Ins 53—Risk Management and Insurance
Tran 54—Transportation I: Principles
BFin 56—Corporation Finance
Mktg 57—Principles of Marketing
BLaw 58—Business Law: Contracts

Mgmt 60—Business Policy and Management
Control
Econ 65—Intermediate Economic Analysis I:
The Firm and Industry
Econ 66—Intermediate Economic Analysis II:
Income and Employment
Econ 67—Money and Banking
Econ 69—Government Regulation of Business

Senior Business Administration Certificate

(90 credits)

The Senior Business Administration Certificate is a continuation of the Junior Certificate, expanding the core and spread requirements to provide a broader base of general knowledge and an opportunity for specialization. The completion of the certificate requirement of 90 credit-hours represents the equivalent of 2 academic years of full-time university-level study. The course program may be considered to be roughly that of the sophomore and junior years of a 4-year degree program with particular emphasis on the basic principles and theories of business administration.

Students transferring credit from other institutions to this certificate program must take a minimum of 30 credits, including 18 credits in economics or business administration courses, at the University of Minnesota.

Prebusiness Requirement (35 credits):

Engl 1B-2B-3B; or Comm 1-2-3; or exemption
Econ 1-2—Principles of Economics
QA 5—Elements of Statistics

Acct 24-25-26—Principles of Accounting
Math 10—College Algebra (or equivalent)

Core Requirement (18 credits): Six courses selected from the following:

Prod 50—Production Management
QA 51—Business Statistics
IR 52—Systems of Industrial Relations: Labor
Marketing
Ins 53—Risk Management and Insurance
Tran 54—Transportation I: Principles
BFin 56—Corporation Finance
Mktg 57—Principles of Marketing
BLaw 58—Business Law: Contracts

Mgmt 60—Business Policy and Management
Control
Econ 65—Intermediate Economic Analysis I:
The Firm and Industry
Econ 66—Intermediate Economic Analysis II:
Income and Employment
Econ 67—Money and Banking
Econ 68—Elements of Public Finance
Econ 69—Government Regulation of Business

Electives in the School of Business Administration: At least 12 additional credits in courses in business administration. These may be selected from the core group above or from other courses.

Other Electives:

- A. Satisfactory completion of the prebusiness degree requirements in either social sciences, natural sciences, or humanistic courses (see items 4, 5, and 6 on page 41).
- B. Additional courses approved by the Committee on Student Scholastic Standing to make a minimum of 90 credits for the certificate. Students contemplating continuing toward a degree from the School of Business Administration should select electives which could become part of the degree program. These students are therefore urged to complete the prebusiness requirements (see page 41).

Accounting Certificates

The Junior Accounting Certificate program is of value to individuals in junior accounting positions in industry, to management personnel who are required to deal with common finance and accounting data, and to businessmen who wish to have a basic grounding and understanding of the elementary principles of accounting and corporation finance.

The courses required for the Senior Accounting Certificate provide very nearly the same background in accounting practice and theory as is available to students who graduate with a 4-year degree with specialization in this field. The full program forms a sound background for the continuation of independent study in preparation for the Certified Public Accountant examinations.

Junior Accounting Certificate

(45 credits)

Students transferring credits to this certificate program from other institutions accredited by the University of Minnesota must take a minimum of 15 credits in accounting courses at the University of Minnesota.

Requirements:

Engl 1B-2B-3B; or Comm 1-2-3; or exemption
Econ 1-2—Principles of Economics
BFin 56—Corporation Finance
(or) BFin 76—Financial Management

Acct 24-25-26—Principles of Accounting
Acct 105A-B-C—Intermediate Accounting
Acct 115A-B—Cost Accounting

Senior Accounting Certificate

(91 credits)

Students transferring credits to this certificate program from other institutions accredited by the University of Minnesota must take a minimum of 27 credits in accounting courses at the University of Minnesota.

Requirements:

Engl 1B-2B-3B; or Comm 1-2-3; or exemption
Comp 27—Advanced Writing
Math T, 10, and 40 (or equivalent)
Acct 24-25-26—Principles of Accounting
Acct 105A-B-C—Intermediate Accounting
Acct 115A-B—Cost Accounting
Three additional accounting courses numbered 100 or above
BFin 56—Corporation Finance
(or) BFin 76—Financial Management
Econ 1-2—Principles of Economics
QA 5—Elements of Statistics
QA 51—Business Statistics
BLaw 58—Business Law: Contracts
BLaw 78-88—Business Law (or approved substitutions in industrial management or industrial engineering)

Two courses from the following:

Prod 50—Production Management
IR 52—Systems of Industrial Relations: Labor Marketing
Ins 53—Risk Management and Insurance
Tran 54—Transportation I: Principles
Mktg 57—Principles of Marketing
Econ 65—Intermediate Economic Analysis I: The Firm and Industry
Econ 66—Intermediate Economic Analysis II: Income and Employment
Econ 67—Money and Banking
Econ 68—Elements of Public Finance
Econ 69—Government Regulation of Business

Management of Administrative Services Certificates

The Management of Administrative Services Certificate program has been developed by the General Extension Division in co-operation with the School of Business Administration and the Administrative Management Society.

These university-level certificate programs are designed especially for those management employees who have not received such training in schools of business or commerce, in order to assist them in becoming more competent in their present positions and to improve their opportunities for advancement.

Associate Management of Administrative Services Certificate

(45 credits)

In addition to the granting of the junior certificate by the General Extension Division on completion of the prescribed program, the student is entitled to the A.M.S. Associate in Management of Administrative Services Certificate.

Students transferring credits from other institutions to this certificate program must take a minimum of 12 credits, including 6 credits in economics or business administration courses, at the University of Minnesota.

Core Requirement (33 credits):

Review of Business English; or Business Correspondence; or Engl 1B; or Comm 1; or exemption
Econ 1-2—Principles of Economics
QA 5—Elements of Statistics

Acct 24-25-26—Principles of Accounting
BLaw 58—Business Law: Contracts
OMgt 99—Office Management—Management of Administrative Services
Psy 1-2—General Psychology

Electives: Additional courses to be selected from the list of requirements for the senior certificate to make a minimum of 45 credits total for the certificate.

Evening and Special Classes

Fellow Management of Administrative Services Certificate

(90 credits)

In addition to the granting of the senior certificate by the General Extension Division on completion of the prescribed program, the student is entitled to the A.M.S. Fellow in Management of Administrative Services Certificate.

Students transferring credits from other institutions to this certificate program must take a minimum of 24 credits, including at least 12 credits in School of Business Administration courses, at the University of Minnesota.

Core Requirement (39 credits):

Review of Business English and Business Correspondence, or Engl 1B-2B-3B; or Comm 1-2-3; or exemption
Econ 1-2—Principles of Economics
QA 5—Elements of Statistics
Acct 24-25-26—Principles of Accounting
IR 52—Systems of Industrial Relations: Labor Marketing

BLaw 58—Business Law: Contracts
OMgt 99—Office Management—Management of Administrative Services
Psy 1-2—General Psychology
Comp 58—Business Reports and Letters (or) Communication in Management

Group Requirements (27 credits):

Group I—At least three courses from the following (9 credits):

Ins 53—Risk Management and Insurance
Tran 54—Transportation I: Principles

BFin 56—Corporation Finance
Mktg 57—Principles of Marketing

Group II—At least six courses from the following (18 credits):

Acct 55C—Managerial Costs
Acct 55D—Analysis of Financial Statements
IR 62—Human Relations in Industry
IR 72—Systems of Industrial Relations: Manpower Management
Mgmt 70—History of Management Thought
BFin 76—Finance Management
Mgmt 80—Administrative Practices
BLaw 88—Business Law

Prod 110—Systems and Procedures Analysis: Work Measurement; or equivalent
OMgt 119—Business Communications and Correspondence Control
OMgt 129—Records Administration
OMgt 139—Analysis of Office Functions
Psy 122-123—Vocational and Personnel Psychology

Electives: Additional courses from the following list of courses or areas to make a minimum of 90 credits total for the certificate.

Mktg 87—Credits and Collections
OMgt 89B—Tabulating Equipment Applied to Business: Laboratory
Supervision I, II, III
Pol 68—Administrative Communication
Psy 156—Psychology of Advertising
Accounting
Business Finance
Economics
Production, Management, and Industrial Relations

Insurance
Marketing
Office Management
Real Estate
Sales Management
Transportation
English
Humanities
Social Science
Speech

Engineering Science and Engineering Technician Certificates

The technical progress of American industry has reached its high level of production through engineering teamwork. The engineering team is a three-part team:

- a. Engineers and scientists who formulate ideas and create new products and services.
- b. Engineering technicians who help develop, test, and apply these ideas and creations.
- c. Skilled workers who make the products and perform routine services.

It is the responsibility of our colleges and universities to provide training opportunities for persons capable of becoming professional engineers, scientists, and engineering technicians. Vocational and trade schools have the responsibility of training the skilled worker.

The Department of Evening and Special Classes of the General Extension Division offers a variety of certificates for the part-time student who has the ability to carry college-level courses leading to a career both at the professional engineer and engineering technician level. Interested students should study these certificates carefully and select the program best suited to their interests, abilities, present or future employment, and ultimate educational goals.

It is recognized that many capable students would like to complete an engineering degree. Such students should plan to complete the Senior Engineering Science Certificate and apply for admission to the Institute of Technology. Third-year Upper Division degree credit classes sequences in civil engineering, electrical engineering, and IT mathematics are available for evening students. It is hoped that such a class sequence will also be started in mechanical engineering in the near future. However, it must be remembered that most engineering curriculums are 5 years in length on a full-time basis. It is unlikely that it will be possible to complete any degree program entirely in the evening for some time to come.

For these reasons, part-time students are urged to consider seriously the Senior Engineering Technician programs. Our tremendous technological advancement since World War II has created a serious technical manpower shortage. Twin Cities industrial concerns constantly request engineering technicians. This is the type of training we strive to give through the Senior Engineering Technician Certificate programs.

Entrance into the Senior Engineering Science program or any of the Senior Engineering Technician programs is made upon completion of the Basic Engineering Science Certificate. An Application for Admission to Basic Engineering Science Certificate Program blank must be completed by the student when he begins the program. Although he will be permitted to make changes after securing the Basic Engineering Science Certificate, the Application for Admission information helps advisers to give more effective counseling. This blank is available at any General Extension Division office.

For the Engineering Science and Engineering Technician Certificates, grades of C or better are required in all courses in chemistry, engineering, engineering English, geology, graphics, mathematics, mechanics and materials, metallurgy, and physics. A student receiving a D grade in one of these fields must repeat the course, if it is required on the certificate. The D grade will be entered on the record and must be balanced by other grades, so that the over-all average of all courses offered for a certificate program is C or better.

Evening and Special Classes

Basic Engineering Science Certificate

(52 credits)

The Basic Engineering Science Certificate program is designed to provide the student with the fundamentals of English, mathematics, drawing, and physics which will enable him to handle basic engineering drafting assignments in any engineering field and will give him the necessary background for more specialized or advanced study either as an engineer or as an engineering technician. *All classes in the Basic Engineering Science Certificate program carry degree credit, representing the first year of required course work for an engineering degree, and are transferable to the Institute of Technology when admission requirements are satisfied.*

Students who complete the Basic Engineering Science Certificate may plan to continue in either the Senior Engineering Science Certificate, or one of the four Senior Engineering Technician Certificate programs, which are offered in the evening. Qualified students are urged to make application for admission to the Institute of Technology and, if possible, enroll in day school and work toward a degree in engineering.

The requirements for the Basic Engineering Science Certificate program are listed below. It should be noted that Math 11 and Math 12 (formerly ITM 11 and 12) are now certificate credit. This change has been made by the Institute of Technology which has revised its beginning courses in mathematics. Those students who have already started their mathematics courses for the Basic Engineering Science Certificate should consult the paragraph below on Alternate Requirements. No free electives or substitutions are permitted in this program, nor will any prerequisite be waived.

Students transferring credits from other institutions to this certificate program must take a minimum of 13 credits at the University of Minnesota.

Prerequisites: High school graduate or equivalent; 2 years of algebra and 2 years of geometry including solid geometry and trigonometry; and satisfactory completion of the English Placement Test.

Math 21—Calculus I: Calculus and Analytic Geometry	EG 25—Engineering Graphics
Math 22—Calculus II: Calculus and Analytic Geometry	Phys 11-12-12A-13-13A—General Physics
Math 23—Calculus III: Calculus and Analytic Geometry	Engl 1B-2B-3B—Freshman English

Electives: Courses from nontechnical or biological science electives, †† to make a minimum of 52 credits.

Alternate Requirements:

If a student has completed ITM 11-12-13A for credit, no additional courses are required.

If only ITM 11 and 12 have been completed for credit, he must take Math 21.

If only ITM 12 and 13A have been completed for credit, he must take Math 24A or Math 22.

If only ITM 12 has been completed for credit, he must take Math 21 and 22.

†† Institute of Technology nontechnical or biological science electives may be chosen from the following: Psy 1-2, 155; Biol 1-2; Econ 1-2, 172; IR 52; Pol 1-2, or 5, or A-B, 25; Soc 1-2, 14 or 104; SSci 1-2-3; Hum 51, 52, 53 or 21, 22, 23, or 71, 72, 73; Hist 20, 21, 22 or 79, 80, 81; philosophy; Engl 37, 38, 39; foreign language, except scientific language courses; religion.

Senior Engineering Science Certificate

(102 credits—includes 52 credits from Basic Engineering Science Certificate)

This certificate is designed for students who have a professional engineering degree objective and who wish to continue working toward one of the engineering curriculums of the Institute of Technology. This approach involves interweaving into one expanding pattern the elements of basic science, engineering science, professional engineering work, and design. To build the sound foundation required in engineering work the first 2 years of all engineering curriculums emphasize the basic sciences of mathematics, physics, and chemistry.

Work in nontechnical and biological science electives is also required throughout the entire engineering program. This is intended to broaden viewpoints and to add perspective.

All classes in the Senior Engineering Science Certificate program carry degree credit and are transferable to the Institute of Technology when admission requirements are satisfied.

The requirements for the Senior Engineering Science Certificate program are listed below. No substitutions are permitted in this program. Those students who have already started or completed the Basic Engineering Science Certificate with ITM 11-12-13A may continue the program as outlined below. This program will be phased out in the next 2 years. Those students starting the Basic Engineering Science Certificate as outlined on page 32 will be required to follow the new IT mathematics sequence, Math 31, 32, 33, which will be available in the near future.

Students transferring credits from other institutions to this certificate program must take a minimum of 26 credits at the University of Minnesota, including those taken for the Basic Certificate.

Prerequisite: Completion of Basic Engineering Science Certificate.

Core Requirement (38 credits):

Math 24A—Calculus II: Analytic Geometry and Calculus

Math 25A—Calculus III: Analytic Geometry and Calculus

Math 26A—Calculus IV: Differential Equations and Calculus

MM 27—Rigid-Body Mechanics I

Phys 14-14A—Intermediate General Physics and Physics Laboratory

Phys 50-50A—Intermediate General Physics and Physics Laboratory

GeCh 4-5—General Principles of Chemistry

Spread Requirement: A minimum of 6 credits from the following courses:

Math 90—Elementary Engineering Statistics

MM 28—Rigid-Body Mechanics II

MM 40—Deformable-Body Mechanics I

MM 41—Deformable-Body Mechanics II

GeCh 6—Principles of Solution Chemistry

OrCh 61-62—Elementary Organic Chemistry

Electives: Courses from nontechnical or biological science electives,†† or engineering Engl 85-86, or additional courses from the spread requirement to make a minimum of 102 credits, including those from the Basic Certificate.

†† Institute of Technology nontechnical or biological science electives may be chosen from the following: Psy 1-2, 155; Biol 1-2; Econ 1-2, 172; IR 52; Pol 1-2, or 5, or A-B, 25; Soc 1-2, 14 or 104; SSci 1-2-3; Hum 51, 52, 53 or 21, 22, 23, or 71, 72, 73; Hist 20, 21, 22 or 79, 80, 81; philosophy; Engl 37, 38, 39; foreign language, except scientific language courses; religion.

Evening and Special Classes

Senior Civil Engineering Technician Certificate

(102 credits—includes 52 credits from Basic Engineering Science Certificate)

The Senior Civil Engineering Technician Certificate is a specialized program. It enables a student to continue the Basic Certificate work in mathematics and communication and to concentrate his civil engineering study in the areas of hydraulics, structural, or highways and pavements.

This program is not a short cut to a professional degree in civil engineering. It is designed to train engineering technicians capable of being the liaison between the civil engineering and the skilled worker. Degree credit classes may be transferred to a degree program.

The requirements for the Senior Civil Engineering Technician Certificate program are listed below. No substitutions are permitted in this program. Those students who have already started or completed the Basic Engineering Science Certificate with ITM 11-12-13A may continue the program as outlined below. This program will be phased out in the next 2 years. Those students starting the Basic Engineering Science Certificate as outlined on page 32 will be required to follow the new IT mathematics sequence, Math 31, 32, 33, which will be available in the near future.

Students transferring credits from other institutions to this certificate program must take a minimum of 26 credits at the University of Minnesota, including those taken for the Basic Certificate.

Prerequisite: Completion of Basic Engineering Science Certificate.

Core Requirement (34 credits):

Engl 85—Advanced Technical Communication	MM 27—Rigid-Body Mechanics I
Math 24A—Calculus II: Analytic Geometry and Calculus	MM 40—Deformable-Body Mechanics I
Math 25A—Calculus III: Analytic Geometry and Calculus	CE 18-19—Surveying
	CE 31-32-33—Elementary Structural Analysis and Design

Concentration Requirement: Select at least four courses from the following civil engineering courses:

CE 20—Surveying	CE 142—Design of Reinforced and Prestressed Concrete I
CE 130—Statically Indeterminate Structures	CE 143A—Design of Reinforced and Prestressed Concrete II
CE 131—Structural Analysis	
CE 132—Structural Design	
CE 141—Reinforced and Prestressed Concrete	

Electives: Courses from nontechnical or biological science electives†† to make a minimum of 102 credits, including those from the Basic Certificate.

†† Institute of Technology nontechnical or biological science electives may be chosen from the following: Psy 1-2, 155; Biol 1-2; Econ 1-2, 172; IR 52; Pol 1-2, or 5, or A-B, 25; Soc 1-2, 14 or 104; SSci 1-2-3; Hum 51, 52, 53 or 21, 22, 23, or 71, 72, 73; Hist 20, 21, 22 or 79, 80, 81; philosophy; Engl 37, 38, 39; foreign language, except scientific language courses; religion.

Senior Electrical Engineering Technician Certificate

(102 credits—includes 52 credits from Basic Engineering Science Certificate)

The Senior Electrical Engineering Technician Certificate is a specialized program. It enables a student to continue the Basic Certificate work in mathematics, physics, and communication. It is designed to train engineering technicians capable of being the liaison between the electrical engineer and the skilled worker.

This program is not a short cut to a professional degree in electrical engineering; however, any degree credit classes may be transferred to a degree program.

The requirements for the Senior Electrical Engineering Technician Certificate program are listed below. No substitutions are permitted in this program. Those students who have already started or completed the Basic Engineering Science Certificate with ITM 11-12-13A may continue the program as outlined below. This program will be phased out in the next 2 years. Those students starting the Basic Engineering Science Certificate as outlined on page 32, will be required to follow the new IT mathematics sequence, Math 31, 32, 33, which will be available in the near future.

Students transferring credits from other institutions to this certificate program must take a minimum of 26 credits at the University of Minnesota, including those taken for the Basic Certificate.

Prerequisite: Completion of Basic Engineering Science Certificate.

Core Requirement (54 credits):

Math 24A—Calculus II: Analytic Geometry and Calculus

Math 25A—Calculus III: Analytic Geometry and Calculus

Math 26A—Calculus IV: Differential Equations and Calculus

MM 27—Rigid-Body Mechanics I

MM 28—Rigid-Body Mechanics II

Elements of Electric Circuits

Elements of Electric Machines and Control Systems

Elements of Electronics I-II-III

Engl 85—Advanced Technical Communication

Phys 14-14A—Intermediate General Physics and Physics Laboratory

Electives: Courses from nontechnical or biological science electives†† to make a minimum of 102 credits, including those from the Basic Certificate.

†† Institute of Technology nontechnical or biological science electives may be chosen from the following: Psy 1-2, 155; Biol 1-2; Econ 1-2, 172; IR 52; Pol 1-2, or 5, or A-B, 25; Soc 1-2, 14 or 104; SSci 1-2-3; Hum 51, 52, 53 or 21, 22, 23, or 71, 72, 73; Hist 20, 21, 22 or 79, 80, 81; philosophy; Engl 37, 38, 39; foreign language, except scientific language courses; religion.

Evening and Special Classes

Senior Industrial Engineering Technician Certificate

(102 credits—includes 52 credits from Basic Engineering Science Certificate)

The Senior Industrial Engineering Technician Certificate is a specialized program. It enables the student to continue his Basic Certificate work in mathematics and communication. It is designed to train engineering technicians capable of being the liaison between the industrial engineer and the skilled worker.

This program is not a short cut to a professional degree in industrial engineering; however, any degree credit classes may be transferred to a degree program.

The requirements for the Senior Industrial Engineering Technician Certificate program are listed below. No substitutions are permitted in this program. Those students who have already started or completed the Basic Engineering Science Certificate with ITM 11-12-13A may continue the program as outlined below. This program will be phased out in the next 2 years. Those students starting the Basic Engineering Science Certificate as outlined on page 32 will be required to follow the new IT mathematics sequence, Math 31, 32, 33, which will be available in the near future.

Students transferring credits from other institutions to this certificate program must take a minimum of 26 credits at the University of Minnesota, including those taken for the Basic Certificate.

Prerequisite: Completion of Basic Engineering Science Certificate.

Core Requirement (27 credits):

Math 24A—Calculus II: Analytic Geometry and Calculus
Math 25A—Calculus III: Analytic Geometry and Calculus
MM 27—Rigid-Body Mechanics I

MM 40—Deformable-Body Mechanics I
Engl 85—Advanced Technical Communication
Industrial Engineering and Management
Math 90—Elementary Engineering Statistics

Concentration Requirement: Select at least five courses from the following industrial engineering courses:

Motion and Time Study
Introduction to Reliability
Inventory and Production Control
Plastics Technology
Corporate Standard Data I, II

Introduction to Operations Research
Plant Layout and Materials Handling
Statistical Quality Control
Advanced Statistical Quality Control

Electives: Additional courses may be selected from the following suggested areas or courses to make a minimum of 102 credits, including those from the Basic Certificate.

Industrial Engineering
Mechanical Engineering
Electrical Engineering
Mathematics
Psy 1-2
Supervision I, II, or III

Econ 1-2—Principles of Economics
IR 52—Systems of Industrial Relations: Labor Marketing
IR 72—Systems of Industrial Relations—Manpower Management

Senior Mechanical Engineering Technician Certificate

(104 credits—includes 52 credits from Basic Engineering Science Certificate)

The Senior Mechanical Engineering Technician Certificate is a specialized program. It enables the student to continue his Basic Certificate work in mathematics and communication. It is designed to train engineering technicians capable of being the liaison between mechanical engineers and the skilled worker.

This program is not a short cut to a professional degree in mechanical engineering; however, any degree credit classes may be transferred to a degree program.

The requirements for the Senior Mechanical Engineering Technician program are listed below. No substitutions are permitted in this program. Those students who have already started or completed the Basic Engineering Science Certificate with ITM 11-12-13A may continue the program as outlined below. This program will be phased out in the next 2 years. Those students starting the Basic Engineering Science Certificate as outlined on page 32 will be required to follow the new IT mathematics sequence, Math 31, 32, 33, which will be available in the near future.

Students transferring credits from other institutions to this certificate program must take a minimum of 26 credits at the University of Minnesota, including those taken for the Basic Certificate.

Prerequisite: Completion of Basic Engineering Science Certificate.

Core Requirement (52 credits):

- Math 24A—Calculus II: Analytic Geometry and Calculus
- Math 25A—Calculus III: Analytic Geometry and Calculus
- Math 26A—Calculus IV: Differential Equations and Calculus
- Phys 14-14A—Intermediate General Physics and Physics Laboratory

- ME 21—Mechanisms: Kinematic Analysis
- ME 22—Mechanisms: Dynamic Analysis
- ME 23—Mechanisms: Components and Synthesis
- ME 30-31-32—Thermodynamics
- MM 27—Rigid-Body Mechanics I
- MM 40—Deformable-Body Mechanics I
- Engl 85—Advanced Technical Communication Instrumentation and Automatic Control

III. UNIVERSITY DEGREE PROGRAMS

It is possible through evening classes (sometimes in combination with correspondence study) to meet all of the requirements for the following regular University degrees: the Associate in Liberal Arts (A.L.A.), the Bachelor of Arts (B.A.), the Bachelor of Science in Business (B.S.B.), the Bachelor of Science in Economics (B.S.E.), and the Master of Business Administration (M.B.A.).

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

As soon as a student has decided that he wishes to pursue a degree program, he should contact a member of the Extension Committee on Student Scholastic Standing, who will assist him in:

1. Determining the student's status in relation to the degree program;
2. Obtaining proper forms necessary to initiate admission, both to the University of Minnesota and to the college in which the student will be a degree candidate.
3. Program advising at the Lower Division level and securing an adviser at the Upper Division level in the appropriate college.

Degree candidates are warned that in addition to University residence requirements, which are met by attendance in evening classes, there are specific college residence requirements, which are met only by attendance in classes *following* formal admission to the college granting the degree. Therefore, a student considering a degree program *must* consult a member of the Scholastic Committee early in consideration of such a program.

Bulletins of the various colleges of the University can be obtained by telephoning 373-2153, and asking for the Service Bureau.

Associate in Liberal Arts (A.L.A.)

The associate in liberal arts degree indicates the successful completion of a 90-credit program devoted largely to general education. The program is basically equivalent to 2 regular academic years of study and is granted by the College of Liberal Arts. Students find this degree desirable as an evidence of liberal arts achievement if they are transferring to a professional school. Extension students may be especially interested in the A.L.A. degree, both because it is more readily completed than the Bachelors' programs and the A.L.A. is a half-way point to many of the Bachelor's degrees. A student wishing to complete the A.L.A. degree through extension should talk with a member of the Extension Committee on Student Scholastic Standing as soon as he has made this decision.

Requirements for the A.L.A. degree are based on the Course Requirements for Admission to the Upper Division of the Arts College. From that list, these distribution requirements must be met: English (A), and at least three of the other four: Foreign Language (B), Social Science (C), Natural Science (D), and Humanities (E). The student must complete 90 credits, at least 45 of which must be earned following admission to the College of Liberal Arts. This constitutes the college residence requirement. Any or all of the first 45 credits may also be taken through correspondence courses.

A copy of the *Bulletin of the College of Liberal Arts* is essential for the A.L.A. degree student. In addition, a copy of *Procedures for Obtaining the Associate in Liberal Arts Degree Through Extension* should be obtained from the Extension office.

Bachelor of Arts (B.A.)

The bachelor of arts degree is granted by the College of Liberal Arts through evening classes. Part of the degree program may also be met through correspondence courses, if desired, or with credits transferred from other accredited colleges and universities. A student wishing to complete the B.A. degree through extension should talk with a member of the Extension Committee on Student Scholastic Standing as soon as he has made this decision.

Candidates for the B.A. degree complete a minimum of 180 credits in the Arts College. The first 90 credits are taken in the Arts College Lower Division; the final 90 are, for the most part, Upper Division courses. Listed here is the program followed while a student is in the Lower Division. When he has completed these requirements and is admitted to the Upper Division, he selects major and minor fields and concentrates his studies. In planning a Lower Division program, the student should fulfill whatever prerequisites may be required by his major.

A copy of the *Bulletin of the College of Liberal Arts* is essential for the B.A. degree student. In addition, a copy of *Procedures for Obtaining the Bachelor of Arts Degree Through Extension* should be obtained from the Extension office.

Evening and Special Classes

Course Requirements for Admission to the Upper Division for B.A. Degree

A. Freshman English: Engl A-B-C; or Engl 1A-2A-3A; or Engl 1B-2B-3B; or Comm 1-2-3; or exemption.

B. Foreign Language: From 0-15 credits according to the following schedule:

Amount presented from high school	Additional amount required in college
None	15 credits in one language
1 year	(a) 10 credits in same language or (b) 15 credits in different language
2 years in one language	(a) 5 credits in same language or (b) 10 credits in different language
3 or more years in one language	No college requirement if the high school work is validated by the appropriate college department
2 years in each of two languages	No college requirement if one language is validated at the 2-year level by the appropriate college department

C. Social Science: At least 15 credits in two or more of the following departments. At least 5 credits must be offered in any one department to count.

- | | |
|--|--|
| 1. Anthropology | 6. Political Science |
| 2. Economics (except 40) | 7. Psychology |
| 3. Business Administration (only Mgmt 1 and QA 5 accepted) | 8. Sociology |
| 4. Geography | 9. Social Science (Interdisciplinary Programs) |
| 5. History | |

D. Natural Science: At least 15 credits (of which a minimum of 8 must include laboratory††) from two or more of the following groups. At least 5 credits must be offered in any one department to count.

1. Biological sciences: botany, psychology, zoology, general biology
2. Physical sciences: astronomy, chemistry, earth sciences (geology), physics, Physical World
3. Mathematics (except 1, 2, 20, 21)
4. Orientation in the natural sciences (a student presenting credits in only NSci 1-2 must take his additional work in other than group D2)

E. Humanities: At least 15 credits from two or more of the following categories. At least 5 credits must be offered from any one category to count.

- | | |
|-----------------------|---|
| 1. Art | 7. Mathematics (except 1, 5, T, 20, 21) |
| 2. English literature | 8. Music |
| 3. Classics | 9. Philosophy |
| 4. Foreign literature | 10. Speech and theatre arts (except 6, 6A, 9, 39) |
| 5. History | |
| 6. Humanities | |

F. Course in Health: PubH 2 or 3 or 50 or equivalent.

G. Electives: Additional credits to make a total of 90.

Students should read the requirements as listed in the *Bulletin of the College of Liberal Arts* for additional notes on these requirements.

†† Introductory natural science courses which count toward the laboratory requirement are Biol 1-2; GeCh 4-5, 24-25; Geo 1-2; NSci 4-5-6; Phys 1-2-3 with 1A-2A-3A, 4-5-6, 7-8-9, 12-13; Psy 1-2 with 4-5. Nonlaboratory courses include Ast 11; Biol 1A-2A; Bot 10, 12, 14; Math T, 10, 40; NSci 1-2-3; Phys 1-2-3, 11; Psy 1-2.

Bachelor of Science in Business (B.S.B.)

Bachelor of Science in Economics (B.S.E.)

The bachelor of science in business and the bachelor of science in economics (economics sequence) degrees are granted by the School of Business Administration through evening classes. A limited portion of either degree program may also be met through correspondence courses, if desired. A student wishing to complete either the B.S.B. or the B.S.E. degree through extension should talk with a member of the Extension Committee on Student Scholastic Standing as soon as he has made this decision.

Candidates for either degree complete a minimum of 180 credits, part of which may be earned in other accredited colleges or universities. Usually the first 90 credits involve the completion of certain prebusiness requirements through extension courses or while registered in the College of Liberal Arts or the Institute of Technology of the University of Minnesota. After completion of these requirements, it is necessary that formal application be made to the School of Business Administration for admission. Under any circumstances, a minimum of 45 credits must be earned after such application and admission.

Usually admission applications are evaluated under either Arts College or Institute of Technology prebusiness requirements as listed below.

Prebusiness Course Requirements in the Arts College for the B.S.B. and B.S.E. (economics sequence) Degrees

- 1. Business and Economics Courses:** Acct 24-25-26, Principles of Accounting; Econ 1-2, Principles of Economics; QA 5, Elements of Statistics (for which the mathematics requirement in item 3 below is a prerequisite). (All courses are 3 credits each in extension.)
 - 2. Freshman English:** Engl A-B-C; or Engl IA-2A-3A; or Engl IB-2B-3B; or Comm 1-2-3; or GC 31A-31B-31C or 31D with required score; or exemption.
 - 3. Mathematics:** Math 10, College Algebra, or equivalent. Depending on background and ability, Math 11 may be prerequisite for Math 10.
 - 4. Social Sciences:** 15 credits†† from two or more of the following departments. At least 5 credits must be offered in any one department to meet this requirement. Anthropology, geography, history, political science, psychology, and sociology (except Soc 45). SSci 1-2-3 and 5 credits in one of the above departments will satisfy this requirement.
 - 5. Natural Science:** A minimum of 8 credits in a single natural science, with laboratory, selected from: biology, botany, chemistry, geology, physics, zoology, NSci 4-5-6 (Physical World). (Biol 1-2, GeCh 4-5, Phys 11-12, or Geo 1-2 offered in evening classes, will meet this requirement.)
 - 6. Humanistic Courses:** A minimum of 5 credits from each of two of the following categories: art, English literature, foreign literature, history, humanities, music, philosophy, speech and theatre arts (except Spch 3, 6, 9, and 39), a foreign language.††
 - 7. Electives:** To complete the minimum of 90 credits required for admission. (These may include some additional business or economics courses, although this is not recommended.) An over-all minimum grade average of C is also required for admission.
- 8. Note:** Students planning to enter the accounting program are required to complete the following courses in addition to those specifically listed above: Comp 27, Math 40 or equivalent.

†† Courses in history may be used to satisfy the requirements in only one area; 4½ transfer credits will satisfy any 5-credit requirement.

Evening and Special Classes

Prebusiness Course Requirements in the Institute of Technology for the B.S.B. Degree (four-year engineering-business program)

1. **Business and Economics Courses:** Acct 24-25-26, Principles of Accounting; Econ 1-2, Principles of Economics; QA 5, Elements of Statistics (for which the mathematics requirement in item 3 below is a prerequisite). (All courses are 3 credits each in extension.)
2. **Freshman English:** Engl A-B-C; or Engl 1A-2A-3A; or Engl 1B-2B-3B; or Comm 1-2-3; or GC 31A-B-C or D with required score; or exemption.
3. **Mathematics:** Math 21, 22, 23, 31, 32, 33.
4. **Other specific requirements:**
 - EG 25, Engineering Graphics (or equivalent)
 - Phys 11, 12-12A, 13-13A, 14-14A, 50-50A, General Physics
 - GeCh 14-15 (4-5), OrCh 16 or GeCh 6 or Phys 51, Chemistry/Physics
 - MM 27, Rigid Body Mechanics

Degree Requirements

Other prebusiness programs are found in the *Bulletin of the School of Business Administration*, a copy of which is essential for the B.S.B. or B.S.E. degree student. A copy of *Procedures for Obtaining the Bachelor of Science in Business or the Bachelor of Science in Economics Degree Through Extension* should be obtained from the Extension office.

Specific degree requirements for either are listed in the *Bulletin of the School of Business Administration*. For the B.S.B. degree, in addition to the prebusiness requirements listed above, the student must complete 42 credit hours of specified "core group" courses, at least 18 credit hours of School of Business Administration electives, and at least 18 credit hours of courses numbered 50 and above outside the School of Business Administration and Economics of which 9 credits of work must be in one department. Graduation requirements include a minimum of 180 credits with a C average.

A student may receive the B.S.B. degree after completion of a special program in accounting. This involves 180 credits with a C average, and prebusiness requirements as listed above, including Comp 27 and Math 40 or equivalent. (IT prebusiness requirements listed above may also be used, including Comp 27 and ITM 24A.) Beyond prebusiness, specific accounting program requirements include 42 credit hours of "core group" courses, about 37 credits in additional accounting and business law courses, and 9 credits in courses numbered 50 and above in a department outside of the School of Business Administration and the Department of Economics.

A student may graduate under the requirements in effect at the time he is admitted to the School of Business Administration. Consequently, different requirements from those listed above may still be in effect for some students.

Master's Degree

No complete Master's program is available through regular evening classes in the General Extension Division; however, some graduate credit toward such a degree is possible. See Graduate Credit, page 13 in this bulletin.

An evening program leading to the master of business administration degree is offered under the auspices of the Graduate School of Business Administration and the Graduate School of the University. Inquiries concerning this program should be directed to the Director of Graduate Programs, Graduate School of Business Administration, University of Minnesota, Minneapolis, Minnesota 55455.

Requests for information about evening graduate work in electrical engineering should be addressed to Department of Electrical Engineering, Institute of Technology, University of Minnesota, Minneapolis, Minnesota 55455.

IV. LIBERAL ARTS PROGRAMS

The General Extension Division of the University of Minnesota, recognizing that education is a continuing process, offers several liberal arts programs annually, designed especially for the inquiring adult. These programs are listed in a special booklet, "Learning for 20th Century Living." A copy may be secured by writing to Assistant to the Dean for Liberal Arts Programs, 153 Nicholson Hall, University of Minnesota, Minneapolis, Minnesota 55455.

Lecture Series

Each year the General Extension Division brings some of the country's outstanding experts to the Twin Cities for discussions of subjects of general interest. One such series of lectures is planned for 1965. It is open to the public.

Neighborhood Seminars

If 16 or more persons wish to organize a study and discussion group on a subject of mutual interest they may request the Extension Division to set up a Neighborhood Seminar, and services of qualified instructors will be made available. The group meets for approximately eight sessions in the homes of its members or in a convenient school or church. Seminar subject matter will vary according to whatever is of particular interest to a group. Previous Neighborhood Seminars have included such titles as: Modern Russian History; Poetry, Painting, and Music of Today; American Goals and Values; Primary Ideas in the 20th Century; and Comparative Religions. Requests for fall quarter seminars should be made by September 1, winter quarter by December 1, and spring quarter by February 1. Registration is through the General Extension Division with fees of approximately \$16 per person or \$24 per couple. There is no University credit. For further information, telephone 373-3919.

Seminars for Women

As part of the Minnesota Plan for the Continuing Education of Women, the General Extension Division offers four seminars especially designed for the adult woman. To sharpen critical thinking and to renew academic discipline are the major aims of the seminars. They are meant to be a first step back to more intensive and objective study—whether pursued independently or under University guidance.

In every seminar, all assigned reading (approximately one book a week) and periodic short papers are required from each registrant so that she may be aware of her growing competence and understanding. No examinations are given but anyone desiring credit must write a satisfactory long paper in addition to the regular course requirements.

Meetings are held on the Minneapolis Campus from 9:30 a.m. to approximately 12 noon every other week from October through June. Tuition for the year for each seminar is \$75. Registration is limited to 20 women in each seminar.

Seminar applicants must be members of the Minnesota Plan. To register in the Plan, telephone 373-3850 or write to Minnesota Plan for the Continuing Education of Women, Room 219 Temporary North of Mines, University of Minnesota, Minneapolis, Minnesota 55455. For information about seminars, write to Assistant to the Dean for Liberal Arts Programs, 153 Nicholson Hall, University of Minnesota, Minneapolis, Minnesota 55455, or telephone 373-3919.

Arts of Reading

(This seminar for women will be offered again in 1965-66.)

Cultivation of Vision

Perhaps, because ours is a complicated culture based on mainly a sense of vision, most of us look at but do not see the world around us. This seminar, using great art and fine design from a number of fields as tools, attempts to sharpen the perception our civilization has lost so largely. Not an art history or art appreciation course, the seminar concentrates on the links between the sense of vision and man's emotional and intellectual concepts. It is held every other Monday.

Culture and Society

Cross-cultural comparisons both in time and space illumine our accepted practices and make for more objective understanding of other peoples. This seminar, presented for the first time in 1963-1964, examines a number of ancient and modern societies in an attempt to introduce perspective for current judgment about world affairs. Designed by Professor E. Adamson Hoebel, head of the Department of Anthropology, and Professor Harold Deutsch, head of the Department of History, the seminar meets on alternate Tuesdays.

Ideas in America

Faculty from the natural and physical sciences, the social sciences, and the humanities will analyze ideas underlying the particular personal, social, and political structures of the United States. Several short, analytical papers will be required to supplement the assigned reading. This seminar is scheduled for every other Thursday.

New Worlds of Knowledge

A liberal arts seminar with informal lectures and discussion covering a wide range of topics from physics through the biological and social sciences, to art, music, and literature. The primary emphasis is on new developments in the last 15-20 years and the differing methods of critical thinking appropriate to each field. All registrants, whether wishing credit or not, are required to write several papers under tutorial guidance. Extensive outside reading is also part of the course requirement. (Two or three residential meetings of a day and a half each are held in the Center for Continuation Study where dormitory space is available.) This seminar is held every other Wednesday.

Seminar for Men

Arts of Reading

The written word both reflects and shapes man's attitudes. In this seminar, readings of intellectual and literary distinction or of historical importance are used for classroom discussion and written analysis. In this way, literary and critical principles are taught with the aim of developing skill in thinking clearly. Application of principles of analysis also sharpen the skills of speaking, writing, and reading. First semester readings in the course illustrate the presentation of ideas through direct expository writing.

Evening and Special Classes

Short fiction, poetry, and the drama are examined during the second semester. Several short, analytical papers will be required to supplement the assigned reading. The lecture-discussions will be held in the faculty club from 6 to 9 p.m. (including a dinner break) 1 day every 2 weeks from October through June. Tuition is \$75 plus the dinner. Exact cost and dates will appear in the booklet, *Learning for 20th Century Living*.

(Your attention is invited to the evening class, *Creative Problem Solving*, which is of particular interest to liberal arts students. See page 112.)

V. COURSE OFFERINGS

AGRICULTURE

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

HORTICULTURE

Robert A. Phillips, Assistant Professor of Horticulture
Orrin C. Turnquist, Professor of Horticulture

Hort 10. Home Floriculture and Gardening. 3 degree credits. \$30 plus \$2.50 materials fee.

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

Fall Quarter

T 6:20-8:50, Horticulture 102, St. Paul Campus,
Phillips

Hort 41. Horticultural Crop Judging. 3 degree credits. \$30.

The course is designed for anyone interested in becoming a judge of horticultural exhibits, including flowers, fruits, and vegetables (other than arrangements). It should also be of special interest to vocational agricultural instructors or anyone connected with this type of work. Course will include selection of materials for and preparation of exhibits, as well as their evaluation and judging. (Prerequisite: 1, 6, or 4)

Note—Any student who successfully completes this course will, upon application to the Minnesota State Horticultural Society, be registered with that organization as "certified judge of horticultural specimen exhibits."

Fall Quarter

M 6:30-9:00, Horticulture 8, St. Paul Campus,
Turnquist

Hort 51. Garden Flowers and Home Gardening. 3 degree credits. \$30.

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)

Special Term—February 16 to April 27

T 6:20-8:50, Horticulture 102, St. Paul Campus,
Phillips

Symbols explained on page 11.

Evening and Special Classes

Hort 60. Home Landscape Planning. 3 degree credits. \$30.

An opportunity for the home owner to learn the principles of planning the home grounds and how to apply them to his own problems 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 Quarter

Th 6:20-8:50, Horticulture 102, St. Paul Campus,
Phillips

Hort 61. Home Landscape Planting and Construction. 3 degree credits. \$30.

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. 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. (No prerequisite)

Special Term—February 18 to April 29

Th 6:20-8:50, Horticulture 102, St. Paul Cam-
pus, Phillips

ARTS AND SCIENCES

ANTHROPOLOGY

Vernon R. Helmen, *Lecturer in Anthropology*

Claude Stipe, *Lecturer in Anthropology*

Anth 1A. Introduction to Anthropology: Prehistoric Man and Culture. 3 degree credits. \$30.

Origins of man and development of modern races. Growth and differentiation of the cultures of man from the Dawn Stone Age of early glacial time through the Old and New Stone Ages to the dawn of civilization in the Bronze and Iron Ages. (No prerequisite. Repeated spring semester)

Fall Semester

T 8:15-9:55, Ford 180, Helmen

Spring Semester

T 6:00-7:40, StP Ext Center 201, Helmen

Anth 2A. Introduction to Anthropology: Cultural Anthropology. 3 degree credits. \$30.

The varieties and range of human behavior as revealed through the study of primitive societies in all parts of the world. A scientific analysis of the way in which primitive men organize their lives, directed toward a deeper and broader understanding of human capacities and purposes. (No prerequisite)

Spring Semester

T 8:15-9:55, Ford 180, Stipe

Anth 80. The American Indian. 3 degree credits. \$30.

The peopling of North and South America. Physical and cultural characteristics of the tribes of the major culture areas. (No prerequisite)

Spring Semester

Th 8:15-9:55, West Bank CB 135, Helmen

Anth 161. Primitive Religion. 3 degree credits. \$30.

Beliefs and practices in primitive religious systems; the roles of the sacred, the supernatural, and beliefs in continuance of life after death; and the role of the dead in the life-ways of primitive peoples. May not be taken for graduate credit. (No prerequisite)

Fall Semester

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

ART

Art Education

(See page 131)

Art History and Criticism

Norman W. Canedy, *Assistant Professor of Art*

Timothy Crane, *Instructor in Art*

Eileen Michels, *Instructor in Art*

Symbols explained on page 11.

Evening and Special Classes

Hylton Thomas, Professor of Art

Donald R. Torbert, Professor of Art

Melvin Waldfogel, Associate Professor of Art

Art 1. Introduction to Art. (Art 50) 3 degree credits. \$30 plus \$2 laboratory fee.**

A comprehensive survey of the main problems of meaning, form, and style in the visual arts (architecture, sculpture, painting, the graphic arts, and photography) of the various cultures and periods. The course attempts to enable students to interpret works of art critically by relating them to their geographic, historical, and social origins, and by placing them within the proper phases in the evolution of art. The course touches on the main periods of art history and is designed to familiarize students with the critical and technical vocabulary used in the literature of art. (No prerequisite. Repeated winter and spring quarters)

Fall Quarter		Winter Quarter		Spring Quarter	
M	6:00-8:30, StP Ext Center Aud, Michels	T	6:20-8:50, Jones 207b, Torbert	M	6:00-8:30, StP Ext Center Aud, Michels
T	6:20-8:50, Jones 207b, Torbert			T	6:20-8:50, Jones 207b, Torbert

Art 2. Masterworks of Ancient and Medieval Art. (Art 52) 3 degree credits. \$30 plus \$2 laboratory fee.**

Based on selected monuments; broad critical analysis of Egyptian, Mesopotamian, Greek, Hellenistic, Roman, and medieval art as separate but related expressions of the culture in the periods indicated. (No prerequisite)

Winter Quarter	
M	6:20-8:50, Jones 207b, Thomas

Art 3. Masterworks of Renaissance and Modern Art. (Art 53) 3 degree credits. \$30 plus \$2 laboratory fee.**

Second course of series, selected monuments of Renaissance, baroque, rococo, and modern art and culture. (No prerequisite)

Spring Quarter	
M	6:20-8:50, Jones 207b, Thomas

Art 50, 52, 53. 3 degree credits each quarter. \$30 plus \$2 laboratory fee each quarter.

Fall Quarter—Winter Quarter—Spring Quarter
See course description, day, time, place, and instructor as listed under Art 1, 2, 3.

Art 66X. Early Renaissance Art. 3 degree credits. \$30 plus \$2 laboratory fee.

Fifteenth-century architecture in Italy (Brunelleschi, Alberti); sculpture (Ghiberti, Donatello); painting (Masaccio, Piero della Francesca, Botticelli, Giovanni, Bellini, Leonardo). Northern late Gothic architecture and sculpture (Sluter). Flemish painting (van Eyck, van der Weyden, Bosch). (Prerequisite: 1 or 50 or 6)

Fall Quarter	
Th	6:20-8:50, Jones 207b, Canedy

Art 67X. High Renaissance and Mannerist Art. 3 degree credits. \$30 plus \$2 laboratory fee.

Sixteenth-century architecture, sculpture, and painting in Italy (Bramante, Palladio; Michelangelo, Giovanni da Bologna; Raphael, Correggio; Titian, Tintoretto). Spanish painting (El Greco). Northern

Symbols explained on page 11.

Course Offerings—Arts and Sciences

Renaissance architecture. Flemish and German painting (Brueghel, Durer, Holbein, Altdorfer, Cranach). (Prerequisite: 1 or 50 or #)

Winter Quarter

Th 6:20-8:50, Jones 207b, Canedy

Art 68X. Baroque Art. 3 degree credits. \$30 plus \$2 laboratory fee.

Seventeenth-century architecture, sculpture, and painting in Italy (Bernini; Caravaggio, the Carracci). French art (Versailles; Poussin, Lorrain). Flemish and Dutch painting (Rubens, Van Dyck; Rembrandt, Hals, Vermeer, Ruisdael). Spanish painting (Valasquez). (Prerequisite: 1 or 50 or #)

Spring Quarter

Th 6:20-8:50, Jones 207b, Canedy

Art 76X. Modern Art: The Eighteenth Century. 3 degree credits. \$30 plus \$2 laboratory fee.

Rococo, neoclassical and early romantic art in England, France, Spain, Germany, and Italy: Watteau, Boucher, David, Houdon, Soufflot, Hogarth, Reynolds, Kent, Soane, Goya, Tiepolo, Guarini, Schlueter, Neumann. (Prerequisite: 1 or 50 or #)

Fall Quarter

T 6:20-8:50, Jones 207a, Waldfogel

Art 77X. Modern Art: The Nineteenth Century. 3 degree credits. \$30 plus \$2 laboratory fee.

Romantic, realist, impressionist, and postimpressionist painting in England, France, Germany; Delacroix and Constable, Courbet and Manet, Monet and Renoir, Cezanne and Van Gogh. Architectural revivals and reforms; sculpture in France. (Prerequisite: 1 or 50 or #)

Winter Quarter

T 6:20-8:50, Jones 207a, Waldfogel

Art 78X. Modern Art: The Twentieth Century. 3 degree credits. \$30 plus \$2 laboratory fee.

Abstract and expressive painting in Europe and the United States: Matisse, Picasso, Mondrian, Munch, Kokoschka, Miro, Pollock, DeKooning. Comparable developments in sculpture and architecture: Lipchitz, Brancusi, Gropius, Wright. (Prerequisite: 1 or 50 or #)

Spring Quarter

T 6:20-8:50, Jones 207a, Waldfogel

Art 129. History of the Graphic Arts. 3 degree credits. \$30 plus \$2 laboratory fee.

Origins of the woodcut and of engraving. Renaissance and baroque master etchers and engravers. Mantegna, Raimondi, Schonguer, Durer, Holbein, Lucas van Leyden, Callot, Rembrandt. Reproductive and portrait engraving of the 17th and 18th centuries. Lithography, Gericault, Delacroix, Daumier. Twentieth-century printmaking. (Prerequisite: 9 credits in art history or #)

Fall Quarter

M 6:20-8:50, Jones 207a, Thomas

Studio Courses

Phyllis Ames, Lecturer in Art

Peter Busa, Associate Professor of Art

Symbols explained on page 11.

Evening and Special Classes

Allen Downs, Professor of Art
Benjamin A. Gingold, Jr., Lecturer in Art
Michael J. Hopkins, Color Consultant
Leah M. Lewis, Associate Professor of Interior Design
Jerome Liebling, Professor of Art
Freddy M. Munoz, Instructor in Art
Malcolm Myers, Professor of Art
Richard Randell, Instructor in Art
Richard Sussman, Visiting Lecturer in Art
Robert Wilcox, Instructor in Art
Elmer E. Young, Professor of Art

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

***Art 10. Basic Photography I. 3 degree credits. \$30 plus \$10 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 the 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 to those who want to know how to use a camera efficiently. (No prerequisite. Limited to 20 students. Students must furnish own cameras. Repeated spring semester)

Fall Semester

M 6:20-8:50, Jones 2, Liebling
W 6:20-8:50, Jones 2, Wilcox

Spring Semester

M 6:20-8:50, Jones 2, Liebling

***Art 11. Basic Photography II. 3 degree credits. \$30 plus \$10 laboratory fee.**

A course for amateurs with some experience and familiarity with special photographic equipment and techniques. Work will include some assigned projects, lectures, and demonstrations, but special attention will be given to individual interests and requirements. (Prerequisite: Art 10 or equivalent with $\#$. Limited to 20 students. Students must furnish own cameras.

Spring Semester

W 6:20-8:50, Jones 2, Liebling

***Art 20. Basic Drawing. 2 degree credits. \$30 plus \$3 laboratory fee.**

An introduction to studio work; exploration of contemporary and traditional methods. Work from nature, various drawing and painting media. (No prerequisite. Limited to 25 students. Repeated spring semester)

Fall Semester

M 6:20-8:50, Jones 109, Young
T 6:20-8:50, TSF 259, Downs
Th 6:20-8:50, Jones 109, Downs

Spring Semester

M 6:20-8:50, Jones 109, Young
T 6:20-8:50, TSF 259, Downs

Symbols explained on page 11.

Course Offerings—Arts and Sciences

***Art 23. Drawing and Painting. 2 degree credits. \$30 plus \$3 laboratory fee.**

Work from life and nature, introduction to color and pictorial structure. (No prerequisite. Limited to 25 students. Repeated spring semester)

Fall Semester

T 7:00-9:30, Walker Art Center, Sussman
Th 6:20-8:50, TSF 256, Young

Spring Semester

T 7:00-9:30, Walker Art Center, Sussman
Th 6:20-8:50, TSF 256, Young

***Art 32. Elements of Printmaking. 2 degree credits. \$30 plus \$3 laboratory fee.**

Foundation course designed to familiarize the student with the media of printmaking in general. Problems in engraving, etching, and other techniques employed in working on metal plate, as well as lithography, woodcuts, and combined processes. (Prerequisite: 23 or ‡. Meets concurrently with 33 and 90. Limited to 25 students. Repeated spring semester)

Fall Semester

T 6:20-8:50, Jones 202, Myers

Spring Semester

T 6:20-8:50, Jones 202, Myers

***Art 33. Printmaking. 2 degree credits. \$30 plus \$3 laboratory fee.**

A continuation of Art 32 with more emphasis on the technical and aesthetic problems involved in the execution of prints. Lectures and demonstrations given. (Prerequisite: 32. Meets concurrently with 32 and 90. Limited to 25 students)

Fall Semester

T 6:20-8:50, Jones 202, Myers

***Art 40. Basic Sculpture I. 2 degree credits. \$30 plus \$3 laboratory fee.**

Study of structure in nature. Direct construction, casting and carving in various media. (No prerequisite. Meets concurrently with 41 in spring semester. Limited to 25 students. Repeated spring semester)

Fall Semester

Th 6:20-8:50, Holman 154, Randell

Spring Semester

Th 6:20-8:50, Holman 154, Randell

***Art 41. Basic Sculpture II. 2 degree credits. \$30 plus \$3 laboratory fee.**

Integrates basic principles examined in Art 40. Natural form is studied for sculptural possibilities. A more imaginative approach to the study of nature is encouraged. In addition to clay, direct plaster construction is the principal medium. Drawing from life precedes each problem. (Prerequisite: 40 or ‡. Meets concurrently with 40. Limited to 25 students)

Spring Semester

Th 6:20-8:50, Holman 154, Randell

***Art 45. Ceramic Processes. 2 degree credits. \$30 plus \$3 laboratory fee.**

Introduction to building pottery by hand and forming on the potter's wheel. Experiments with decorative techniques on wet clay and on bisque fired pottery. Primarily concerned with pottery as a creative expression but includes technical considerations of clays, glazes, and kilns. (No prerequisite. Meets concurrently with 94 in spring semester. Limited to 25 students. Repeated spring semester)

Fall Semester

Th 6:20-8:50, Holman 134

Spring Semester

Th 6:20-8:50, Holman 134

***Art 51-54-55. Life Drawing. 2 degree credits. \$30 plus \$3 laboratory fee.**

Portraiture and life drawing from the model, still life, and nature. Principles of anatomy. (Prerequisite: 23 or ‡. Registration may be for any unit with ‡. Limited to 25 students. Repeated spring semester)

Fall Semester

W 6:20-8:50, Jones 200, Busa

Spring Semester

W 6:20-8:50, Jones 200, Busa

Symbols explained on page 11.

Evening and Special Classes

***Art 60B-61B-62B. Water Color.** 2 degree credits. \$30 plus \$3 laboratory fee.

Introduction to transparent water color, gouache, casein, and tempera. General course introducing the student to a variety of drawing and painting media. Figure, still life, landscape, and abstract design. (Prerequisite: 20 or 23 or # for 60B; 60B or # for 61B; 61B or # for 62B. Limited to 25 students. Repeated spring semester)

Fall Semester

M 6:20-8:50, TSF 256, Ames

Spring Semester

M 6:20-8:50, TSF 256, Ames

Art 65. Commercial Design. 3 degree credits. \$30 plus \$2 laboratory fee.

Commercial art, offered as part of minor in art. Commercial art problems in design and drawing emphasizing the application of design principles. (No prerequisite. Meets concurrently with Art 73. Repeated spring semester)

Fall Semester

Th 6:20-8:50, Jones 200

Spring Semester

Th 6:20-8:50, Jones 109

***Art 70-71-72. Oil Painting.** 3 degree credits. \$30 plus \$3 laboratory fee.

Introduction to medium of oil; individual projects and instruction. (Prerequisite: 54 or #. Meets concurrently with 70B. Limited to 25 students. Repeated spring semester)

Fall Semester

M 6:20-8:50, Jones 200, Busa

Spring Semester

M 6:20-8:50, Jones 200, Busa

***Art 70B-71B-72B. Oil Painting.** 2 degree credits. \$30 plus \$3 laboratory fee.

Oil painting for general students. (Prerequisite: 20 or 23. Meets concurrently with 70. Limited to 25 students. Repeated spring semester)

Fall Semester

M 6:20-8:50, Jones 200, Busa

Spring Semester

M 6:20-8:50, Jones 200, Busa

Art 73. Presentation Techniques. 3 degree credits. \$30 plus \$2 laboratory fee.

The visual means of communicating ideas in the fields of exhibition techniques, illustration, and advertising. Investigation of the characteristics and the creative use of various mediums. (No prerequisite. Meets concurrently with Art 65)

Spring Semester

Th 6:20-8:50, Jones 109

Your attention is called to the Interior Design Certificate Program, see page 22.

***Art 83A. Interior Design I.** 3 degree credits. \$30 plus \$1 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. Drawing not emphasized. Slides and practical demonstrations are used in the regular class procedure. (No prerequisite. Each section limited to 50 students, accepted in order of registration. Repeated spring semester)

Fall Semester

M 6:20-8:00, Johnston 122, Lewis

T 6:20-8:00, Johnston 122, Lewis

Th 6:20-8:00, Johnston 122, Lewis

Spring Semester

W 6:20-8:00, Johnston 122, Lewis

Th 6:20-8:00, Johnston 122, Lewis

Art 84A. Interior Design II. 3 degree credits. \$30 plus \$1 laboratory fee.

Trends in decorative fabrics and floor coverings including new fiber combinations in curtain, drapery, upholstery fabrics are studied. How to estimate yardage is explained. Major accessories in-

Symbols explained on page 11.

Course Offerings—Arts and Sciences

cluding ceramics and use of metals in interiors are considered. Building color schemes and types of window treatment are discussed and demonstrated. Students learn to recognize the work of important designers. Talks by interior designers from the area add interest to the course. (Prerequisite: 83A)

Spring Semester

M 6:20-8:00, Johnston 122, Lewis

T 6:20-8:00, Johnston 122, Lewis

*Art 90. Advanced Printmaking. 2 degree credits. \$30 plus \$3 laboratory fee.

A print class for students who have had experience in drawing, composition. All techniques of fine printing will be taught and color printing will be demonstrated in the area of etching, lithography, and woodcuts. (Prerequisite: 32 or #. Meets concurrently with 32 and 33. Limited to 25 students.

Fall Semester

T 6:20-8:50, Jones 202, Myers

*Art 94. Ceramic Design. 2 degree credits. \$30 plus \$3 laboratory fee.

Continuation of Art 45. Greater emphasis on wheel throwing. Advanced design problems and introduction to glaze and clay experimentation. Emphasis on the development of personal expression in ceramic medium. (Prerequisite: 45 or #. Meets concurrently with 45. Limited to 25 students)

Spring Semester

Th 6:20-8:50, Holman 134

*Art 103A-104A. Seminar in Interior Design. 3 degree credits each semester. \$30 each semester.

A further expansion of subjects studied in Art 83A-84A. Students will work on individual projects under supervision. (Prerequisite: 84A for 103A; 103A for 104A; must be taken in sequence. Limited to 25 students. No auditors)

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

Fall Semester

103A W 8:15-9:55, Johnston 126, Lewis

Spring Semester

104A W 8:15-9:55, Johnston 126, Lewis and staff

Art 123. Film Workshop. 3 degree credits. \$30 plus \$5 laboratory fee.

Studio problems in script preparation, camera techniques, and editing with an emphasis on the visual aspects of film making. Analysis of selected professional films. Of interest to students in photography and other kinds of visual communications. (Prerequisite: some background in photography or #)

Spring Semester

Th 6:20-8:50, Jones 4, Downs

Art. Layout for Interior Design I. 3 certificate credits. \$30.

This course will give experience in handling tools and materials of drafting, and the use of design principles through drawing and perspective. Organization and content of layouts for interior design. Practice in doing plan view, simple perspective, elevation, etc., as helps in presenting ideas used in interior design. (No prerequisite. Repeated spring semester)

Fall Semester

T 6:20-8:00, Jones 109, Hopkins

Spring Semester

T 6:20-8:00, Jones 109, Hopkins

Symbols explained on page 11.

Evening and Special Classes

Art. Layout for Interior Design II. 3 certificate credits. \$30.

Continuation of Layout for Interior Design I. Emphasis on application of design principles to the interior design situation. Discussion and advanced problems in both the commercial-institutional and residential fields. (Prerequisite: Layout for Interior Design I)

Fall Semester

T 8:15-9:55, Jones 109, Hopkins

***Art. Use of Color.** 3 certificate credits. \$30.

Lectures and laboratory work demonstrating how color should and should not be used in public buildings and private residences. This course is designed to be of service to both the amateur home decorator and to the professional artist, architect, advertiser, or decorator. The course will deal with basic theory of color as well as problems in the use of color in architecture and interior design. (No prerequisite. Limited to 25 students)

Spring Semester

T 8:15-9:55, Jones 109, Hopkins

Art. Home Design and Planning. 3 certificate credits. \$30 plus \$1 laboratory fee.

A review of residential planning and design techniques of historical styles and significant modern work. Emphasis on basic factors of functional and aesthetic components as effected through building technology. Consideration given to neighborhood and site planning, landscaping, interior design, modern concepts of family living, building materials and methods, climate control and conditioning and building restrictions. Discussion of existing houses, apartments, two-family houses; their economics and planning technique. (No prerequisite)

Fall Quarter

Th 6:20-8:50, Architecture 45, Gingold and staff

Courses at St. Paul Art Center

Richard Abnet, Lecturer in Art

Herb Baldwin, Lecturer in Art

Anthony Caponi, Lecturer in Art

Gerald Fontaine, Lecturer in Art

Syd Fossum, Lecturer in Art

Clair Fry, Lecturer in Art

Karl Hagedorn, Lecturer in Art

Clement Haupers, Lecturer in Art

Donald Jensen, Lecturer in Art

Paul Kramer, Lecturer in Art

Mac LeSueur, Lecturer in Art

Peter Lupori, Lecturer in Art

Stanley Madeja, Lecturer in Art

William Nolan, Lecturer in Art

The St. Paul Art Center is located at Cedar and Exchange Streets. Telephone CApital 5-9621. Registration may be made at any Extension Office, but *not* at the Art Center.

Symbols explained on page 11.

Course Offerings—Arts and Sciences

Art 21A, 21B. Life Drawing. 2 degree credits each semester. \$30 plus \$5 laboratory fee each semester.

Drawing and composition from the figure. Special emphasis on surface anatomy of the individual model. (No prerequisite for 21A or B. Need not be taken in sequence)

Fall Semester

A T 7:00-9:30, StP Art Center B-131,
Kramer
A Th 7:00-9:30, StP Art Center B-130,
Kramer

Spring Semester

B T 7:00-9:30, StP Art Center B-131
B Th 7:00-9:30, StP Art Center B-130,
Kramer

Art 23-24-25. First Year Drawing and Painting. 2 degree credits each semester. \$30 plus \$5 laboratory fee each semester.

An introduction to a variety of art experiences in drawing and painting, through exploration with pencil, charcoal, watercolor, and oil paints. The class will provide the discipline of drawing directly from the model and still life. (No prerequisite for 23; 23 or # for 24; 24 or # for 25)

Fall Semester

M 7:00-9:30, StP Art Center B-130, Baldwin
T 7:00-9:30, StP Art Center B-130
W 7:00-9:30, StP Art Center B-130, Hagedorn

Spring Semester

M 7:00-9:30, StP Art Center B-130, Baldwin
T 7:00-9:30, StP Art Center B-130
W 7:00-9:30, StP Art Center B-130, Hagedorn

Art 40A, 40B. Ceramic Sculpture. 2 degree credits each semester. \$30 plus \$5 laboratory fee each semester.

Creative three-dimensional design derived from animal, human, and abstract forms. Use of various colored clays and glazes. (No prerequisite for 40A or B. Need not be taken in sequence)

Fall Semester

A M 7:00-9:30, StP Art Center B-141, Caponi
A W 7:00-9:30, StP Art Center B-141, Lupori

Spring Semester

B M 7:00-9:30, StP Art Center B-141, Caponi
B M 7:00-9:30, StP Art Center B-141, Lupori

Art 45-94-95. Pottery Making. 2 degree credits each semester. \$30 plus \$5 laboratory fee each semester.

Fundamentals of making pottery. Includes handbuilding, wheel throwing, decorative techniques in slip and glaze, glazing and firing. A time other than the regular class period will be made available for students to work in the Pottery Shop. Consult instructor. (No prerequisite for 45; 45 or # for 94; 94 or # for 95. Repeated spring semester)

Fall Semester

T 7:00-9:30, StP Art Center B-141, Fontaine
Th 7:00-9:30, StP Art Center B-141, Fontaine
F 7:00-9:30, StP Art Center B-141, Abnet

Spring Semester

T 7:00-9:30, StP Art Center B-141, Fontaine
Th 7:00-9:30, StP Art Center B-141, Fontaine
F 7:00-9:30, StP Art Center B-141, Abnet

***Art 49A, 49B. Jewelry Making.** 2 degree credits each semester. \$30 plus \$3 laboratory fee each semester.

Instruction in basic metal working techniques involved in the making of jewelry. Special emphasis is placed upon individual solutions to problems of design and construction. Class open to beginning and advanced students. (No prerequisite for 49A or B. Need not be taken in sequence. Limited to 12 students)

Fall Semester

A M 7:00-9:30, StP Art Center B-146,
Madeja
A T 7:00-9:30, StP Art Center B-146,
Baldwin
A W 7:00-9:30, StP Art Center B-146,
Madeja
A Th 7:00-9:30, StP Art Center B-146,
Baldwin

Spring Semester

B M 7:00-9:30, StP Art Center B-146,
Madeja
B T 7:00-9:30, StP Art Center B-146,
Baldwin
B W 7:00-9:30, StP Art Center B-146,
Madeja
B Th 7:00-9:30, StP Art Center B-146,
Baldwin

Symbols explained on page 11.

Evening and Special Classes

Art 54C, 54D. Portraits (Painting and Drawing). 2 degree credits each semester. \$30 plus \$5 laboratory fee each semester.

This class is for students who have had sufficient background and command of drawing and painting to pursue the subject of portraits effectively. (Prerequisite 21B or # for 54C or D. Need not be taken in sequence)

Fall Semester

C M 7:00-9:30, StP Art Center B-131,
Hagedorn
C T 5:00-7:30, StP Art Center B-138,
Haupters
C Th 7:00-9:30, StP Art Center B-131, Fry

Spring Semester

D M 7:00-9:30, StP Art Center B-131,
Hagedorn
D T 5:00-7:30, StP Art Center B-138,
Haupters
D Th 7:00-9:30, StP Art Center B-131, Fry

Art 60-61-62. Second Year Drawing and Painting. 2 degree credits each semester. \$30 plus \$5 laboratory fee each semester.

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 students. (Prerequisite: 25 or # for 60; 60 or # for 61; 61 or # for 62. Repeated spring semester)

Fall Semester

T 7:00-9:30, StP Art Center B-132, LeSueur
Th 7:00-9:30, StP Art Center B-132

Spring Semester

T 7:00-9:30, StP Art Center B-132, LeSueur
Th 7:00-9:30, StP Art Center B-132

Art. Color Control (Oil and Casein). 1½ certificate credits. \$22.50 plus \$3.50 laboratory fee.

An intensive course in the "grammar" of painting, color mixing, and manipulation. An emphasis upon texture effects, the picture plane and its control through line, shape, volume, color, weight, and intensity. There will be experiments in the manipulation of paint on varied painting grounds such as canvas, panel, oil, and gesso; direct painting, under painting, overglaze, and grisaille. In addition to studio experiments, there will be group discussions of painting methods of various periods through the study of reproductions and originals. (No prerequisite. Repeated winter and spring quarters)

Fall Quarter

M 7:00-9:00, StP Art Center
B-132, Nolan
W 7:00-9:00, StP Art Center
B-131, Haupters

Winter Quarter

M 7:00-9:00, StP Art Center
B-132, Nolan
W 7:00-9:00, StP Art Center
B-131, Haupters

Spring Quarter

M 7:00-9:00, StP Art Center
B-132, Nolan
W 7:00-9:00, StP Art Center
B-131, Haupters

Art. Commercial Art. 2 certificate credits. \$30 plus \$5 laboratory fee.

Techniques involved in layout and design as applied to illustrative work and publications. (No prerequisite. Repeated spring semester)

Fall Semester

M 7:00-9:30, StP Art Center B-137
T 7:00-9:30, StP Art Center B-137
F 7:00-9:30, StP Art Center B-130, Fry

Spring Semester

M 7:00-9:30, StP Art Center B-137
T 7:00-9:30, StP Art Center B-137
F 7:00-9:30, StP Art Center B-130, Fry

Art. Printmaking. 2 certificate credits. \$30 plus \$5 laboratory fee.

Woodcuts, linoleum cuts, newspaper prints, and movable blocks. Class will discover the vast possibilities attainable through knowledge of these simple procedures. (No prerequisite. Repeated spring semester)

Fall Semester

W 7:00-9:30, StP Art Center B-132, Jensen
Th 7:00-9:30, StP Art Center B-137, Fossum

Spring Semester

W 7:00-9:30, StP Art Center B-132, Jensen
Th 7:00-9:30, StP Art Center B-137, Fossum

Symbols explained on page 11.

Course Offerings—Arts and Sciences

*Art. **Advanced Painting.** 2 certificate credits. \$30 plus \$8 laboratory fee.

Students with prior training or experience in the field of art may apply for this class. (Prerequisite: #. Limited to 15 students. Repeated spring semester)

Fall Semester

W 7:00-9:30, StP Art Center B-137, Kramer
F 7:00-9:30, StP Art Center B-131, Kramer

Spring Semester

W 7:00-9:30, StP Art Center B-137, Kramer
F 7:00-9:30, StP Art Center B-131, Kramer

ASTRONOMY

(See page 137)

BIOLOGY

Biol 1-2. General Biology.† 5 degree credits each semester. \$50 plus \$10 laboratory fee each semester.

Introduction to living things both plant and animal, and to the major biological concepts. Structure, function, classification, and evolution of organisms. (No prerequisite for 1; 1 for 2. Must be taken in sequence)

Fall Semester

1 MW 6:20-9:20, Zoology 313, Skjegstad

Spring Semester

2 MW 6:20-9:20, Zoology 313, Skjegstad

CHEMISTRY

(See page 138)

CLASSICS

Roy A. Swanson, Associate Professor of Classics

Clas 45. Greek and Roman Mythology. (**Clas 145) 3 degree credits. \$30.

Classical myths dealing with gods, demi-gods, and heroes. Attention to the myths as stories and as a basic component of the European cultural heritage, including artistic, religious, psychological, and anthropological interpretations. Distinctions between myth and legend, mythology and mythography. Special attention to the use of myths in modern literature. (No prerequisite)

Spring Quarter

M 5:30-8:00, Folwell 204

Clas 91, 92, 93. Classical Literary Traditions. (**Clas 191, 192, 193) 3 degree credits each quarter. \$30 each quarter.

Readings from Greek and Roman literature in translation, with emphasis on literary themes and forms in European literature. Topics include: (Fall) epic, didactic, pastoral, lyric, and satire. (Winter) drama and myth, the origins and development of the literary prose tradition. (Spring) literary criticism, history, the novel and short story. (Prerequisite: 9 credits in English literature beyond Freshman English, or in a foreign language. Students may enter in any quarter. No knowledge of Greek or Latin is required)

Fall Quarter

91 M 5:30-8:00, Folwell 102, Swanson

Winter Quarter

92 M 5:30-8:00, Folwell 102, Swanson

Spring Quarter

93 M 5:30-8:00, Folwell 102, Swanson

Symbols explained on page 11.

Evening and Special Classes

Clas 145. Greek and Roman Mythology. 3 degree credits. \$30.

Spring Quarter

See course description, day, time, place, and instructor as listed under Clas 45. Same class work as Clas 45, but with special independent reading and research assignments. Students wishing graduate credit should inquire at time of registration.

Clas 191, 192, 193. Classical Literary Traditions. 3 degree credits each quarter. \$30 each quarter.

Fall Quarter (191)—Winter Quarter (192)—Spring Quarter (193)

See course description, day, time, place, and instructor as listed under Clas 91, 92, 93. Students wishing graduate credit should inquire at time of registration.

ECONOMICS

Arthur M. Borak, Associate Professor of Economics

Charles E. Meyerding, Lecturer in Economics

Harlan M. Smith, Associate Professor of Economics

John G. Turnbull, Professor of Economics

Econ 1-2.† Principles of Economics. 3 degree credits each term, §1T-2T or 1H or 2H or C or 50A-B. \$30 each term.

Principles underlying economic activity and the way these principles work out through our economic institutions. 1: Demand and supply, competition and monopoly, and distribution of income. 2: National income, money and banking, business cycles, and international trade. Econ 1-2 or equivalent are prerequisite for most advanced courses in business administration and economics. (No prerequisite for 1; 1 for 2. Must be taken in sequence)

Fall Semester

1 M	6:20-8:00, West Bank CB 130
1 M	8:15-9:55, West Bank CB 130
1 T	6:20-8:00, West Bank CB 130
1 T	8:15-9:55, West Bank CB 130
1 W	6:00-7:40, StP Ext Center 202
1 W	6:20-8:00, West Bank CB 130
1 W	8:15-9:55, West Bank CB 240
1 W	7:50-9:30, StP Ext Center 202
1 Th	6:20-8:00, West Bank CB 130
1 Th	8:15-9:55, West Bank CB 130
2 Th	6:20-8:00, West Bank CB 145
2 Th	8:15-9:55, West Bank CB 145

Spring Semester

1 T	6:20-8:00, West Bank CB 130
1 T	8:15-9:55, West Bank CB 130
1 W	7:50-9:30, StP Ext Center 202
1 Th	6:20-8:00, West Bank CB 130
1 Th	8:15-9:55, West Bank CB 130
2 M	6:20-8:00, West Bank CB 130
2 T	6:20-8:00, West Bank CB 120
2 T	8:15-9:55, West Bank CB 120
2 W	6:00-7:40, StP Ext Center 202
2 W	6:20-8:00, West Bank CB 130
2 W	8:15-9:55, West Bank CB 130

Fall Quarter

T	6:30-9:00, Robbinsdale	2 T	6:30-9:00, Robbinsdale
HS 217		HS 217	

Winter Quarter

Econ 65. Intermediate Economic Analysis I: The Firm and Industry. 3 degree credits, §65T or 165. \$30.

Behavior of firms and industries under competitive and monopolistic conditions; factors influencing production, price, and advertising conditions. (Prerequisite: 2 or §. Repeated spring semester)

Fall Semester

T	6:20-8:00, West Bank CB 240
W	8:15-9:55, West Bank CB 130, Meyerding

Spring Semester

M	8:15-9:55, West Bank CB 130
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Symbols explained on page 11.

Course Offerings—Arts and Sciences

Econ 66. Intermediate Economic Analysis II: Income and Employment. 3 degree credits, §66T or 166. \$30.

Determinants of national income, employment, and price level; attention given to aggregate consumption and investment. (Prerequisite: 2 or §. Repeated spring semester)

Fall Semester

M 8:15-9:55, West Bank CB 230

Spring Semester

T 6:20-8:00, West Bank CB 240
W 8:15-9:55, West Bank CB 230, Meyerding

Econ 67. Money and Banking. 3 degree credits. \$30.

Historical development, present pattern, and economic role of financial institutions, with special emphasis upon commercial banks, the money supply, and the Federal Reserve System. (Prerequisite: 2 or §. Repeated each term)

Fall Semester

M 6:00-7:40, StP Ext Center 201, Meyerding

Spring Semester

Th 6:20-8:00, West Bank CB 240, Smith

Spring Quarter

T 6:30-9:00, Robbinsdale HS 217

Econ 68. Elements of Public Finance. 3 degree credits, §178A. \$30.

Survey of government expenditures, budgeting, fiscal policy, debts, and taxes in terms of fiscal institutions, impact on business and the economy, and policy issues. (Prerequisite: 2 or §)

Spring Semester

T 6:20-8:00, West Bank CB 205, Borak

Econ 69. Government Regulation of Business. 3 degree credits, §189A. \$30.

Economic aspects of public policy affecting the market process. Relations between market structure and economic efficiency and welfare; economic origins of monopoly and other business limitations on free competition; and purposes and effect of anti-trust laws and laws relating to "unfair business practices." (Prerequisite: 65 or 65T for business or economics majors; suitable background in law or political science for others; or §)

Spring Semester

W 6:20-8:00, West Bank CB 110, Meyerding

Econ 80. Survey of Economic Ideas. (Not offered 1964-65)

Econ 102. Contemporary Labor Issues. (Not offered 1964-65)

Econ 103. Economic Development. 3 degree credits. \$30.

Conditions necessary for increasing income, capital formation, measurement of economic growth, and problems of "underdeveloped" areas. Not available for graduate credit. (Prerequisite: 2 or §)

Fall Semester

W 6:20-8:00, West Bank CB 225

Symbols explained on page 11.

Evening and Special Classes

Econ 104. International Economics. 3 degree credits, §114A. \$30.

Significance of foreign trade and investment. International payments and foreign exchange. Gold standard. International Monetary Fund and Bank. Arguments over tariffs and foreign aid policies. (Prerequisite: 2 or #)

Spring Semester

Th 8:15-9:55, West Bank CB 120, Smith

Econ 150A. Current Economic Issues. 3 degree credits. \$30.

Current controversies over economic policy and problems that underlie controversies. Selected topics. (Prerequisite: 65 and 66 or #)

Fall Semester

Th 8:15-9:55, West Bank CB 110, Smith

Econ 157. Business Cycles. (Not offered 1964-65)

Econ 160. Comparative Economic Systems. 3 degree credits. \$30.

Functions of all economic systems; theories of alternative economic systems, the market economy, liberal socialism, the centrally planned economy. Analysis of American and Soviet economies. (Prerequisite: 2 or #)

Fall Semester

Th 6:20-8:00, West Bank CB 120, Smith

Econ 172. Labor Market Behavior and Regulation. 3 degree credits. \$30.

Public and private rules and policies directed at regulation of employer-employee-union relations and labor market behavior. Settlement of disputes. Control of employer and union self-help techniques. Emphasis on economics of control, rather than upon the legal or administrative aspects of policy. (Prerequisite: IR 52 or Econ 62 or #)

Spring Semester

Th 6:20-8:00, West Bank CB 120, Turnbull

Econ 182. Economic Security. 3 degree credits. \$30.

Public and private approaches to problems of economic insecurity. Nature and causes of economic insecurity. Details of and economic and social implications of private and public programs. Emphasis on economics of income and employment maintenance and stabilization rather than upon legal or administrative aspects of policy. (Prerequisite: IR 52 or Econ 62 or #)

Fall Semester

Th 6:20-8:00, West Bank CB 110, Turnbull

Econ 192. Economics of Collective Bargaining. (Not offered 1964-65)

Symbols explained on page 11.

ENGLISH

English Placement Tests

Admission to Engl 1B or Comm 1 is based on satisfactory score in the English Placement Test or satisfactory completion of Comp X, Preparatory Composition.

Your first step is to register for Engl 1B or Comm 1 before the date of the final placement test for the quarter, as listed below. At the time of registration you will fill out an "English Registration Permit Form" and the registration clerk will tell you whether or not you must take the placement test. The general regulations are (a) If you took the placement test in a Minnesota high school within the last 2 years, we will be able to check your record and you need not take the test again. (b) If you have passed a freshman English course at another accredited college or university in the United States, but have a total of less than 9 quarter credits or 6 semester credits in freshman English from that school, you should take Engl 1B but you need not take the placement test. (c) If you have passed Comp X in the last 3 years at the University of Minnesota, you need not take the placement test. (d) If you do not meet any of the three criteria listed above, you must take the placement test at one of the following times and places.

Fall Quarter

- 7:00 p.m. Thursday, September 10, Nicholson 211
- 7:00 p.m. Tuesday, September 15, Nicholson 211
- 7:00 p.m. Tuesday, September 15, StP Ext Center 202
- 7:00 p.m. Wednesday, September 16, Robbinsdale HS 231

Winter Quarter

- 7:00 p.m. Wednesday, December 23, Nicholson 211
- 7:00 p.m. Wednesday, December 30, Nicholson 211

Spring Quarter

- 7:00 p.m. Wednesday, March 24, Nicholson 211

You will be notified by mail prior to the first meeting of your class of your eligibility to remain in Engl 1B or Comm 1. If you have not received a satisfactory score on the placement test, you will be advised to transfer immediately to Comp X (which will meet on the same night as Engl 1B or Comm 1) or to cancel your registration and receive a full refund. This transfer or cancellation must be made on official transfer or cancellation forms before the end of the first week of classes; if not, the regular transfer or refund policy will apply.

Please Note: No registrations for Engl 1B or Comm 1 will be accepted after the date of the final placement test each quarter except from students who are exempt from the placement test as outlined in a, b, or c, above.

Literature

- Denna S. Ellingston, Instructor in English*
- Richard J. Foster, Associate Professor of English*
- John D. Hurrell, Associate Professor of English*
- Thomas A. Nelson, Jr., Instructor in English*
- Gordon W. O'Brien, Professor of English*
- Jack Patnode, Lecturer in English*
- Lee A. Pederson, Lecturer in English*
- Robert C. Rathburn, Assistant Professor of Literature and Writing*
- James L. Scoggins, Assistant Professor of English*

Symbols explained on page 11.

Evening and Special Classes

***Engl 1B-2B-3B. Freshman English.** 4 degree credits each quarter. \$40 each quarter.

A combined course in composition (9 credits) and literature (3 credits). It concentrates upon developing the student's skill in writing exposition, with an introduction to literary types as the chief means of providing subject matter for writing. It satisfies the Group A requirement for graduation. (Prerequisite: for 1B, Comp X or satisfactory score in English Placement Test, explained on page 63: 1B for 2B; 2B for 3B. Must be taken in sequence. If you have had a freshman English course, other than 1B-2B-3B, here or elsewhere, consult registration clerk for proper placement)

Fall Quarter			Winter Quarter			Spring Quarter		
1B	M	6:30-10:00, Robbinsdale HS 217	1B	T	6:20-9:50, Vincent 2	1B	W	6:20-9:50, Vincent 2
	T	6:20-9:50, Vincent 2		W	6:20-9:50, Vincent 2	2B	T	6:20-9:50, Vincent 2
	W	6:20-9:50, Vincent 2		F	6:00-9:30, StP Ext Center 5		W	6:20-9:50, Vincent 6
	F	6:00-9:30, StP Ext Center 3	2B	M	6:30-10:00, Robbinsdale HS 217		F	6:00-9:30, StP Ext Center 5
2B	T	6:20-9:50, Vincent 6		T	6:20-9:50, Vincent 6	3B	M	6:30-10:00, Robbinsdale HS 217
3B	W	6:20-9:50, Vincent 6		W	6:20-9:50, Vincent 6		T	6:20-9:50, Vincent 6
				F	6:00-9:30, StP Ext Center 3		W	6:20-9:50, Vincent 306
			3B	T	6:20-9:50, Vincent 113		F	6:00-9:30, StP Ext Center 3

Engl 23, 21. Introduction to Literature. 5 degree credits each semester. \$50 each semester.

A chronological study of English literature with historical background. An introduction to types of literature and literary ideas. 23: The Romantic Movement and the Victorians. Wordsworth, Byron, Shelley, Keats, Carlyle, Tennyson, Browning, and Arnold. 21: Chaucer to Milton. Marlowe, Spenser, Bacon, Browne, and Bunyan. (Prerequisite: completion of Freshman English. Need not be taken in sequence)

Fall Semester			Spring Semester		
23	M	6:20-9:20, Vincent 306, Scoggins	21	M	6:20-9:20, Vincent 306, Scoggins

Engl 55-56. Shakespeare. 3 degree credits each semester. \$30 each semester.

55: The reading of plays from Shakespeare's early and middle periods—*Richard II*, *A Midsummer Night's Dream*, *The Merchant of Venice*, *Much Ado About Nothing*, and two or three other plays selected by the instructor. 56: The reading of plays from Shakespeare's middle and later periods—*Twelfth Night*, *Hamlet*, *Macbeth*, *The Tempest*, and two other plays selected by the instructor. (Prerequisite: 3B or Comm 3 and 5 additional credits for 55 or 56. Need not be taken in sequence but students are strongly urged to take 55 before 56)

Fall Semester			Spring Semester		
55	T	6:20-8:00, Vincent 306, Ellingston	56	T	6:20-8:00, Vincent 306, Ellingston

Engl 72-73-74. American Literature. 3 degree credits each quarter. \$30 each quarter.

72: The beginnings through Melville. 73: Whitman through Stephen Crane. 74: Dreiser to the present. (Prerequisite: completion of Freshman English and 5 additional English credits for 72; 72 or # for 73; 73 or # for 74)

Fall Quarter			Winter Quarter			Spring Quarter		
72	W	6:20-8:50, Vincent 309, Ellingston	73	W	6:20-8:50, Vincent 309, Ellingston	74	W	6:20-8:50, Vincent 309, Ellingston

Engl 75. Chaucer. 3 degree credits. \$30.

Reading of selections from *The Canterbury Tales* with introduction dealing with grammar and literary forms of 14th-century English. (Prerequisite: completion of Freshman English)

Fall Semester		
75	Th	6:20-8:00, Vincent 113, Pederson

Symbols explained on page 11.

Course Offerings—Arts and Sciences

Engl 127. Drama. 3 degree credits. \$30.

The beginnings of modern realism. (Prerequisite: completion of Freshman English and 5 additional English credits)

Fall Semester

Th 6:20-8:00, Vincent 303, Ellingston

Engl 129. Modern Drama. 3 degree credits. \$30.

Survey of chief dramatists, English, American, and Continental, from 1900. (Prerequisite: 55 and 56 or 126 and 127)

Spring Semester

Th 6:20-8:00, Vincent 303, Ellingston

Engl 136. Advanced Shakespeare. 4 degree credits. \$40.

The work of the poet's maturity. Special attention to *Othello*, *King Lear*, *Antony and Cleopatra*, *Cymbeline*, *The Winter's Tale*. (Prerequisite: 55 and 56)

Fall Quarter

W 6:20-9:40, Vincent 306, O'Brien

Engl 142-143-144. Twentieth-Century British and American Literature. 3 degree credits each quarter. \$30 each quarter.

A critical survey of major figures, with emphasis on basic trends and the interrelations of the two literatures. (Prerequisite: 5 credits in American or English literature exclusive of Freshman English)

Fall Quarter

142 M 6:20-8:50, Vincent 309

Winter Quarter

143 M 6:20-8:50, Vincent 309

Spring Quarter

144 M 6:20-8:50,
Vincent 309

Engl 157-158. American Poetry. 3 degree credits each quarter. \$30 each quarter.

Critical survey of American poetry from Anne Bradstreet to the present, with some attention to historical and intellectual backgrounds; emphasis upon major figures. (Prerequisite: completion of Freshman English and 5 additional English credits)

Winter Quarter

157 T 6:20-8:50, Vincent 309

Spring Quarter

158 T 6:20-8:50, Vincent 309

Engl 165. The Structure of Modern English. 3 degree credits. \$30.

An introductory study of English phonemics, morphemics, and syntax. (Prerequisite: completion of Freshman English and 5 additional English credits)

Spring Semester

165 W 6:20-8:00, Vincent 205, Pederson

Engl 197-198. Seventeenth-Century Literature. 3 degree credits each quarter. \$30 each quarter.

Prose and nondramatic poetry of the century down to 1660. (Prerequisite: completion of Freshman English and 5 additional English credits)

Winter Quarter

197 W 6:20-8:50, Vincent
307, O'Brien

Spring Quarter

198 W 6:20-8:50, Vincent
307, O'Brien

Symbols explained on page 11.

Evening and Special Classes

Communication

J. Vernon Jensen, Assistant Professor of Communication

***Comm 1-2-3. Communication.** 4 degree credits each quarter. \$40 each quarter.

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. 1: The fundamental patterns of meaning in English, word meaning, social meaning, good usage. 2: The use of language to influence human behavior. 3: Mass communication of press, film, and radio, and how to receive it with critical discrimination. (Prerequisite: Preparatory Composition or satisfactory score on English Placement Test, as explained on page 63. Meets all requirements which are satisfied by Engl 1B-2B-3B, Freshman English, *except* in the Institute of Technology. Must be taken in sequence)

Fall Quarter		Winter Quarter		Spring Quarter	
1	W 6:20-9:50, Johnston 115, Jensen	2	W 6:20-9:50, Johnston 115, Jensen	3	W 6:20-9:50, Johnston 115, Jensen

Composition

Harold J. Alford, Associate Professor of English

Agnes Macdonald, Lecturer in English

Justin O'Connell, Lecturer in English

Comp. Grammar Review. 3 certificate credits. \$30 plus \$1 materials fee.

An intensive step-by-step review of grammar (parts of speech, inflections, syntax), punctuation, and spelling for those who want a "refresher" before going into other English courses or who feel the need of a basic course in the fundamentals of English usage; designed to develop the ability to compose correct and effective sentences. (No prerequisite. Repeated winter and spring quarters)

Fall Quarter		Winter Quarter		Spring Quarter	
M	6:00-8:30, StP Ext Center 102, Alford	M	6:00-8:30, StP Ext Center 102, Alford	M	6:00-8:30, StP Ext Center 102, Alford
W	6:20-8:50, Vincent 207, O'Connell	W	6:20-8:50, Vincent 207, O'Connell	W	6:20-8:50, Vincent 207, O'Connell

Comp X. Preparatory Composition. No credit. \$30 plus \$1 materials fee.

Intensive drill on grammatical forms, structure, and theme writing. Recommended for those whose primary need is organization and development of themes; any passing grade admits students to Engl 1B or Comm 1. (No prerequisite. Repeated winter and spring quarters)

Fall Quarter		Winter Quarter		Spring Quarter	
T	6:20-8:50, Vincent 303	T	6:20-8:50, Vincent 303	W	6:20-8:50, Vincent 303
W	6:20-8:50, Vincent 303	W	6:20-8:50, Vincent 303		
F	6:00-8:30, StP Ext Center 7	F	6:00-8:30, StP Ext Center 7		

Comp. Writing Projects. 3 certificate credits. \$30.

A course for those who are interested in writing fiction or book length nonfiction. Open to both beginners and advanced students who have projects which they wish to develop with the aid of individual and group criticism. Students may submit projects already begun or may develop new projects

Symbols explained on page 11.

Course Offerings—Arts and Sciences

during the semester. Class discussion will center on student projects in the novel and short story, with reference to other forms as appropriate. (No prerequisite. Repeated spring semester)

Fall Semester

Th 7:00-10:00, StP Ext Center 1, Alford

Spring Semester

Th 7:00-10:00, StP Ext Center 1, Alford

Comp 27, 28. Advanced Writing. 3 degree credits each semester. \$30 each semester.

Offers training in the fundamentals of creative writing, through lectures and the criticism of manuscripts. 27: Deals with expository writing: articles, essays, criticism, etc. 28: Deals with description and narration. (Prerequisite: 3B or Comm 1 or # for 27 or 28. Need not be taken in sequence)

Fall Semester

27 W 6:20-8:00, Vincent 113, Macdonald

Spring Semester

28 W 6:20-8:00, Vincent 113, Macdonald

FAMILY STUDIES

Elizabeth F. Peterson, B.S., Co-ordinator, Parent and Family Life Education
Departmental Staff

***FamS 1. Dynamics of Dating, Courtship, and Marriage.** 3 degree credits. \$30 plus \$1 materials fee.

This course is designed to assist individuals seeking self-understanding, mutually satisfying interpersonal relations, happy marriage, and successful parenthood. These personal goals are worked toward through discussion and study about: personal growth and maturity; desirable mate qualities and selecting a marriage partner; purposes and problems of dating, courtship, and engagement; family philosophy, religion, values, and planning; early marriage adjustments, child training and discipline, sex education, income management, problem solving, and decision making. Integral parts of the course are: case studies, movies, and student discussion. Students are invited for discussion and personal or family counseling with the instructor. (No prerequisite. Limited to 25 students)

Spring Semester

M 6:20-8:00, Johnston 115

***FamS 1A. Dynamics of Marriage and Parenthood.** 3 degree credits. \$30 plus \$1 materials fee.

This course is designed to help individuals and couples achieve self-other understanding, happiness in marriage, and success as parents. It focuses upon husband-wife and parent-child relations, with individual development and family unity as specific goals. These are worked toward through discussion and study of such important and practical issues as: self-analysis, developmental tasks, team decision making and problem solving, family philosophy, religion, values, and planning; child training and discipline, sex education, communication, income management, marriage adjustments regarding money, sex, in-laws, and children, etc., and general dynamics of family interaction. Integral parts of the course are: case studies, movies, and student discussion. Students are invited for discussion and personal or family counseling with the instructor. (No prerequisite. Limited to 20 students. Repeated spring semester)

Fall Semester

M 6:20-8:00, Johnston 115

Spring Semester

Th 6:20-8:00, Johnston 105

FamS 25A. Parenthood. 2 degree credits. \$20.

Examination of differing concepts of family roles—father, mother, son, daughter, brother, sister; their implications for parent-child and sibling interaction. Effects of parenthood on husband-wife relations. (No prerequisite. Repeated winter and spring quarters.)

Fall Quarter

M 7:30-9:10, Nicholson 107,
Peterson

Winter Quarter

M 7:00-8:40, Anoka High
School, Peterson

Spring Quarter

M 7:00-8:40, Arlington Hills
Library, StP, Peterson

Symbols explained on page 11.

Evening and Special Classes

FRENCH

John E. Fadell, Instructor in French

John H. Matthews, Associate Professor of French

There are two sequences of courses in beginning French from which the prospective student may choose the one best suited to his needs:

1-2-3, Beginning French, carrying 5 degree credits per unit, comprises the standard course in first-year French. 1-2-3 is the same sequence of courses formerly listed in evening classes as 1C-2C-3C, Beginning French. The principal aim is to provide a solid foundation for the comprehension of the written and spoken language. Sufficient training in grammar is included to enable the student to acquire elementary skills in conversation and composition. This sequence is recommended for those planning to continue the study of French or wishing to satisfy college language requirements for the B.A. degree.

1A-1B-2A-2B-3A-3B, Beginning French, carrying 3 degree credits per unit. 1A-1B-2A-2B is the same sequence of courses formerly listed in evening classes as 1-2-3-4, Beginning French. This sequence is recommended for those who desire a general introduction to the language but who wish to proceed at a slower pace than that required for the standard 5-credit units. Students with the grades of A or B in 3B should elect 25B, skipping 25A.

Fren 1-2. Beginning French. 5 degree credits each semester. \$50 each semester.

Grammar, pronunciation, reading, and practice in speaking. See note above. (No prerequisite for 1; 1 or 1B or old 1C or 1 year high school French for 2)

Fall Semester

1 T 6:20-9:20, Folwell 204

Spring Semester

2 T 6:20-9:20, Folwell 204

Fren 3. Beginning French. 5 degree credits. \$50.

A continuation of the 5-credit sequence in Beginning French. (Prerequisite: 2 or 2B or old 2C or 2 years high school French)

Fall Semester

M 6:20-9:20, Folwell 208

Fren 1A-1B. Beginning French. 3 degree credits each semester. \$30 each semester.

Grammar, pronunciation, reading, and practice in speaking. See note above. (No prerequisite for 1A; 1A or old 1 for 1B)

Fall Semester

1A W 6:20-8:00, Folwell 201
1B W 6:20-8:00, Folwell 202

Spring Semester

1A W 6:20-8:00, Folwell 202
1B W 6:20-8:00, Folwell 201

Fren 2A-2B. Beginning French. 3 degree credits each semester. \$30 each semester.

Grammar, pronunciation, reading, and practice in speaking. See note above. (Prerequisite: 1 or 1B or old 2 or 1 year high school French for 2A; 2A or old 3 for 2B)

Fall Semester

2A M 6:20-8:00, Folwell 203

Spring Semester

2B M 6:20-8:00, Folwell 203

Symbols explained on page 11.

Course Offerings—Arts and Sciences

Fren 3A-3B. Beginning French. 3 degree credits each semester. \$30 each semester.

Grammar, pronunciation, reading, and practice in speaking. See note on page 68. (Prerequisite: 2 or 2B or old 4 or 2 years high school French for 3A; 3A for 3B)

Fall Semester

3A T 8:15-9:55, Folwell 202

Spring Semester

3B T 8:15-9:55, Folwell 201

Fren 25 (old 4). Intermediate French. 5 degree credits. \$50.

An intensive review of grammatical forms and patterns principally through a systematic analysis of a variety of French texts. (Prerequisite: 3 or 3B or old 3C or 3 years high school French)

Spring Semester

M 6:20-9:20, Folwell 208

Fren 25A. Intermediate French. 3 degree credits. \$30.

An intensive review of grammatical forms and patterns. (Prerequisite: 3 or 3B or 3 years high school French)

Fall Semester

T 8:15-9:55, Folwell 201

Fren 25B. Intermediate French. 3 degree credits. \$30.

A systematic analysis of a variety of French texts to improve language skills, especially reading ability. (Prerequisite: 25A or 3B with a grade of A or B. Repeated spring semester)

Fall Semester

M 6:20-8:00, Folwell 202

Spring Semester

M 6:20-8:00, Folwell 202

Fren 30 (old 20). Introduction to French Literary Texts. 3 degree credits. \$30.

A variety of literary works representing the principal genres are examined through stylistic analyses and literary explications. Students learn critical terminology and discuss literary problems and techniques. (Prerequisite: 25 or 25B or 4 years high school French)

Fall Semester

Th 8:15-9:55, Folwell 201

Fren 54. French Composition. 3 degree credits. \$30.

Emphasis is on original composition. Reviews advanced grammar, stressing the living language. (Prerequisite: 25 or 25B or 4 years high school French)

Fall Semester

Th 6:20-8:00, Folwell 201

Fren 55 (old 54). French Conversation. 3 degree credits. \$30.

In addition to regular conversation course, some time each week is devoted to practical phonetics and pronunciation drill. (Prerequisite: 25 or 25B or 4 years high school French. Repeated spring semester)

Fall Semester

T 6:20-8:00, Folwell 201

Spring Semester

T 6:20-8:00, Folwell 201

Fren 67. Survey of French Literature: Romanticism to Surrealism. 3 degree credits. \$30.

Begins with the early romantic writers in France, studies the evolution of the movement and the reactions it causes. Representative works of the realists, Parnassians, naturalists, symbolists, and

Symbols explained on page 11.

Evening and Special Classes

surrealists are examined. Among the writers studied: Chateaubriand, Hugo, Balzac, Vigny, Stendhal, Baudelaire, Flaubert, Verlaine, Rimbaud, Zola, Gide, Apollinaire. (Prerequisite: 30)

Spring Semester

T 8:15-9:55, Folwell 203

Fren 159. The Art of the Novel: Céline and Malraux. 3 degree credits. \$30.

Two important French novelists of the inter-war years with contrasting attitudes toward what Malraux calls *la condition humaine*. (Prerequisite: 30 and one literature course)

Fall Semester

T 6:20-8:00, Folwell 203, Matthews

Fren 166. Representative Surrealist Writers. 3 degree credits. \$30.

From the pessimistic denial of Dada to the optimistic affirmation of surrealism. An examination of significant texts from 1913 to the sixties. (Prerequisite: 30 and one literature course)

Spring Semester

T 6:20-8:00, Folwell 203, Matthews

French for Graduate Students

The French language requirements for a graduate degree can be satisfied by successfully passing an examination given at the end of a 1-quarter course, 17A, specifically designed for students who desire only a reading knowledge of the language.

Fren 17A. French for Graduate Students. No credit. \$30 each quarter.

This course is designed solely to impart a basic reading knowledge of the French language; full time is devoted to intensive reading and translation of a variety of texts. Since this approach deals with only one aspect of the language, reading, with no time-consuming sessions for oral-aural drills and composition, great skill can be acquired in a short time. At the end of 1 quarter the student is given the equivalent of the French Graduate Reading Examination. Successfully passing this examination fulfills the Graduate School requirement of a reading knowledge of a foreign language. (No prerequisite. Repeated winter and spring quarters)

Fall Quarter

M 6:20-8:50, Folwell 204,
Fadell

Winter Quarter

M 6:20-8:50, Folwell 204,
Fadell

Spring Quarter

M 6:20-8:50, Folwell 201,
Fadell

GEOGRAPHY

Russell Adams, Assistant Professor of Geography

Ward J. Barrett, Assistant Professor of Geography

John W. Webb, Assistant Professor of Geography

Geog 4. Human Geography. 5 degree credits. \$50.

Geography of population and principal ways of life; capacity of the earth for future population. (No prerequisite)

Fall Semester

T 6:20-9:20, West Bank CB 435, Webb

Symbols explained on page 11.

Course Offerings—Arts and Sciences

Geog 41. Geography of Primary Production. 5 degree credits. \$50.

Introductory economic geography with special emphasis on commodities of commercial significance. Particular attention is given to world patterns of raw material occurrence and production, and to associated centers of industrial fabrication. (No prerequisite)

Fall Semester

W 6:20-9:20, West Bank CB 435, Adams

Geog 109. Middle America. 3 degree credits. \$30.

Physical and human geography of the West Indies and the mainland from Mexico to Colombia. (No prerequisite)

Fall Quarter

T 6:20-8:50, West Bank CB 440, Barrett

GEOLOGY

(See page 144)

GERMAN

Edwin F. Menze, Professor of German

Herman Ramras, Professor of German

Wolfgang F. Taraba, Associate Professor of German

Gerhard H. Weiss, Assistant Professor of German

Cecil Wood, Associate Professor of German

There are two sequences of courses in *Beginning German* offered for credit. Either will satisfy the College of Liberal Arts language requirement. German 17A and 17B are noncredit courses designed for graduate students only. The prospective student should choose the course best suited to his needs.

1A-2A-3A. *Beginning German: "Active" Approach.* 5 credits per unit. Provides basic experience in speaking, reading, and understanding the German language and its structure through the acquisition of basic patterns of speech and later through the reading and analysis of texts. The course will be reinforced with programmed materials which will be available to students in the language laboratory. The continuation course is Ger 4, which is a prerequisite for Upper Division German courses.

1B-2B-3B. *Beginning German.* 5 credits per unit. Comprises a standard course in first-year German. The principal aim is to provide a solid foundation for the comprehension of the written and spoken language. Sufficient training in grammar is included to enable the student to acquire elementary skills in conversation and composition. Its continuation is Ger 4, which is the prerequisite for Upper Division German courses at the University.

Symbols explained on page 11.

Evening and Special Classes

Ger 1A-2A. Beginning German: "Active" Approach. 5 degree credits each semester. \$50 each semester.

Structure, pronunciation, reading, and oral comprehension by learning the patterns of basic German. See note on page 71. (No prerequisite for 1A; 1A or 1 year preparatory German for 2A)

Fall Semester

1A M 6:20-9:20, Folwell 209½, Weiss
1A Th 6:20-9:20, Folwell 209½

Spring Semester

2A M 6:20-9:20, Folwell 209½, Weiss
2A Th 6:20-9:20, Folwell 209½

Ger 3A. Beginning German: "Active" Approach. (Offered Fall 1965)

Ger 1B-2B. Beginning German. 5 degree credits each semester. \$50 each semester.

Grammar, pronunciation, reading. See note on page 71. (No prerequisite for 1B; 1B or 2, or 1 year preparatory German for 2B)

Fall Semester

1B M 6:20-9:20, Folwell 209

Spring Semester

2B M 6:20-9:20, Folwell 209, Ramras

Ger 3B. Beginning German. 5 degree credits. \$50.

A continuation of the 5-credit sequence in Beginning German. (Prerequisite: 2B)

Fall Semester

3B M 6:20-9:20, Folwell 104

Ger 2. Beginning German. 3 degree credits. \$30. (Offered last time Fall 1964)

Grammar, pronunciation, reading and practice in speaking. (Prerequisite: 1 or 1 year of high school German)

Fall Semester

2 M 6:20-8:00, Folwell 201

Ger 3. Beginning German. 3 degree credits. \$30. (Offered last time Spring 1965)

Readings from modern authors, review of essential grammar, emphasis on spoken German. (Prerequisite: 2 or 2 years of high school German. Repeated spring semester)

Fall Semester

3 M 6:20-8:00, Folwell 109

Spring Semester

3 M 6:20-8:00, Folwell 109

Ger 4. Intermediate German. 5 degree credits. \$50.

Selected readings from German literature. (Prerequisites: 3A or 3B or 3 years of high school German)

Spring Semester

4 M 6:20-9:20, Folwell 304

Ger 61E-62E. Conversation. 3 degree credits each semester, \$61-62-63. \$30 each semester.

Systematic development of vocabulary in areas relating to everyday life and practice in the use of spoken German. (Prerequisite: 4 or equivalent or # for 61E; 61E for 62E)

Fall Semester

61E Th 6:20-8:00, Folwell 208

Spring Semester

62E Th 6:20-8:00, Folwell 208

Symbols explained on page 11.

German for Graduate Students

The German language requirement for an advanced degree can be satisfied with a program of study based on Ger 17A and Ger 17B. Ger 17A or equivalent (2 quarters of beginning German or 2 years of high school German) is a prerequisite for Ger 17B. A final examination is administered at the conclusion of Ger 17B. If the student achieves a grade of "B" or better in this examination, the German Department will certify him as having satisfied the German language requirement for an advanced degree.

Ger 17A. German for Graduate Students. No credit. \$30.

This course is designed to help the graduate student acquire a reading knowledge of basic German as rapidly as possible. (The course itself is not intended to prepare a student for the Graduate German Reading Examination; it is merely the first step toward such an objective.) Ger 17A assumes no knowledge of German on the part of the student. Grammar is reduced to an essential minimum. The course progresses from intensive reading of simple, graded material to selections of moderate difficulty. Vocabulary building and analysis of compound words are emphasized. (No prerequisite. Repeated spring semester)

Fall Semester

17A M 6:20-8:00, Folwell 308, Menze

Spring Semester

17A M 6:20-8:00, Folwell 308, Menze

Ger 17B. German for Graduate Students. No credit. \$40.

This course is designed to give the graduate student the experience in intensive reading of German literary texts necessary to enable him to satisfy the German language requirement for an advanced degree by achieving a grade of "B" or better in the final examination which is part of the course. (Prerequisite: 17A or 2 quarters of beginning German or 2 years of high school German. Repeated spring semester)

Fall Semester

17B M 6:20-8:35, Folwell 105, Wood

Spring Semester

17B M 6:20-8:35, Folwell 105, Wood

HISTORY

W. Donald Beatty, Professor of History
Robert F. Berkhofer, Assistant Professor of History
Hyman Berman, Associate Professor of History
Harold C. Deutsch, Professor of History
Tom B. Jones, Professor of History
Rodney C. Loehr, Professor of History
Jeanne T. Lupton, Associate Professor of History
Richard R. Marsh, Professor of History
John K. Munholland, Instructor in History
David W. Noble, Associate Professor of History
Otto P. Pfanze, Professor of History
Darrett B. Rutman, Associate Professor of History
Timothy L. Smith, Professor of History
Theofanis G. Stavrou, Assistant Professor of History
Burton Stein, Associate Professor of History
Romeyn Taylor, Associate Professor of History
Benjamin P. Uroff, Instructor in History
William E. Wright, Associate Professor of History

Symbols explained on page 11.

Evening and Special Classes

Note—All history courses numbered 100 and above have been renumbered. The old numbers are in parentheses following the titles of the courses. Be sure you do not register for a course you may have already taken under another number.

Hist 1-2-3.‡ Civilization of the Modern World. (Hist 53-54-55) 3 degree credits each quarter. \$30 each quarter.**

1: The rise of the European state system as framework within which Western civilization developed, and the economic, cultural, political, 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 in the 20th century. (No prerequisite. Need not be taken in sequence)

Fall Quarter			Winter Quarter			Spring Quarter		
1	M	6:30-9:00, Robbinsdale HS 231	2	M	6:30-9:00, Robbinsdale HS 231	3	M	6:30-9:00, Robbinsdale HS 231
1	W	5:30-8:00, West Bank CB 10, Wright	2	W	5:30-8:00, West Bank CB 10, Wright	3	W	5:30-8:00, West Bank CB 10, Wright
1	Th	7:00-9:30, StP Ext Center 202	2	Th	7:00-9:30, StP Ext Center 202	3	Th	7:00-9:30, StP Ext Center 202

Hist 14-15-16.‡ History of Ancient Civilization. (Hist 50-51-52) 3 degree credits each quarter. \$30 each quarter.**

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. 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 literary, artistic, and philosophic achievements of that period. 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 A.D. 300). The three main topics to be considered are (a) the civilization of the ancient world at its peak, (b) the rise and flowering of Roman culture, and (c) the reasons for the decline of ancient civilization. Special attention will be paid to political institutions, art, literature, economics and society, philosophy, and ancient science. (No prerequisite, but recommended that 16 be preceded by 15, and 15 by 14 in order that student may acquire a background for following course)

Fall Quarter			Winter Quarter			Spring Quarter		
14	Th	5:30-8:00, West Bank CB 150, Jones	15	Th	5:30-8:00, West Bank CB 150, Jones	16	Th	5:30-8:00, West Bank CB 150, Jones

Hist 17-18-19.‡ History of Asia. (Hist 59-60-61) 3 degree credits each quarter. \$30 each quarter.**

A survey of the history of China, Japan, India, and southeast Asia from ancient times to the present. 17: Ancient history and culture of China, Japan, and India to A.D. 1200. 18: Asia (A.D. 1200-1800): Chinese empire period; India: Muslim domination; Japanese feudalism; the beginning of Western influence. 19: Modern Asia: The impact of Europe, nationalism, post-World War II Asia. (No prerequisite. Need not be taken in sequence)

Fall Quarter			Winter Quarter			Spring Quarter		
17	M	5:30-8:00, West Bank CB 440, Stein	18	M	5:30-8:00, West Bank CB 440, Stein	19	M	5:30-8:00, West Bank CB 440, Stein

Hist 20-21-22.‡ American History. 3 degree credits each term. \$30 each term.

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.

Symbols explained on page 11.

Course Offerings—Arts and Sciences

21: Sectionalism and political development. 22: Modern America. (No prerequisite. Need not be taken in sequence)

Fall Semester

20 M 6:20-8:00, West Bank CB 10, Lupton

Spring Semester

21 M 6:20-8:00, West Bank CB 10, Lupton

Fall Quarter

20 M 7:00-9:30, StP Ext
Center 202

Winter Quarter

21 M 7:00-9:30, StP Ext
Center 202

Spring Quarter

22 M 7:00-9:30, StP Ext
Center 202

20 W 6:30-9:00, Robbinsdale
HS 233

21 W 6:30-9:00, Robbinsdale
HS 233

22 W 6:30-9:00, Robbinsdale
HS 233

Hist 50-51-52.† History of Ancient Civilization. 3 degree credits each quarter. \$30 each quarter.

Fall Quarter (50)—Winter Quarter (51)—Spring Quarter (52)

See course description, day, time, place, and instructor as listed under Hist 14-15-16. Courses in this sequence carry Upper Division credit. However, credits earned may not be used to satisfy the Upper Division requirement for students majoring in history.

Hist 53-54-55.† Civilization of the Modern World. 3 degree credits each quarter. \$30 each quarter.

Fall Quarter (53)—Winter Quarter (54)—Spring Quarter (55)

See course description, day, time, place, and instructor as listed under Hist 1-2-3. Courses in this sequence carry Upper Division credit. However, credits earned may not be used to satisfy the Upper Division requirement for students majoring in history.

Hist 59-60-61.† History of Asia. 3 degree credits each quarter. \$30 each quarter.

Fall Quarter (59)—Winter Quarter (60)—Spring Quarter (61)

See course description, day, time, place, and instructor as listed under Hist 17-18-19. Courses in this sequence carry Upper Division credit. However, credits earned may not be used to satisfy the Upper Division requirement for students majoring in history.

Hist 79-80-81.† The United States in the Twentieth Century. 3 degree credits each semester. \$30 each semester.

A concentrated study of the social, political, economic, and cultural development of the United States since 1900 and of the rise of the United States as a world power. 79: Spanish-American War and America's overseas empire; the rise of big business; problems of the city; Progressive Era of Reform; America in World War I. 80: Social and intellectual crises of the 1920's; prosperity and depression; the New Deal; the rise of organized labor; from isolation to intervention; the post-war scene. 81: From 1932 to present. (No prerequisite. Need not be taken in sequence)

Fall Semester

79 T 7:50-9:30, StP Ext Center Aud
81 Th 6:20-8:00, West Bank CB 115, Noble

Spring Semester

79 Th 6:20-8:00, West Bank CB 145, Noble
80 T 7:50-9:30, StP Ext Center 202

Hist 86-87-88.† American Colonies. 3 degree credits each quarter. \$30 each quarter.

86: The European and English background, foundation of colonies, establishment of colonial institutions, 1607-1689. 87: The expansion of the colonies territorially, economically, and culturally, 1689-1750. 88: The colonies in the empire, imperial struggle and its aftermath in revolution and independence, 1750-1776. (No prerequisite. Need not be taken in sequence)

Fall Quarter

86 T 5:30-8:00, West Bank
CB 155, Rutman

Winter Quarter

87 T 5:30-8:00, West Bank
CB 155, Rutman

Spring Quarter

88 T 5:30-8:00, West Bank
CB 155, Rutman

Symbols explained on page 11.

Evening and Special Classes

Hist 90-91-92.† The American West. 3 degree credits each quarter. \$30 each quarter.

Interpretation of American frontier from its establishment in the colonies to its disappearance as a factor in American life. 90: Colonial frontier. 91: Mid-America. 92: Far West. (No prerequisite. Need not be taken in sequence)

Fall Quarter		Winter Quarter		Spring Quarter	
90	W 5:30-8:00, West Bank CB 125, Berkhofer	91	W 5:30-8:00, West Bank CB 125, Berkhofer	92	W 5:30-8:00, West Bank CB 125, Berkhofer

Hist 94-95.‡ American Diplomatic History. 3 degree credits each semester. \$30 each semester.

94: Period of national development. 95: United States as a world power. (No prerequisite. Need not be taken in sequence)

Fall Semester		Spring Semester	
94	M 8:15-9:55, West Bank CB 140, Lupton	95	M 8:15-9:55, West Bank CB 140, Lupton

Hist 100B-101B-102B. (See Hist 103C-104C-105C)

Hist 103C-104C-105C.‡ History of Rome. (§old 100B-101B-102B) 3 degree credits each quarter. \$30 each quarter.

103C: The last century of the Roman Republic, 133-30 B.C. An analysis of the reasons for the disintegration of the Roman Republic from the time of the Gracchi to the defeat of Antony and Cleopatra; special attention will be paid to all aspects (political, cultural, economic, social) of the age of Cicero and Caesar. 104C: The principate (early Roman Empire), 30 B.C.—A.D. 285. The establishment of the empire by Augustus; developments in political, social, economic, cultural affairs under the early emperors, with special attention to the climax of ancient civilization in the A.D. second century. 105C: The decline and fall, A.D. 285 to the end of the Roman Empire. The development of the later Roman Empire, or autocracy, under Diocletian and Constantine; the triumph of Christianity. All phases of life and culture in this later period will be considered in detail: government, religious developments, art, law, literature, economics, society. Students wishing graduate credit should inquire at time of registration. (No prerequisite. Need not be taken in sequence)

Fall Quarter		Winter Quarter		Spring Quarter	
103C	T 5:30-8:00, West Bank CB 255, Jones	104C	T 5:30-8:00, West Bank CB 255, Jones	105C	T 5:30-8:00, West Bank CB 255, Jones

Hist 107A-108A. (See Hist 115C-116C)

Hist 109-110-111. (See Hist 115D-116D-117D)

Hist 115C-116C.‡ Europe in the Nineteenth Century. (§old 107A-108A) 3 degree credits each quarter. \$30 each quarter.

115C: Reaction and revolution (1815-1852). 116C: National unification, industrialization, and imperialism (1852-1900). (No prerequisite. Need not be taken in sequence)

Fall Quarter		Winter Quarter	
115C	W 5:30-8:00, West Bank CB 245, Pflanze	116C	W 5:30-8:00, West Bank CB 245, Pflanze

Hist 115D-116D-117D.‡ Europe in the Twentieth Century. (§old 109-110-111) 3 degree credits each quarter. \$30 each quarter.

115D: The preeminence of the European order and origins of 20th-century crises: imperialism, social democracy and the first World War, 1890-1918. 116D: The search for a new order and the

Symbols explained on page 11.

Course Offerings—Arts and Sciences

development of totalitarianism in Europe, 1918-1939. 117D: The second World War and the emergence of a new Europe, 1939-1960's. (No prerequisite. Need not be taken in sequence)

Fall Quarter	Winter Quarter	Spring Quarter
115D Th 5:30-8:00, West Bank CB 155, Munholland	116D Th 5:30-8:00, West Bank CB 155, Munholland	117D Th 5:30-8:00, West Bank CB 155, Munholland

Hist 115E-116E-117E.† History of World War II. (§old 134-135-136) 3 degree credits each quarter. \$30 each quarter.

115E: 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. 116E: The campaign in Poland: the "phony war"; German-Soviet agreements; the winter war; the German invasion of Scandinavia; the war in the West; Hitler's "New Order"; breakdown of German-Soviet relations and the campaign of 1941 in the East; Hitler's occupation policies in Russia; the war in Africa; the United States and the war to Pearl Harbor. 117E: Period 1942-1945. Students wishing graduate credit should inquire at time of registration. (No prerequisite. Need not be taken in sequence)

Fall Quarter	Winter Quarter	Spring Quarter
115E W 5:30-8:00, West Bank CB 150, Deutsch	116E W 5:30-8:00, West Bank CB 150, Deutsch	117E W 5:30-8:00, West Bank CB 150, Deutsch

Hist 118D-119D.‡ Central Europe: Poland, Hungary, Czechoslovakia. (§old 125A-126A) 3 degree credits each semester. \$30 each semester.

118D: Bohemia, Poland, Hungary to the 18th century. 119D: 18th century to 1867. (No prerequisite. Need not be taken in sequence)

Fall Semester	Spring Semester
118D W 8:15-9:55, West Bank CB 205, Wright	119D W 8:15-9:55, West Bank CB 205, Wright

Hist 118E-119E-120E.‡ Russia. (§old 125-126-127) 3 degree credits each quarter. \$30 each quarter.

118E: Origins of Russia and development of the Russian state to the reign of Peter the Great. 119E: The Empire from Peter the Great to the Revolution of 1905. 120E: Twentieth-century Russia. (No prerequisite. Need not be taken in sequence)

Fall Quarter	Winter Quarter	Spring Quarter
118E T 5:30-8:00, West Bank CB 150, Uroff	119E T 5:30-8:00, West Bank CB 150, Uroff	120E T 5:30-8:00, West Bank CB 150, Uroff

Hist 118F-119F-120F.‡ Modern Russia. (§old 125B-126B-127B) 3 degree credits each quarter. \$30 each quarter.

118F: The Reign of Nicholas II to 1914. 119F: 1914-1929: World War I, revolutions, civil war, new economic policy. 120F: The Soviet Regime from 1929 to the present. Students wishing graduate credit should inquire at time of registration. (No prerequisite. Need not be taken in sequence)

Fall Quarter	Winter Quarter	Spring Quarter
118F M 5:30-8:00, West Bank CB 235, Stavrou	119F M 5:30-8:00, West Bank CB 235, Stavrou	120F M 5:30-8:00, West Bank CB 235, Stavrou

Symbols explained on page 11.

Evening and Special Classes

Hist 118G-119G.† The Modern Near East: The Balkans and the Arab World. (§old 126C-127C) 3 degree credits each semester. \$30 each semester.

118G: From the Fall of Constantinople (1453) to the Treaty of Jassy (1792). 119G: From the Treaty of Jassy to the Congress of Berlin (1878). (No prerequisite. Need not be taken in sequence)

Fall Semester

118G M 8:15-9:55, West Bank CB 220,
Stavrou

Spring Semester

119G M 8:15-9:55, West Bank CB 220,
Stavrou

Hist 125-126-127. (See Hist 118E-119E-120E)

Hist 125A-126A. (See Hist 118D-119D)

Hist 125B-126B-127B. (See Hist 118F-119F-120F)

Hist 126C-127C. (See Hist 118G-119G)

Hist 134-135-136. (See Hist 115E-116E-117E)

Hist 135E.† American History 1880-1900. (§old 139A) 3 degree credits. \$30

135E completes the sequence 133E-134E-135E. Students wishing graduate credit should inquire at time of registration. (No prerequisite)

Fall Semester

135E M 6:20-8:00, West Bank CB 155,
Loehr

Hist 136A-137A.† History of the South. (§old 146A-147A) 3 degree credits each semester. \$30 each semester.

Courses are the first two parts of the sequence 136A-137A-138A covering the period 1607 to the present. 136A: Covers the period 1607-1840. 137A: Covers the period 1840-1890. Students wishing graduate credit should inquire at time of registration. (No prerequisite. Need not be taken in sequence)

Fall Semester

136A Th 8:15-9:55, West Bank CB 140,
Noble

Spring Semester

137A Th 8:15-9:55, West Bank CB 140,
Noble

Hist 139A. (See Hist 135E)

Hist 139D, 141D.† Social History of American Religion. (§old 143A, 145A) 3 degree credits each quarter. \$30 each quarter.

A survey and analysis of the role of religion and American society, both as a sanction to developments determined by other forces, and as itself a factor in social change. 139D: 17th and 18th centuries. 141D: 20th century. (No prerequisite. Need not be taken in sequence)

Fall Quarter

139D Th 5:30-8:00, West
Bank CB 430, Smith

Spring Quarter

141D Th 5:30-8:00, West
Bank CB 430, Smith

Symbols explained on page 11.

Course Offerings—Arts and Sciences

Hist 142A.† American Economic History. (§old 146) 3 degree credits. \$30.

Colonial economic life from the beginning of settlement to the American Revolution. 142A begins the sequence 142A-143A-144A. Students wishing graduate credit should inquire at time of registration. (No prerequisite)

Spring Semester

M 6:20-8:00, West Bank CB 140, Loehr

Hist 143A, 145A. (See Hist 139D, 141D)

Hist 143B, 145B. (See Hist 144C, 142C)

Hist 144C, 142C.‡ History of American Labor. (§old 145B, 143B) 3 degree credits each semester. \$30 each semester.

A history and analysis of the role of labor in the development of the United States. Life of the workers, conditions of work, and organization of labor institutions will be described. The political and ideological strivings of labor will be examined broadly. 144C: 1917-1963. 142C: 1607-1873. Students wishing graduate credit should inquire at time of registration. (No prerequisite for 144C or 142C. Need not be taken in sequence)

Fall Semester

144C Th 8:15-9:55, West Bank CB 220,
Berman

Spring Semester

142C Th 8:15-9:55, West Bank CB 220,
Berman

Hist 146. (See Hist 142A)

Hist 146A-147A. (See Hist 136A-137A)

Hist 148C-149C-150C.‡ The Chinese Revolution, 1851-1949. (§old 163A-164A-165A) 3 degree credits each quarter. \$30 each quarter.

A survey of modern Chinese history focused on transition from imperial bureaucracy to communist bureaucracy in a context of broad cultural adjustment under Western influence. 148C: 1851-1911. 149C: 1911-1927. 150C: 1927-1949. (No prerequisite. Need not be taken in sequence)

Fall Quarter

148C Th 5:30-8:00, West
Bank CB 105, Taylor

Winter Quarter

149C Th 5:30-8:00, West
Bank CB 105, Taylor

Spring Quarter

150C Th 5:30-8:00, West
Bank CB 105, Taylor

Hist 163A-164A-165A. (See Hist 148C-149C-150C)

HUMANITIES

William H. Agee, Instructor in Humanities

George Amberg, Professor of Humanities

Robert J. Ames, Associate Professor of Humanities

Mary Ann Feldman, Instructor in Humanities

Fred Hallberg, Instructor in Humanities

Oya Kaynar, Instructor in Humanities

Donald Lambert, Instructor in Humanities

Ray Livingston, Lecturer in Humanities

Lynn Loudon, Instructor in Humanities

Thomas Lux, Instructor in Humanities

Margaret MacInnes, Instructor in Humanities

Symbols explained on page 11.

Evening and Special Classes

Mischa Penn, Instructor in Humanities

Philip Siegelman, Assistant Professor of Humanities

Roy A. Swanson, Associate Professor of Classics

Susan White, Instructor in Humanities

Qualified students wishing to register for 51, 52, 53, or 54 are referred to the course descriptions of Hum 1, 2, 3, 4; students registering under Upper Division numbers will be required to do extra work and perform at a higher level in examinations and papers. Likewise, qualified students wishing to register for Hum 61, 62, 63 are referred to the descriptions of Hum 11, 12, 13.

Hum 1. Humanities in the Modern World I. (**Hum 51) 3 degree credits. \$30.

An introduction to the study of the humanities in the modern world, including the old regime, the revolution, neoclassicism and romanticism, from about 1740 to 1820. Materials used are history, prose, criticism, literature, poetry, and art. Authors: Pope, Voltaire, Rousseau, Burke, Goethe, Tolstoy. See note at beginning of humanities section. (No prerequisite. Repeated spring semester)

Fall Semester

W 6:20-8:00, Ford 285, Hallberg

Spring Semester

M 8:15-9:55, Ford 150, Feldman

Fall Quarter

M 5:30-8:00, Ford 285, MacInnes

T 5:30-8:00, Ford 285, Lambert

T 5:15-7:45, StP Ext Center 4, Penn

W 6:30-9:00, Robbinsdale HS 231, Louden

Hum 2. Humanities in the Modern World II. (**Hum 52) 3 degree credits. \$30.

The industrial revolution, liberalism and socialism, the psychology of individualism. Period covered is from 1776 to 1890. Authors: Carlyle, Mill, Marx, Smith, Malthus, Ibsen, Dostoyevski. See note at beginning of humanities section. (No prerequisite. Repeated spring semester)

Spring Semester

W 6:20-8:00, Ford 115, Hallberg

Winter Quarter

M 5:30-8:00, Ford 285,
MacInnes

T 5:30-8:00, Ford 285,
Kayner

T 5:15-7:45, StP Ext Center 4,
Penn

W 6:30-9:00, Robbinsdale
HS 231, Louden

Hum 3. Humanities in the Modern World III. (**Hum 53) 3 degree credits. \$30.

The impact of science and evolution; religion and morals in a changing world, from about 1840 to 1914. Authors: the evolutionists, Kierkegaard, Nietzsche, Chekhov, Thomas Mann. See note at beginning of humanities section. (No prerequisite. Repeated spring quarter)

Fall Semester

M 8:15-9:55, Ford 180, Amberg

Spring Quarter

M 5:30-8:00, Ford 285,
Siegelman

T 5:30-8:00, Ford 285,
Kaynar

T 5:15-7:45, StP Ext
Center 4, Lambert

W 6:30-9:00, Robbinsdale
HS 231

Symbols explained on page 11.

Course Offerings—Arts and Sciences

Hum 4. Humanities in the Modern World IV. (**Hum 54) 3 degree credits. \$30.

Civilization between two wars: the impact of psychoanalysis, communism, 20th century liberalism, new problems of human value and authority. Authors: Freud, Lenin, T. S. Eliot, Kafka, and others. See note at beginning of humanities section. (No prerequisite. Repeated spring semester)

Fall Semester

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

Spring Semester

M 8:15-9:55, Ford 285, Amberg

Hum 11. The Greek Heritage. (**Hum 61) 3 degree credits. \$30.

Greece through the Peloponnesian War. Emphasizes Golden Age of Athens; tragic visions of the dramatists, classical art and architecture, Athenian democracy, concepts of reason and justice, Homer, Hesiod, the dramatists, Plato, Aristotle, Thucydides, and, in contrast, *The Book of Job*, Greek art and architecture. See note at beginning of humanities section. (No prerequisite)

Fall Quarter

Th 6:20-8:50, Ford 285, Livingston

Hum 12. Roman and Medieval Heritage. (**Hum 62) 3 degree credits. \$30.

Roman state. Hellenistic and Roman civilization. Epicureanism and Stoicism, Neoplatonism, Hebrew background and setting for Christianity. Christian doctrine, medieval society, faith, theocracy, Lucretius, Marcus Aurelius, Epictetus, New Testament, Augustine, church documents, Thomas Aquinas, Dante. Early Christian, Romanesque, and Gothic art. See note at beginning of humanities section. (No prerequisite)

Winter Quarter

Th 6:20-8:50, Ford 285, Livingston

Hum 13. The Renaissance and Reformation. (**Hum 63) 3 degree credits. \$30.

The 14th-17th centuries. Rise of Italian communes, commercial life, banking; age of Lorenzo the Magnificent in Florence; ideal of beauty in art, politics, and morals; universal man. High renaissance and the power of Rome. Pietism and Reformation in Germany. Counter Reformation in Spain and France. Golden Age of Spain and beginnings of Age of Reason. Readings from Pico della Mirandola, Machiavelli, Castiglione, Luther, Calvin, Loyola, Montaigne, Pascal, Cervantes. Renaissance and baroque art and architecture. See note at beginning of humanities section. (No prerequisite)

Spring Quarter

Th 6:20-8:50, Ford 285, Swanson

Hum 21. American Life. 3 degree credits. \$30.

The concept of individualism and the place of the individual in American society as recorded in literature, social thought, and the arts. Readings of varying length from a variety of authors including Franklin, Tocqueville, Thoreau, Whitman, Lewis, and Farrell. Industrial and union folk songs. (No prerequisite)

Fall Quarter

W 6:00-8:30, StP Ext Center 102, Agee

Th 6:20-8:50, Ford 185, Agee

Hum 22. American Life. 3 degree credits. \$30.

Religion in American thought and experience from Puritanism to the present. Readings of varying length from a variety of authors including Edwards, Hawthorne, Paine, Jefferson, Emerson, Ingersoll, William James, Eliot, and Hemingway. Studies of American religious utopias. Selected religious painting and music. (No prerequisite)

Winter Quarter

W 6:00-8:30, StP Ext Center 102, Agee

Th 6:20-8:50, Ford 185, Agee

Symbols explained on page 11.

Evening and Special Classes

Hum 23. American Life. 3 degree credits. \$30.

Two major topics are investigated: (a) The land, the city, and the machine as factors in American life. Readings of varying length from Jefferson, Crèvecoeur, Mark Twain, and Dreiser. The natural and the urban-technological landscapes in painting. The rise of the skyscraper. The architecture of Frank Lloyd Wright. (b) The image of himself and of his society held by the American Negro. Readings of varying length from Washington, DuBois, Ellison, King, and Baldwin. Jazz and the story of "Jelly-Roll" Morton. Negro folk songs and humor. (No prerequisite)

Spring Quarter

W 6:00-8:30, StP Ext Center 102, Agee

Th 6:20-8:50, Ford 185, Agee

Hum 51, 52, 53, 54. Humanities in the Modern World. 3 degree credits each term. \$30 each term.

Fall Semester, Fall Quarter, Spring Semester (51)

Winter Quarter, Spring Semester (52)

Fall Semester, Spring Quarter (53)

Fall Semester, Spring Semester (54)

See course descriptions, days, times, places, and instructors as listed under Hum 1, 2, 3, and 4. Courses numbered above 50 carry Upper Division credit and are open only to students at that level. They need not be taken in sequence.

Hum 61, 62, 63. The European Heritage. 3 degree credits each quarter. \$30 each quarter.

Fall Quarter (61)—Winter Quarter (62)—Spring Quarter (63)

See course descriptions, days, times, places, and instructors as listed under Hum 11, 12, and 13. Courses numbered above 50 carry Upper Division credit and are open only to students at that level. They need not be taken in sequence.

INTERDISCIPLINARY PROGRAMS

Communication

(See page 66)

Family Studies

(See page 67)

Humanities

(See page 80)

Personal Orientation

How to Study (See page 112)

Social Science

(See page 103)

Symbols explained on page 11.

ITALIAN

Silvano B. Garofalo, Instructor in Italian

Livia Pellegrini-Seim, Lecturer in Italian

1A-1B, 2A-2B, 3A-3B. Beginning Conversational Italian, carrying 3 degree credits each semester, is the same sequence of courses formerly listed in evening classes as 1A-2A, Beginning Conversational Italian, and 3A-4A, Conversational Italian.

Ital 1A-1B. Beginning Conversational Italian. 3 degree credits each semester. \$30 each semester.

An audio-lingual approach to provide a speaking knowledge of Italian. (No prerequisite for 1A; 1A or old 1A or # for 1B)

Fall Semester

1A T 6:20-8:00, Folwell 305, Garofalo

Spring Semester

1B T 6:20-8:00, Folwell 305, Garofalo

Ital 2A-2B. Beginning Conversational Italian. 3 degree credits each semester. \$30 each semester.

An audio-lingual approach to provide a speaking knowledge of Italian. (Prerequisite: 1A or 1B or old 2A or # for 2A; 2A or old 3A or # for 2B)

Fall Semester

2A W 6:20-8:00, Folwell 305, Pellegrini-Seim

Spring Semester

2B W 6:20-8:00, Folwell 205, Pellegrini-Seim

Ital 3A-3B. Beginning Conversational Italian. 3 degree credits each semester. \$30 each semester.

A conversational approach to provide a speaking knowledge of Italian. (Prerequisite: 2A or old 4A or # for 3A; 3A or # for 3B)

Fall Semester

3A Th 6:20-8:00, Folwell 305

Spring Semester

3B Th 6:20-8:00, Folwell 305

JOURNALISM

Roy E. Carter, Jr., Professor of Journalism

Michael Corcoran, Lecturer in Journalism

Robert Lindsay, Instructor in Journalism

Robert N. Pierce, Teaching Assistant in Journalism

R. Smith Schuneman, Instructor in Journalism

Herman J. Sittard, Lecturer in Journalism

Harold W. Wilson, Associate Professor of Journalism

Jour 13. Introduction to Journalistic Writing. 3 degree credits. \$30.

Lectures and assignments in journalistic media and audiences; fundamentals of fact-gathering and fact-writing for newspapers, broadcasting, and advertising. Adequate typing skill advisable for credit students. (Prerequisite: Engl 3B or #. Repeated spring semester)

Fall Semester

T 6:20-8:00, Murphy 212, Sittard

Spring Semester

T 6:20-8:00, Murphy 212, Pierce

Symbols explained on page 11.

Evening and Special Classes

Jour 18. Principles of Advertising. 3 degree credits. \$30.

The role and function of advertising in modern society. A survey of techniques and practices in creating advertising, emphasizing copy, research, and media fields. Problems and cases in advertising. (Prerequisite: 13 or #)

Fall Semester

T 6:20-8:00, Murphy 311, Corcoran

Jour 53. Picture Editing. 3 degree credits. \$30.

Criteria for picture selection. Combining word and picture in layouts for company or institutional magazines, newspapers, and general publications. Introduction to TV news film editing. (Prerequisite: 13 or 18 or professional journalistic experience and #)

Fall Semester

W 8:15-9:55, Murphy 20, Schuneman

***Jour 57. Design and Typography: Advertising and Publications.** 3 degree credits. \$30 plus \$5 laboratory fee.

Principles of design and layout. Preparation of layouts for print and film. Photo-type techniques. Appropriate use of typefaces and color. Practice in hand- and photo-composition. (Prerequisite: 18 or #. Limited to 20 students)

Spring Semester

M 6:20-8:00, Murphy 315, Wilson

***Jour 60. Graphic Processes: Advertising and Publications.** 3 degree credits. \$30 plus \$5 laboratory fee.

Survey of letterpress, offset, gravure, and silk screen by lecture, demonstration, field trip, and movie. Study of engraving, art, and illustration techniques. Practical exercises in processing and planning illustrations for reproduction. (Prerequisite: #. Limited to 20 students)

Fall Semester

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

***Jour 71. Business News and Feature Writing.** 3 degree credits. \$Jour 69. \$30.

Planning and writing feature articles for general, class, and trade publication; marketing; problems of magazine editing; employee publication and industrial journal problems. (Prerequisite: Engl 3B or #. Limited to 20 students)

Fall Semester

W 6:20-8:00, Murphy 302, Schuneman

Jour 78. Public Relations Methods. 3 degree credits. \$30.

Publicity, external and internal communication, use of media; techniques and application of institutional promotion and communication, including use of company publications, institutional advertising, and trade journals. Projects and campaigns. (Prerequisite: 13 or #)

Fall Semester

M 6:20-8:00, Murphy 308, Lindsay

***Jour 79. Advertising Copy Writing.** 3 degree credits. \$30.

Techniques of writing retail and national advertising copy. Application of psychological principles relating to approach, appeals, and response. Use of pretesting, post-testing, and creative research findings. (Prerequisite: 18 or #. Class limited to 18 students)

Spring Semester

T 6:20-8:00, Murphy 311, Corcoran

Symbols explained on page 11.

Course Offerings—Arts and Sciences

Jour 118. Advanced Projects in Journalism. 3 degree credits. \$30.

Advanced projects in magazine and periodical writing. Detailed individual critiques and manuscript appraisal. Study of audiences and markets. (Prerequisite: 71 [old 69] or 73 or #)

Spring Semester

T 6:20-8:00, Murphy 210, Sittard

Jour 130. Public Opinion and Propaganda. 3 degree credits. \$30.

Functions of the press and other communications agencies in the formation of public opinion. Studies of persuasion and attitude change. Problems in the interpretation of opinion and attitude research in the mass media field. Pressure-group activities and political and international propaganda. (Prerequisite: 15 credits in social sciences)

Spring Semester

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

Jour 150. Institutional Public Relations. 3 degree credits. \$30.

Principles and practices of public relations in public health, social work, education, and other community institutional service fields. Use of the mass media and journalistic implications of the public relations process. (Prerequisite: College degree in any area or #)

Spring Semester

M 6:20-8:00, Murphy 308, Lindsay

LIBRARY SCIENCE

Lib 53. School Library Management. 3 degree credits. \$30.

A practical introduction to the management of the small school library. Understanding and organization of simple routines, methods, and records necessary for the operation of such a library. For school librarians working for certification. (No prerequisite)

Fall Quarter

TTh 4:00-5:30, Library 4B

Lib 55. Library Administration. 3 degree credits. \$30.

Introduction to principles of library administration, organization, and management. (No prerequisite)

Winter Quarter

MW 4:00-5:30, Library 4A

Lib 62. Reference I. 3 degree credits. \$30.

General reference tools and other sources of information. Theory and practice of reference work. A prerequisite to graduate study. (No prerequisite)

Fall Quarter

MW 4:00-5:30, Library 4A

Lib 70. Selection of Library Materials. 3 degree credits. \$30.

Techniques, standards for selection of books, magazines, pamphlets, phonograph records, films, etc. A prerequisite to graduate study. (No prerequisite. Repeated spring quarter)

Fall Quarter

TTh 4:00-5:30, Library 4A

Spring Quarter

TTh 4:00-5:30, Library 4A

Symbols explained on page 11.

Evening and Special Classes

Lib 74. Library Materials in the Classroom. 3 degree credits. \$30.

Correlating the library, as a materials center, with the school program. Sources of information and evaluation of materials for teaching and resource units. For College of Education students or postgraduates working for certification as school librarians. (No prerequisite)

Fall Quarter

MW 4:00-5:30, Library 4B

Lib 83. Cataloguing and Classification. 3 degree credits. \$30.

Basic principles of descriptive cataloguing, including rules of entry, subject headings and classification in libraries, for all types of libraries. A prerequisite for graduate study. (No prerequisite)

Winter Quarter

TTh 4:00-5:30, Library 4A

Lib 156. Special Libraries. 3 degree credits. \$30.

Procedures of newspaper, insurance, medical, technical, and other special libraries. (Prerequisite: 55 or #)

Winter Quarter

M 6:30-9:00, Library 4A

Lib 172. Reading Guidance for Adolescents. 3 degree credits. \$30.

The library's relationship to the teen-ager in terms of his interests and needs. Methods of introducing books and developing and guiding reading. Students wishing graduate credit should inquire at time of registration. (Prerequisite: 70 or #)

Fall Quarter

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

Lib 177. History of Children's Literature. 3 degree credits. \$30.

Especially for graduate students and postgraduates wishing to continue their library education. (Prerequisite: admission to Graduate School or a fifth year library degree)

Spring Quarter

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

Lib 182. Advanced Descriptive Cataloguing. 3 degree credits. \$30.

Intensive study of rules of entry, including foreign cataloguing codes. The cataloguing and classification of nonbook materials, such as serials, maps, and music. Administrative problems in cataloguing. (Prerequisite: 83 and admission to Graduate School, or a fifth year library degree)

Spring Quarter

MW 4:30-6:00, Library 4A

Lib 272. Library Work with Children and Young People. 3 degree credits. \$30.

A seminar for public librarians and school librarians. (Prerequisite: 157 or 154 and admission to the Graduate School, or a fifth year library degree)

Spring Quarter

W 6:30-9:00, Library 4A

MATHEMATICS

(See page 147)

Symbols explained on page 11.

MUSIC

Paul Fetter, Professor of Music
 Paul S. Ivory, Associate Professor of Music Education
 Paul R. Knowles, Assistant Professor of Music
 Johannes Riedel, Professor of Music
 Everett L. Sutton, Instructor in Music

Applied Music

Individual instruction in music offered by the Department of Music is open to students not able to attend day classes by registration through the General Extension Division. Private lessons are given in piano, organ, voice, violin, trumpet, and all other orchestral instruments.

All applicants for applied music instruction must first, prior to the beginning of a quarter, obtain an "Approval for Registration Form" and fulfill any necessary audition requirements through the Department of Music, 107 Scott Hall. Time and place of lessons are also arranged through the Department of Music office, and final examinations will be taken during day-time hours. The "Approval for Registration Form" must be presented by the student to an Extension Division office at the time of registration during the appropriate quarter registration period.

The courses offered, and their fees, will be found in the program of classes for the College of Liberal Arts, in the *Class Schedule*. In addition to the regular tuition and fees, a \$4 registration fee will be charged for each quarter course. The usual fee for late registration will also be charged. For further information, consult any office of the General Extension Division or the office of the Department of Music.

Note—Individual instruction will also be offered on the same basis at the St. Paul General Extension Center. Full information is available at the center.

*Mus. Piano Playing for Pleasure I-II. 2 certificate credits each semester. \$30 each semester.

Designed primarily for the person with no piano background. Keyboard fundamentals such as sight-reading, transposition, harmonization, improvisation. Some individual practice outside the class period necessary for successful completion of the course. (No prerequisite for I; I or # for II. Each section limited to 10 students)

Fall Semester

I T 6:30-7:45, Music Education 103
 I Th 6:30-7:45, Music Education 103

Spring Semester

I Th 6:30-7:45, Music Education 103
 II T 6:30-7:45, Music Education 103

Mus. Enjoying Music. No credit. \$20 each quarter.

Enjoying and understanding music heard in today's concert halls, theatres, and homes. Various types, forms, and styles of instrumental and vocal music, including symphony, opera, chamber music, and solo works. Fall: Baroque and classical periods. Winter: Romantic and modern periods. (No prerequisite. Students may enter either quarter)

Fall Quarter

M 6:20-8:00, Scott 3, Ivory

Winter Quarter

M 6:20-8:00, Scott 3, Ivory

Mus IA. Introduction to Music. 3 degree credits. \$30.

Basic elements of music, such as notation and characteristics of musical tone, fundamental musical concepts of rhythm, melody, harmony, polyphony, form; demonstrated by recordings and performance of music of all types in Western civilization. Outside music listening required. (No prerequisite. Repeated spring semester)

Fall Semester

T 6:30-8:30, Scott 3

Spring Semester

T 6:00-7:50, StP Ext Center Aud, Sutton

Symbols explained on page 11.

Evening and Special Classes

Mus 1T-2T-3T. Music Theory. 3 degree credits each quarter. \$30 each quarter.

Development of musicianship through both auditory and visual perception; basic rudiments; exercises in part-writing and harmonization of chorales in the style of Bach; ear training, sight singing. (No prerequisite for 1T; 1T for 2T; 2T for 3T. Must be taken in sequence)

Fall Quarter		Winter Quarter		Spring Quarter	
1T	M 6:20-8:50, Scott 103, Fetler	2T	M 6:20-8:50, Scott 103, Fetler	3T	M 6:20-8:50, Scott 103, Fetler

Mus 4T-5T-6T. Music Theory. 3 degree credits each quarter. \$30 each quarter.

Continuation of 1T-2T-3T with greater emphasis on harmonic analysis, part-writing, and clef reading. (Prerequisite: 3T for 4T; 4T for 5T; 5T for 6T. Must be taken in sequence)

Fall Quarter		Winter Quarter		Spring Quarter	
4T	Th 6:20-8:50, Scott 103, Fetler	5T	Th 6:20-8:50, Scott 103, Fetler	6T	Th 6:20-8:50, Scott 103, Fetler

Mus 4. Fundamentals of Music. 2 degree credits. \$30.

Knowledge of the piano keyboard, major and minor scales, triads, elementary ear training, rhythmic dictation. Required of students in elementary, primary, kindergarten, and nursery school education; not open to music majors. (No prerequisite. Repeated spring semester)

Fall Semester		Spring Semester	
W	6:00-8:00, Music Education 103	W	6:00-8:00, Music Education 103

Mus 40, 41, 42. University Symphony Orchestra. 1 degree credit each quarter. \$10 each quarter.

Standard orchestral literature performed. Open to players of orchestral instruments from Twin Cities area. Those enrolled with consent of chairman of Music Department are given the opportunity of rehearsing with the University Symphony and participating in three annual concerts given in Northrop Auditorium. (Prerequisite: auditions and \$. Need not be taken in sequence)

Fall Quarter		Winter Quarter		Spring Quarter	
40	T 7:00-9:30, Northrop Aud	41	T 7:00-9:30, Northrop Aud	42	T 7:00-9:30, Northrop Aud

Mus 43. University Chorus. 1 degree credit each quarter. \$10 each quarter.

Performances of major symphonic-choral works with the Minneapolis Symphony Orchestra, University Symphony Orchestra, and University Concert Band. (Students may register only with \$)

Fall Quarter		Winter Quarter		Spring Quarter	
T	7:30-9:30, Nicholson Aud	T	7:30-9:30, Nicholson Aud	T	7:30-9:30, Nicholson Aud

Mus 50, 51, 52. American Music. 2 degree credits each quarter. \$20 each quarter.

50: Music in colonial America, music of the puritans and pietists, instrumental music in Pennsylvania, ballad opera in America, folk music in the United States and in Minnesota. 51: Music of the American Indian, Latin-American music, the history of public music education, the rise of the symphony orchestra, concert music, the spirituals. 52: Music in contemporary America. Jazz, the styles of writing by Charles Ives, Aaron Copland, G. C. Menotti, Elliott Carter, Leonard Bernstein, and others. Listening to numerous studio and field recordings. (No prerequisite for 50, 51, or 52. Need not be taken in sequence. For nonmusic majors)

Fall Quarter		Winter Quarter		Spring Quarter	
50	T 6:20-8:00, Scott 104, Riedel	51	T 6:20-8:00, Scott 104, Riedel	52	T 6:20-8:00, Scott 104, Riedel

Symbols explained on page 11.

Course Offerings—Arts and Sciences

Mus. Folk Music. 3 certificate credits each semester. \$30 each semester.

A survey of folk music. American balladry and folk song. Latin American folk music. European folk music. Historical development, ethnic background, musical values. (No prerequisite. Students may enter any semester)

Fall Semester

T 8:15-9:50, Scott 104, Riedel

Spring Semester

T 8:15-9:50, Scott 104, Riedel

Mus 73-74-75. Introduction to Opera. 2 degree credits each quarter. \$20 plus \$1 materials fee each quarter.

Designed to give an understanding of classical and romantic opera; centered on the weekly broadcasts of the Metropolitan Opera Company, and important presentations in the Twin Cities including Minneapolis Symphony Orchestra performances, St. Paul Civic Opera productions, and the spring season of the Metropolitan in Northrop Auditorium. Opera theatre space is available; there will be work during the class period with costumes, props, and so forth. (No prerequisite for 73; 73 for 74; 74 for 75. Must be taken in sequence. For nonmusic majors)

Fall Quarter

73 W 6:20-8:00, Wulling 7,
Knowles

Winter Quarter

74 W 6:20-8:00, Wulling 7,
Knowles

Spring Quarter

75 W 6:20-8:00, Wulling 7,
Knowles

Mus 147-148-149.† Opera Production. 2 degree credits each quarter. \$20 plus \$3 laboratory fee each quarter.

Student is given opportunity to prepare and perform operatic roles both standard and contemporary. A union of musical and dramatic interpretation is emphasized. In addition to ensemble work scheduled private instruction is given. All projects and roles will be sung in English. Coaching session may be arranged with instructor. (Prerequisite: auditions and ‡. Students are advised to arrange auditions with Professor Knowles, telephone 373-4061, prior to registration in order to avoid payment of late fee. Need not be taken in sequence)

Fall Quarter

147 M 6:20-8:00, Wulling 7,
Knowles

Winter Quarter

148 M 6:20-8:00, Wulling 7,
Knowles

Spring Quarter

149 M 6:20-8:00, Wulling 7,
Knowles

MUSIC EDUCATION

(See page 135)

NATURAL HISTORY

*NatH. Birds of Minnesota. (Not offered 1964-65)

NURSING

Margaret Grainger, Assistant Professor, School of Nursing

Helen Hansen, Instructor, School of Nursing

Marian Town, Instructor, School of Nursing

Evening courses offered by the School of Nursing do not carry degree credit. The nursing courses described in this bulletin are being offered to assist the registered nurse to gain further understanding of her responsibilities in nursing. They are not the equivalent of nursing courses offered in the curriculum of degree programs of the school.

Symbols explained on page 11.

Evening and Special Classes

General education is of value to all nurses and many evening courses listed in the Arts and Sciences section of this bulletin may be taken for credit. Final decision as to the applicability of these credits toward a degree offered by the School of Nursing is the responsibility of the school's Admissions Committee.

Registered nurses who wish to continue their studies in the direction of a degree program in one of the nursing fields are urged to contact the School of Nursing, 125 Owre Hall (telephone 373-3462), and ask for the assistance of an adviser in planning an organized course of study.

Nurs. Nursing Concerns Today. No credit. \$30.

Ideas involved in current theory and practice of nursing. Issues important to nursing, nursing education, and provision of nursing service; exploration of their development, current status, and possible directions. (Open to registered nurses)

Special Class

(September 28 to December 19)

T 6:00-8:30, Millard 118

Nurs. Clinical Nursing. No credit. \$30.

Study of nurse-patient interactions designed to help the nurse practitioner become more aware of the significance of patient behavior and to increase the nurse's skill in assisting the patient with his concerns in relation to his situation. (Open to registered nurses)

Special Class

(January 4 to March 20)

T 6:00-8:30, Millard 118, Town and Hansen

Nurs. Nursing Unit Administration. No credit. \$30.

Responsibilities of the head nurse and team leader in the hospital setting; application of basic principles of administration to the nurse-patient relationship; principles of supervision of nursing personnel. (Open to registered nurses)

Special Class

(March 29 to June 12)

T 6:00-8:30, Millard 118, Grainger

PHILOSOPHY

Homer E. Mason, Assistant Professor of Philosophy

Grover Maxwell, Associate Professor of Philosophy

D. Burnham Terrell, Associate Professor of Philosophy

Philosophy courses with "A" following the course number are somewhat abridged counterparts of corresponding day school courses carrying more credits. They carry regular academic credit, but they will fulfill requirements for a major in philosophy only by special arrangement with the Department of Philosophy.

Phil 1A. Problems of Philosophy. 3 degree credits. \$30.

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

Fall Semester

T 6:20-8:00, Ford 150

Th 6:00-7:40, StP Ext Center 201

Spring Semester

Th 6:20-8:00, Ford 150, Maxwell

Symbols explained on page 11.

Course Offerings—Arts and Sciences

Phil 2A. Logic. 3 degree credits. \$30.

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 each term)

Fall Semester

Th 6:20-8:00, Ford 85, Maxwell

Spring Semester

Th 6:00-7:40, StP Ext Center 201

Spring Quarter

W 5:30-8:00, Ford 85, Mason

Phil 3A. Ethics. 3 degree credits. \$30.

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. Repeated spring semester)

Fall Semester

M 6:20-8:00, Ford 85

Spring Semester

W 6:20-8:00, Ford 185

Phil 10. Science and Religion. 2 degree credits. \$20.

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

Fall Quarter

W 6:20-8:00, Ford 55

Spring Quarter

M 6:20-8:00, Ford 55

Phil 107. Philosophy in Modern Literature. 3 degree credits. \$30.

Survey of basic philosophical ideas in modern civilization as they are expressed in major works of literature. (Prerequisite: major or minor in philosophy or literature, or #)

Spring Semester

T 8:15-9:55, Ford 160, Terrell

Phil 140. Contemporary Philosophy. 3 degree credits. \$30.

Current systematic and critical philosophies, especially idealism, naturalism, realism, pragmatism, positivism, as represented by their principal exponents. (Prerequisite: 9 credits history of philosophy or #)

Fall Quarter

W 5:30-8:00, Ford 130, Mason

PHOTOGRAPHY

Harry C. Webb, Lecturer in Photography

Students in all photography classes must furnish their own cameras.

Art 10. Basic Photography I. (See page 52)

Art 11. Basic Photography II. (See page 52)

Phot. Color Photography I. 3 certificate credits. \$30 plus \$5 laboratory fee.

A foundation course in the growing field of color photography, designed to provide student with practical knowledge and experience in basic color work. Course includes: (a) lecture demonstrations

Symbols explained on page 11.

Evening and Special Classes

of equipment, color processes, and techniques; and (b) supervised camera assignments in the studio and on outdoor field trips. (Experience or instruction in black and white photography is desirable, but not a prerequisite. Repeated spring semester)

Fall Semester

W 6:20-8:00, Wesbrook 202, Webb

Spring Semester

W 8:10-9:50, Wesbrook 202, Webb

Phot. Color Photography II. 3 certificate credits. \$30 plus \$5 laboratory fee.

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

Spring Semester

W 6:20-8:00, Wesbrook 202, Webb

PHYSICS

(See page 154)

POLITICAL SCIENCE

Charles H. Backstrom, Assistant Professor of Political Science

David Cooperman, Associate Professor of Social Science

Dorothy Dodge, Lecturer in Political Science

William H. Flanigan, Assistant Professor of Political Science

G. Theodore Mitau, Lecturer in Political Science

Walfred Peterson, Lecturer in Political Science

William C. Rogers, Professor of Political Science

Thomas M. Scott, Instructor in Political Science

John E. Turner, Professor of Political Science

George A. Warp, Professor of Political Science

Pol 1-2.† American Government and Politics: Parts I and II. 3 degree credits each semester. \$30 each semester.

1: 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. 2: 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 for 1 or 2. Need not be taken in sequence; however, both 1 and 2 must be completed to receive credit)

Fall Semester

1 M 6:20-8:00, West Bank CB 140, Scott
1 W 7:00-8:40, StP Ext Center Aud, Mitau

Spring Semester

2 M 6:20-8:00, West Bank CB 125, Scott
2 W 7:00-8:40, StP Ext Center Aud, Mitau

Pol A-B. The State in the Modern World. 3 degree credits each term. \$30 each term.

An examination of principles, structure, and operation of the modern state. Emphasis on nation state; historical development; democratic government (United States, Great Britain); totalitarian

Symbols explained on page 11.

Course Offerings—Arts and Sciences

government (Nazi Germany, Soviet Russia): conflict between states. (No prerequisite for A or B. Need not be taken in sequence)

Fall Quarter

A Th 6:30-9:00, Robbinsdale
HS 231, Peterson

Winter Quarter

B Th 6:30-9:00, Robbinsdale
HS 231, Peterson

Pol 25. World Politics. 3 degree credits. \$30.

An introduction to world affairs. The development of the state system. The facts of power in international relations. The causes of war and the forces which make for peace. Introduction to the foreign policies of the United States, our Western allies, and of the Soviet Union and China. (No prerequisite. Repeated spring quarter)

Fall Semester

Th 6:20-8:00, West Bank CB 135, Rogers

Spring Quarter

M 6:30-9:00, Robbinsdale HS 233

Pol 26. American Foreign Policy. 3 degree credits. \$30.

Goals and values in American foreign policy; traditional and post-World War II policies. The formulation and administration of foreign policy and the role of public opinion. (No prerequisite)

Spring Semester

Th 6:20-8:00, West Bank CB 135, Rogers

Pol 50. Political Behavior. (**Pol 167) 3 degree credits. \$30.

An introduction to the study of mass political behavior. The study of political personality, attitude formation and public opinion. Voting behavior, partisanship, and other forms of political participation will be considered. (No prerequisite)

Fall Semester

T 8:15-9:55, West Bank CB 115, Flanigan

Pol 51. Political Behavior. (**Pol 168) 3 degree credits. \$30.

An introduction to the political behavior of leaders, the theories of political systems, and the role of organizations. The study of groups and elites. Power, bargaining, and planning in the analysis of political leadership. (No prerequisite)

Spring Semester

T 8:15-9:55, West Bank CB 115, Flanigan

Pol 53. American Political Campaigns and Elections. (**Pol 138) 3 degree credits. \$30.

Examination of national, state, and local campaigns and elections, including field work in local political parties and election campaigns. (No prerequisite)

Fall Semester

M 8:15-9:55, West Bank CB 135, Backstrom

Pol 54. Chinese Government. (**Pol 154) 3 degree credits. \$30.

An analysis that seeks to explain the rise and development of communism in China; sources and nature of ideology; organization of communist power; role of the Chinese Communist party; foreign, economic, and cultural policies of the Chinese communists. (No prerequisite)

Spring Semester

M 6:20-8:00, West Bank CB 205, Turner

Symbols explained on page 11.

Evening and Special Classes

Pol 55. Government of the Soviet Union. (Pol 143) 3 degree credits. \$30.**

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

Fall Semester

M 6:20-8:00, West Bank CB 145, Turner

Pol 56. Legislative Organization and Procedure. (Pol 108) 3 degree credits. \$30.**

Congress and the state legislature at work. (No prerequisite)

Spring Semester

M 8:15-9:55, West Bank CB 135, Backstrom

Pol 57. African Government and Politics. (Pol 148) 3 degree credits. \$30.**

An introductory survey of the political traditions, constitutional development, and international relations of the emerging African states. (No prerequisite)

Fall Semester

T 6:20-8:00, West Bank CB 205, Dodge

Pol 74. Government and Welfare. (Pol 124) 3 degree credits. \$30.**

Federal, state, and local programs in the fields of social insurance, public assistance, welfare services, and housing. Emphasis on philosophy, policy development, and administration. (No prerequisite)

Fall Semester

M 6:20-8:00, West Bank CB 125, Warp

Pol 90. American Political Thought. (Pol 160) 3 degree credits. \$30.**

From colonial times to present: Puritanism; Constitution; utopianism; Calhoun; history of anarchist, socialist, populist, and syndicalist thought; social Darwinism; conservatism; political thought in law and literature. (No prerequisite)

Fall Semester

Th 8:15-9:55, West Bank CB 105, Cooperman

Pol 92. Recent Political Thought. (Pol 162) 3 degree credits. \$30.**

Main currents from Marx to present; Marx, Marxism, and their critics; non-Marxist socialism; syndicalism; anarchism; Catholic and Protestant theories; conservatism; pacifism; political thought in law and literature. (No prerequisite)

Spring Semester

Th 8:15-9:55, West Bank CB 105, Cooperman

Pol 108. Legislative Organization and Procedure. 3 degree credits. \$30.

Spring Semester

See course description, day, time, place, and instructor as listed under Pol 56. Students wishing graduate credit should inquire at time of registration.

Pol 124. Government and Welfare. 3 degree credits. \$30.

Fall Semester

See course description, day, time, place, and instructor as listed under Pol 74. Students wishing graduate credit should inquire at time of registration.

Symbols explained on page 11.

Course Offerings—Arts and Sciences

Pol 138. American Political Campaigns and Elections. 3 degree credits. \$30.

Fall Semester

See course description, day, time, place, and instructor as listed under Pol 53. Students wishing graduate credit should inquire at time of registration.

Pol 143. Government and Politics of the Soviet Union. 3 degree credits. \$30.

Fall Semester

See course description, day, time, place, and instructor as listed under Pol 55. Students wishing graduate credit should inquire at time of registration.

Pol 148. African Government and Politics. 3 degree credits. \$30.

Fall Semester

See course description, day, time, place, and instructor as listed under Pol 57. Students wishing graduate credit should inquire at time of registration.

Pol 154. Chinese Government and Politics. 3 degree credits. \$30.

Spring Semester

See course description, day, time, place, and instructor as listed under Pol 54. Students wishing graduate credit should inquire at time of registration.

Pol 160. American Political Thought. 3 degree credits. \$30.

Fall Semester

See course description, day, time, place, and instructor as listed under Pol 90. Students wishing graduate credit should inquire at time of registration.

Pol 162. Recent Political Thought. 3 degree credits. \$30.

Spring Semester

See course description, day, time, place, and instructor as listed under Pol 92. Students wishing graduate credit should inquire at time of registration.

Pol 167. Political Behavior. 3 degree credits. \$30.

Fall Semester

See course description, day, time, place, and instructor as listed under Pol 50. Students wishing graduate credit should inquire at time of registration.

Pol 168. Political Behavior. 3 degree credits. \$30.

Spring Semester

See course description, day, time, place, and instructor as listed under Pol 51. Students wishing graduate credit should inquire at time of registration.

Public Administration Courses

Reynold A. Boezi, Lecturer in Public Administration

John Jackson, Lecturer in Public Administration

Daniel Magraw, Lecturer in Public Administration and Accounting

Symbols explained on page 11.

Evening and Special Classes

George Warp, Professor of Political Science
Lloyd Woodruff, Lecturer in Political Science

Your attention is called to the *Public Administration Certificate program*; see page 23.

Pol 58. Governmental Accounting. (*Acct 185C, Governmental Accounting, page 117) 3 degree credits. \$30.

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

Fall Semester

T 6:20-8:00, West Bank CB 115, Magraw

Pol 60. Organization and Management. (*Pol 131) 3 degree credits. \$30.

Study of administrative organization and management, emphasizing formal and informal organization structure, current reorganization theory, policy formulation, planning, decision-making, direction, and responsibility. (No prerequisite)

Fall Semester

T 8:15-9:55, West Bank CB 145, Warp

Pol 62. Public Personnel Administration. 3 degree credits. \$30.

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; separation; human relations and moral; employee organization; obligations and responsibilities of public employees; retirement systems. (No prerequisite)

Fall Semester

Th 7:50-9:30, StP Ext Center 7, Jackson

Pol 63. Public Financial Administration. 3 degree credits. \$30.

Systems, techniques, and problems of financial organization and management, including revenue administration, budgeting, and control of public expenditures. National, state, and municipal practices. (No prerequisite)

Fall Semester

W 6:20-8:00, West Bank CB 105, Woodruff

Pol 67. Administrative Analysis. (*Acct 145C, Systems and Procedures, page 117) 3 degree credits. \$30.

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

Spring Semester

T 6:20-8:00, West Bank CB 115, Magraw

Symbols explained on page 11.

Course Offerings—Arts and Sciences

Pol 68. Administrative Communication. 3 degree credits. \$30.

Theory and practices of communication within organizations. Identification and analysis of problems, methods, and channels in downward, upward, and horizontal communication. Devices of communication such as interviews, conferences, reports, handbooks, and manuals. (No prerequisite)

Spring Semester

W 6:20-8:00, West Bank CB 440, Woodruff

Pol 73. City and County Planning. 3 degree credits. \$30.

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. (No prerequisite)

Spring Semester

Th 7:50-9:30, StP Ext Center 5, Boezi

Pol 76. Business and Government. (**Pol 126) 3 degree credits. \$30.

Survey of the relation of government to all of the major areas of the economy; policy making and policy decisions are emphasized. (No prerequisite)

Spring Semester

M 6:20-8:00, West Bank CB 245, Warp

Pol 126. Government and the Economic Order. 3 degree credits. \$30.

Spring Semester

See course description, day, time, place, and instructor as listed under Pol 76. Students wishing graduate credit should inquire at time of registration.

Pol 131. Public Administration. 3 degree credits. \$30.

Fall Semester

See course description, day, time, place, and instructor as listed under Pol 60. Students wishing graduate credit should inquire at time of registration.

PSYCHOLOGY

Russell W. Burris, Associate Professor of Psychological Studies

Rene Dawis, Visiting Associate Professor of Industrial Relations

Harold Gilbertstadt, Lecturer in Psychology

Leslie A. King, Associate Professor of Psychological Studies

G. Gordon Kingsley, Professor of Psychological Studies

Howard P. Longstaff, Professor of Psychology

James Mack, Instructor in Psychology

Clifford E. Macker, Instructor in Psychology

Michael J. Maley, Instructor in Psychology

William A. Myers, Instructor in Psychology

Alfred R. Root, Lecturer in Business Administration

Donald Stieper, Lecturer in Psychology

Psy IA. Application of Psychology to Living. 3 degree credits. \$30.

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

Symbols explained on page 11.

Evening and Special Classes

satisfactions—and it presents principles highly applicable in the life of every person. (No prerequisite. May be taken with the same satisfaction before or after Psy 1-2. Elective credit in Arts College. Not to be confused with Elementary Psychology A. Repeated spring semester)

Fall Semester

M 6:20-8:00, Nicholson 213, Kingsley
Th 8:15-9:55, Nicholson 213, King

Spring Semester

M 6:20-8:00, Nicholson 213, Kingsley
Th 8:15-9:55, Nicholson 207, King

Psy 1-2.† General Psychology. 3 degree credits each term. \$30 plus \$1 materials fee each term.

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 for 1; 1 for 2. Must be taken in sequence)

Fall Semester

1 W 6:20-8:00, Nicholson Aud, Burris
1 Th 7:50-9:30, StP Ext Center Aud, Macker
2 T 6:20-8:00, Nicholson 211

Spring Semester

2 W 6:20-8:00, Nicholson Aud, Burris
2 Th 7:50-9:30, StP Ext Center Aud, Macker
1 T 6:20-8:00, Nicholson 211

Fall Quarter

1 T 6:30-9:00, Robbinsdale
HS 231, Martin

Winter Quarter

2 T 6:30-9:00, Robbinsdale
HS 231, Martin

*Psy 4-5.† Introductory Laboratory Psychology. 2 degree credits each semester. \$30 each semester.

Experiments illustrating the subject matter of contemporary psychology. Included are human and animal learning, problem solving, visual perception, measurement of general and special abilities and personality traits. Supplies the laboratory science requirement in the Lower Division. (Prerequisite: 1 for 4; 2 and 4 for 5 or ¶1-2. Must be taken in sequence. Sections limited to 36 students)

Fall Semester

4 T 8:15-9:55, Wesbrook 101, Myers
4 W 8:15-9:55, Wesbrook 101, Mack

Spring Semester

5 T 8:15-9:55, Wesbrook 101, Myers
5 W 8:15-9:55, Wesbrook 101, Mack

Psy 70. Principles of Psychological Measurement. 3 degree credits. \$30.

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

Fall Semester

Th 8:15-9:55, Johnston 122, Dawis

Spring Semester

Th 8:15-9:55, Johnston 114, Dawis

Psy 119. Psychology of Personality. 3 degree credits. \$30 plus \$1 laboratory fee.

Personality growth, dynamics and variations viewed from an eclectic approach to developmental theories of intra-individual and interpersonal factors influencing character and personality from conception to maturity. Students wishing graduate credit should inquire at time of registration. (Prerequisite: 2. Repeated spring semester)

Fall Semester

W 6:20-8:00, Wesbrook 101, Gilbertstad

Spring Semester

W 6:20-8:00, Wesbrook 101, Gilbertstad

Symbols explained on page 11.

Course Offerings—Arts and Sciences

Psy 122-123.† Vocational Development and Personnel Psychology. 3 degree credits each semester, §Psy 160. \$30 plus \$2.50 laboratory fee each semester.

Deals with selecting, counseling, training, and maintaining an efficient labor force in industry. Theory and practice of giving, interpreting, and evaluating psychological tests and interviewing; constructing and using rating scales; training, maintaining, and promoting employees. There will also be actual practice in the use of psychological tests. Students wishing graduate credit should inquire at time of registration. (Prerequisite: 2 for 122; 122 for 123. Must be taken in sequence)

Fall Semester

122 M 6:20-8:00, Westbrook 101, Longstaff

Spring Semester

123 M 6:20-8:00, Westbrook 101, Longstaff

Psy 125-126. Psychology of Individual Differences. 3 degree credits each semester. \$30 each semester.

Quantitative studies of such factors as age, sex, race and nationality, physical traits, family heredity, and environment in the causation of individual differences in abilities and temperament. Students wishing graduate credit should inquire at time of registration. (Prerequisite: for 125, 2, 5, 70 or §; 125 for 126. Must be taken in sequence)

Fall Semester

125 T 8:15-9:55, Johnston 122, Dawis

Spring Semester

126 T 8:15-9:55, Johnston 122, Dawis

Psy 138. Psychology of Motivation and Conflict. 3 degree credits each semester. \$30 each semester.

The drives and motives which underlie normal behavior and the forms of adjustment which arise when motives conflict or encounter external frustration. Parallel observations in the field of animal behavior will be considered. (Prerequisite: 2. Repeated spring semester)

Fall Semester

Th 8:15-9:55, Westbrook 101, Maley

Spring Semester

Th 8:15-9:55, Westbrook 101, Maley

Psy 144-145.† Abnormal Psychology. 3 degree credits each semester. \$30 each semester.

Normal and abnormal behavior contrasted. Dynamics, and particularly the social determinants, of personality and maladjustments. Students wishing graduate credit should inquire at time of registration. (Prerequisite: for 144, 9 credits in psychology, or 6 credits in psychology with either Zool 1-2-3 or 12 credits in social science; 144 for 145. Must be taken in sequence)

Fall Semester

144 Th 6:20-8:00, Westbrook 101, Stieper

Spring Semester

145 Th 6:20-8:00, Westbrook 101, Stieper

Psy 156. Psychology of Advertising. 3 degree credits. \$30.

Psychological analysis of the basic principles underlying advertising and selling. Consumer research is stressed. Research techniques for investigating advertising problems and the analysis of consumer wants are considered in detail. Students wishing graduate credit should inquire at time of registration. (Prerequisite: 2 and Econ 2)

Spring Semester

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

How to Study. (See page 112)

PUBLIC HEALTH

Leonard M. Schuman, Professor of Public Health

Stewart C. Thomson, Professor of Public Health

Symbols explained on page 11.

Evening and Special Classes

PubH 50. Personal and Community Health. 3 degree credits, §2, 3, 3A, 4, 5, 51, 52. \$30.

Fundamental principles of health conservation and disease prevention. (No prerequisite)

Fall Semester

T 6:20-8:00, Mayo 125, Thomson

PubH 53. Introduction to Public Health. 5 degree credits. \$50.

Basic concepts of disease prevention and control through community programs. (Prerequisite: 3 or 50 and course in microbiology)

Fall Semester

T 7:00-9:30, StP Ext Center 202, Schuman

ROMANCE LANGUAGES

(See listing under each language: French, Italian, Spanish)

SCANDINAVIAN LANGUAGES

John H. Gundersen, Instructor in Scandinavian Languages

Rut Ann-Mari Hedbäck, Assistant Professor of Scandinavian Languages

Seppo Lahti, Lecturer in Scandinavian Languages

Bjarne E. Landa, Lecturer in Scandinavian Languages

Danish

Scan 13-14. Beginning Danish. 3 degree credits each semester. \$30 each semester.

This course is intended for students with little or no previous knowledge of the Danish language. It stresses the oral approach and reading selections of cultural value. (No prerequisite for 13; 13 or # for 14)

Fall Semester

13 Th 6:20-8:00, Folwell 307, Landa

Spring Semester

14 Th 6:20-8:00, Folwell 307, Landa

Finnish

Scan 17-18. Beginning Finnish. 3 degree credits each semester. \$30 each semester.

Intended for beginners with little or no previous knowledge of Finnish; stresses fundamentals of grammar, correct pronunciation, reading, practice in conversation and simple composition. (No prerequisite for 17; 17 or # for 18)

Fall Semester

17 T 6:20-8:00, Fowell 208, Lahti

Spring Semester

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

Norwegian

Scan 1-2. Beginning Norwegian. 3 degree credits each semester. \$30 each semester.

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 for 1; 1 or # for 2)

Fall Semester

1 W 6:20-8:00, Folwell 307, Gundersen

Spring Semester

2 W 6:20-8:00, Folwell 305, Gundersen

Symbols explained on page 11.

Course Offerings—Arts and Sciences

Scan 3-4. Intermediate Norwegian. 3 degree credits each semester. \$30 each semester.

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. (Prerequisite: 2 for 3; 3 or # for 4)

Fall Semester

3 M 6:20-8:00, Folwell 103, Gundersen

Spring Semester

4 M 6:20-8:00, Folwell 103, Gundersen

Scan 3A-4A. Readings in Norwegian Literature. 3 degree credits each semester. \$30 each semester.

This course is designed for students who have completed Scan 4, but is open to anyone with a reading knowledge of Norwegian. Several works of classic Norwegian literature are given thorough study and there will be training in conversation and composition. (Prerequisite: 2 or #)

Fall Semester

3A T 6:20-8:00, Folwell 107, Gundersen

Spring Semester

4A T 6:20-8:00, Folwell 107, Gundersen

Swedish

Scan 7-8. Beginning Swedish. 3 degree credits each semester. \$30 each semester.

This course, intended for students who have little or no previous knowledge of Swedish, stresses fundamentals of grammar, correct pronunciation, reading, practice in conversation and simple composition. (No prerequisite for 7; 7 or # for 8)

Fall Semester

7 M 6:20-8:00, Folwell 110, Hedbäck

Spring Semester

8 M 6:20-8:00, Folwell 104, Hedbäck

Scan 9-10. Intermediate Swedish. 3 degree credits each semester. \$30 each semester.

This course is designed either for students who have completed Scan 7-8 or for those who have a reasonable practical working knowledge of Swedish. Review of fundamentals of grammar together with conversation and composition and readings in Swedish prose. (Prerequisite: 8 or # for 9; 9 for 10)

Fall Semester

9 M 8:15-9:55, Folwell 109, Hedbäck

Spring Semester

10 M 8:15-9:55, Folwell 104, Hedbäck

SLAVIC AND ORIENTAL LANGUAGES

Adele Donchenko, Instructor in Slavic and Oriental Languages

Richard B. Mather, Associate Professor of Slavic and Oriental Languages

Amy Matsumoto, Instructor in Slavic and Oriental Languages

Pearl C. Niemi, Associate Professor of Slavic and Oriental Languages

Danuta B. Zamojska, Teaching Assistant in Slavic and Oriental Languages

Chinese

Chin 1-2. Beginning Modern Chinese (Mandarin). 3 degree credits each semester. \$30 each semester.

An introductory course in modern written and spoken Chinese intended to provide a basis for developing a modest reading and conversational ability. (No prerequisite for 1; 1 or # for 2)

Fall Semester

1 T 6:20-8:00, Folwell 304, Mather

Spring Semester

2 M 6:20-8:00, Folwell 307, Mather

Symbols explained on page 11.

Evening and Special Classes

Japanese

Jpn 1-2. Beginning Modern Japanese. 3 degree credits each semester. \$30 each semester.

An introductory course in modern written and spoken Japanese intended to provide a basis for developing a modest reading and conversational ability. (No prerequisite for 1; I or # for 2)

Fall Semester

1 M 6:20-8:00, Folwell 305½, Matsumoto

Spring Semester

2 M 6:20-8:00, Folwell 305½, Matsumoto

Polish

Plsh 1-2. Beginning Polish. 3 degree credits each semester. \$30 each semester.

Provides essentials for speaking, understanding and reading basic Polish. (No prerequisite for 1; 1 or # for 2)

Fall Semester

1 Th 6:20-8:00, Folwell 306, Zamojska

Spring Semester

2 M 6:20-8:00, Folwell 108, Zamojska

Russian

Russ 1-2. Beginning Russian. 3 degree credits each semester. \$30 each semester.

A beginning course with emphasis on grammar and reading. Exercises in sentence structure. Translation of narrative and expository prose. (No prerequisite for 1; 1 or # for 2)

Fall Semester

1 M 6:20-8:00, Folwell 107, Niemi

Spring Semester

2 M 6:20-8:00, Folwell 107, Niemi

Russ 3-4. Intermediate Russian. 3 degree credits each semester. \$30 each semester.

Readings from 19th-century authors, review of essential grammar, practice in spoken Russian. (Prerequisite: 2 or # for 3; 3 or # for 4)

Fall Semester

3 T 6:20-8:00, Folwell 307, Niemi

Spring Semester

4 T 6:20-8:00, Folwell 307, Niemi

Russ 20-21. Advanced Russian. 3 degree credits each semester. \$30 each semester.

Discussions in Russian on assigned readings. Designed for students who have had 2 or more years of Russian. (Prerequisite: 4 or # for 20; 20 or # for 21)

Fall Semester

20 Th 6:20-8:00, Folwell 304, Donchenko

Spring Semester

21 Th 6:20-8:00, Folwell 304, Donchenko

SOCIAL SCIENCE

Hyman Berman, Associate Professor of History

Martin Dolan, Instructor in Social Science

Donald Drobac, Instructor in Social Science

These courses provide a broad framework within which the student may develop an understanding of man, his institutions, ideas and values. The courses are organized around central themes of human existence. Selections from the various social sciences as well as from the humanities are studied. All of the courses attempt to provide an

Symbols explained on page 11.

integrated study of the factors—historical, political, economic, social, psychological, and cultural—that influence and are influenced by man's conduct. Each course is organized around a basic theme.

SSci 1. Introduction to Social Science. (*SSci 51) 4 degree credits. \$40.

Personality is the basic theme for SSci 1. The student is confronted with problems involved in developing a personality and he is introduced to different interpretations and concepts of personality. He studies personality as shaped by culture and society, and as a shaper of culture and society. Readings include selections from the works of Sigmund Freud, Jean Piaget, Clyde Kluckhohn, Henry Murray, Bronislaw Malinowski, Aristotle, Tolstoy, and others. (No prerequisite. Repeated spring semester)

Fall Semester

Th 5:45-8:00, West Bank CB 220, Berman

Spring Semester

Th 5:45-8:00, West Bank CB 125, Dolan

SSci 2. Introduction to Social Science. (*SSci 52) 4 degree credits. \$40.

Work is the basic theme for SSci 2. The student is introduced to the various ways of organizing the work process. He is shown the economic, sociological, and psychological implications of the ways in which work is organized. Many problems of a modern industrial economy and society are discussed, and alternatives are explored. Such problems as business cycles, automation, economic power and controls are considered. Readings include selections from the works of Plato, Frank Knight, George Orwell, C. Wright Mills, Paul Samuelson, Henry Dickinson, H. G. Wells, and Wilhelm Roepke. (No prerequisite. Repeated spring semester)

Fall Semester

M 5:45-8:00, West Bank CB 430

Spring Semester

Th 5:45-8:00, West Bank CB 440

SSci 3. Introduction to Social Science. (*SSci 53) 4 degree credits. \$40.

Community is the basic theme for SSci 3. The course centers on the ties that bind people to one another. Various concepts of community are examined; the student explores different ways in which men live together—their institutions, social classes, and groups. Throughout the course questions concerning social ideals are raised. The course enables the student to understand better his involvement and participation in various aspects of community life through a clarification of the basic issues of community. Readings include selections from the works of Ortega, Aldous Huxley, Robert Redfield, Louis Wirth, W. Lloyd Warner, Aristotle, Mussolini, Lenin, John Stuart Mill, Bertrand Russell, Reinhold Niebuhr, and others. (No prerequisite. Repeated spring semester)

Fall Semester

T 5:45-8:00, West Bank CB 430

Spring Semester

W 5:45-8:00, West Bank CB 430

SSci 51. Introduction to Social Science. 4 degree credits. \$40.

Fall Semester—Spring Semester

See course description, day, time, place, and instructor as listed under SSci 1.

SSci 52. Introduction to Social Science. 4 degree credits. \$40.

Fall Semester—Spring Semester

See course description, day, time, place, and instructor as listed under SSci 2.

SSci 53. Introduction to Social Science. 4 degree credits. \$40.

Fall Semester—Spring Semester

See course description, day, time, place, and instructor as listed under SSci 3.

Symbols explained on page 11.

SOCIAL WORK

Ronald Bounous, Lecturer in Social Work

Miriam Cohn, Associate Professor of Social Work

Beulah E. Compton, Associate Professor of Social Work

John A. Crane, Associate Professor of Social Work

Frances Guzie, Clinical Assistant Professor of Social Work

James Lawton, Lecturer in Social Work

Organized Extension Program in Social Work

Starting with Fall 1964, the School of Social Work offers an organized group of courses within the General Extension Division. It is designed to help the person without the basic professional degree but employed in a social work position to perform the social work tasks he has assumed with greater knowledge and skill. It is assumed that persons taking this program will have decided not to work toward the Master's in social work, want to increase their present competence as helping persons, have sufficient desire to take on a substantial body of knowledge, and are willing to commit themselves to an organized group of courses over a minimum period of 2 years.

The objectives and content of courses in this program differ from those in the MSW program. The Extension program is shorter, is directed at social workers who are dealing with a wide variety of human problems, and does not have an accompanying field sequence. Courses in this program offer education for practice in the same areas of service as those of the MSW program and draw upon the same basic areas of knowledge, attitudes, and philosophy; but they cannot teach the student to operate from conceptual knowledge within a theoretical framework or guarantee development to a minimum level of skill in practice. Purpose of the program is to impart information and develop knowledge and understanding directed at improved performance of specific social work tasks.

The student will be helped to acquire increased understanding of the people for whom the social services exist, of the social institutions in society—particularly social welfare institutions, of ways of helping people solve problems of social functioning, and of attitudes and philosophy that make the helping process effective.

Credit earned in this Extension program will not be transferable to an MSW graduate program, but may be approved for other graduate programs. *For additional information about the Organized Extension Program in Social Work, please contact Mrs. Beulah Compton, Associate Professor of Social Work, 373-2630.*

Students entering this program will take these courses in the first year: either Practical Problems in the Casework Process or in Social Group Work, and Normal Social Functioning. In the second year, students will take The Community and the Social Agency, Social Policy and the Social Work Profession, and Individual Human Rights and the Profession.

The first three sequences listed below constitute the program for 1964-65.

***SW 148-149. Normal Social Functioning.** 3 degree credits each semester. \$30 each semester.

Designed to help the student develop understanding of basic personality and environmental factors which affect and determine the individual's potential for normal social functioning. For use

Course Offerings—Arts and Sciences

as graduate credit, see statement above under Organized Extension Program. (Prerequisite: current employment in a social work position. Limited to 25 students)

Fall Semester

148 Th 3:40-5:20, West Bank CB 245, Crane

Spring Semester

149 Th 3:40-5:20, West Bank CB 245, Crane

***SW 165-166. Practical Problems in the Casework Process.** 3 degree credits each semester. \$30 each semester.

The sequence will deal with the knowledge, attitudes, and skills necessary to the practice of supportive techniques, with considerable emphasis on the how, why, and when of referral and the use of supervision and consultation. For use as graduate credit, see statement above under Organized Extension Program. (Prerequisite: current employment in a social work position. Limited to 25 students)

Fall Semester

165 Th 6:20-8:00, West Bank CB 255,
Bounous

Spring Semester

166 Th 6:20-8:00, West Bank CB 255,
Bounous

***SW 175-176. Practical Problems in Social Group Work.** 3 degree credits each semester. \$30 each semester.

Identification of the dynamics of individual and group behavior as these influence social work with groups. Role of the group worker, principles basic to use of the method, and the use and meaning of program content. For use as graduate credit, see statement above under Organized Extension Program. (Prerequisite: current employment in a social work position. Limited to 25 students)

Fall Semester

175 Th 3:40-5:20, West Bank CB 225, Guzie

Spring Semester

176 Th 3:40-5:20, West Bank CB 225, Guzie

The following courses are not part of the Organized Extension Program in Social Work.

***SW 150. Psychodynamic Concepts in School Social Work.** 3 degree credits. \$30.

A continuation of old SW 149, offered in Fall 1963. Emphasis will be on developments in the field. Case seminars will be used. For use as graduate credit, see statement above under Organized Extension Program. (Prerequisite: old SW 149 and current employment as a school social worker. Limited to 25 students)

Fall Semester

W 4:30-6:10, West Bank CB 255, Lawton

SW 161. Teaching Casework Through Supervision. 3 degree credits. \$30.

Course will deal with identification of worker's learning needs through use of the case record and conference content. Casework concepts as illustrated in the worker's practice, and method of teaching these to increase the worker's skill will be the primary focus. For use as graduate credit, see statement above under Organized Extension Program. (Prerequisite: current employment in a supervisory capacity in a social agency. Limited to 25 students)

Fall Semester

T 8:00-9:40 a.m., StP Ext Center 201, Compton

***SW 177. Methods of Social Group Work for Caseworkers.** 3 degree credits. \$30.

Information about the theoretical basis of social group work practice and aspects of social group work method. For use as graduate credit, see statement above under Organized Extension Program. (Prerequisite: MSW and experience in casework practice. Limited to 25 students)

Fall Semester

W 6:20-8:00, West Bank CB 415, Cohn

Symbols explained on page 11.

Evening and Special Classes

SOCIOLOGY

John Donohue, Lecturer in Sociology

Arthur L. Johnson, Associate Professor of Sociology

James L. McCartney, Instructor in Sociology

Ramon A. Oldenberg, Instructor in Sociology

Caroline Rose, Lecturer in Sociology

Israel Rubin, Instructor in Sociology

Soc 1. Man in Modern Society. 3 degree credits. \$30.

A study of the characteristics of human group life. An analysis of the factors associated with the development of human group life and man's social environment; the structure of the social environment and its influence upon the individual's behavior; the processes involved in social change and the social problems that accompany social change. A survey of the fundamental social institutions, such as the family and the church; the development and decline of social institutions; change in the institutional functions and social disorganization. (No prerequisite. Repeated spring semester)

Fall Semester

T 6:20-8:00, West Bank CB 10, Rubin
T 7:00-8:40, StP Ext Center 7, Oldenberg

Spring Semester

M 6:20-8:00, West Bank CB 150, Rose

Soc 3. Social Problems. (§Soc 49) 3 degree credits. \$30.

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

Fall Semester

Th 6:20-8:00, West Bank CB 235, Johnson

Spring Semester

T 7:00-8:40, StP Ext Center 7, Rubin
Th 8:15-9:55, West Bank CB 235, Johnson

Soc 53. Elements of Criminology. 3 degree credits. \$30.

General survey of field of criminology. (Prerequisite: 1 or #. Repeated spring semester)

Fall Semester

T 7:00-8:40, StP Ext Center 5, Donohue

Spring Semester

W 6:20-8:00, West Bank CB 120, Donohue

Soc 120. Social Psychology. 3 degree credits. \$30.

Research and theory regarding the relation of the individual to social groups. Emphasis on the socialization processes; effects of social interaction and isolation; individual behavior under conditions of social organization and disorganization; cultural influence and its limits. Students wishing graduate credit should inquire at time of registration. (Prerequisite: 1 or #)

Fall Semester

M 6:20-8:00, West Bank CB 220, Rose

Soc 123. Minority Group Relations. 3 degree credits. \$27.

Interaction of social and cultural groups in America. Processes leading to group contact; characteristics and contribution of ethnic groups in the United States; mechanisms and problems of group adjustment. Democratic theory and practice; sources of prejudice; contemporary status of principal minority groups; international implications; trends and proposed solutions. (Prerequisite: 1 or #)

Fall Semester

W 6:20-8:00, West Bank CB 220, Rose

Soc 140. Social Organization. (Not offered 1964-65)

Symbols explained on page 11.

Course Offerings—Arts and Sciences

Soc 141. The Family. 3 degree credits. \$30.

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. Students wishing graduate credit should inquire at time of registration. (Prerequisite: 1 or #)

Spring Semester

Th 6:20-8:00, West Bank CB 225, Johnson

Soc 146. Industrial and Occupational Sociology. (Not offered 1964-65)

SPANISH

Robert Barta, Instructor in Spanish

Santiago Cúneo, Associate Professor of Spanish

Robert F. Estelle, Instructor in Spanish

Rodolfo O. Floripe, Associate Professor of Spanish

Ruth Jones, Instructor in Spanish

Richard Narváez, Assistant Professor of Spanish

There are two sequences of courses in beginning Spanish from which the prospective student may choose the one best suited to his needs:

1-2-3, *Beginning Spanish*, carrying 5 degree credits per unit, comprises the standard course in first-year Spanish. 1-2-3 is the same sequence of courses formerly listed in evening classes as 1C-2C-3C, *Beginning Spanish*. The principal aim is to provide a solid foundation for the comprehension of the written and spoken language. Sufficient training in grammar is included to enable the student to acquire elementary skills in conversation and composition. This sequence is recommended for those planning to continue the study of Spanish or wishing to satisfy college language requirements.

1A-1B-2A-2B-3A-3B, *Beginning Spanish*, carrying 3 degree credits per unit. 1A-1B-2A-2B is the same sequence of courses formerly listed in evening classes as 1-2-3-4, *Beginning Spanish*. This sequence is recommended for those who desire a general introduction to the language but who wish to proceed at a slower pace than required for the standard 5-credit units. Students with grades of A or B in 3B should elect 25B, skipping 25A.

Span 1-2. Beginning Spanish. 5 degree credits each semester. \$50 each semester.

Grammar, pronunciation, reading, and practice in speaking. See note above. (No prerequisite for 1; 1 or 1B or old 1C or 1 year high school Spanish for 2)

Fall Semester

1 T 6:20-9:20, Folwell 105

Spring Semester

2 T 6:20-9:20, Folwell 105

Span 3. Beginning Spanish. 5 degree credits. \$50.

Grammar, pronunciation, reading, and practice in speaking. See note above. (Prerequisite: 2 or 2B or old 2C or 2 years high school Spanish)

Fall Semester

M 6:20-9:20, Folwell 303

Symbols explained on page 11.

Evening and Special Classes

Span 1A-1B. Beginning Spanish. 3 degree credits each semester. \$30 each semester.

Grammar, pronunciation, reading, and practice in speaking. See note on page 107. (No prerequisite for 1A; 1A or old 1 for 1B. Repeated spring semester)

Fall Semester

1A W 6:20-8:00, Folwell 110
1B W 6:20-8:00, Folwell 107

Spring Semester

1A W 6:20-8:00, Folwell 110
1B W 6:20-8:00, Folwell 107

Span 2A-2B. Beginning Spanish. 3 degree credits each semester. \$30 each semester.

Grammar, pronunciation, reading, and practice in speaking. See note on page 107. (Prerequisite: 1 or 1B or old 2 or 1 year high school Spanish for 2A; 2A or old 3 for 2B)

Fall Semester

2A M 6:20-8:00, Folwell 207

Spring Semester

2B M 6:20-8:00, Folwell 110

Span 3A-3B. Beginning Spanish. 3 degree credits each semester. \$30 each semester.

Grammar, pronunciation, reading, and practice in speaking. See note on page 107. (Prerequisite: 2 or 2B or old 4 or 2 years high school Spanish for 3A; 3A for 3B)

Fall Semester

3A T 8:15-9:55, Folwell 104

Spring Semester

3B T 8:15-9:55, Folwell 104

Span 25 (\$old 53). Intermediate Spanish. 5 degree credits. \$50.

An intensive review of grammar through analysis of a variety of Spanish texts. (Prerequisite: 3 or 3B or old 3C or 3 years high school Spanish)

Spring Semester

M 6:20-9:20, Folwell 207

Span 25A. Intermediate Spanish. 3 degree credits. \$30.

An intensive review of grammatical forms and patterns. (Prerequisite: 3 or 3 years high school Spanish; students who have completed 3B with a grade of A or B should elect 25B)

Fall Semester

T 8:15-9:55, Folwell 205

Span 25B. Intermediate Spanish. 3 degree credits. \$30.

A systematic analysis of a variety of Spanish texts to improve language skills, especially reading ability. (Prerequisite: 25A or 3B with grade of A or B. Repeated spring semester)

Fall Semester

M 6:20-8:00, Folwell 205

Spring Semester

M 6:20-8:00, Folwell 205

Span 27, 28. Spanish Literature and Culture. 3 degree credits each semester. \$30 each semester.

A broad cultural and literary course unifying the study of the Spains of the Old World and the New. Students are introduced to Spanish history, civilization, customs, art, music, and literature. 27: Emphasis is placed on analysis and discussion in Spanish of texts of a cultural and literary nature. 28: Emphasis is placed on rapid reading in texts of a cultural and literary nature, supplemented by class discussions in Spanish. (Prerequisite: 25 or 25B or 4 years high school Spanish or #. Need not be taken in sequence)

Fall Semester

27 Th 6:20-8:00, Folwell 204, Rundorff

Spring Semester

28 Th 6:20-8:00, Folwell 204, Rundorff

Symbols explained on page 11.

Course Offerings—Arts and Sciences

Span 67. Survey of Spanish Literature: Neoclassicism to Early Twentieth Century. 3 degree credits. \$30.

The course begins with the works of two neoclassic poets of the second half of the 18th century and moves into a study of the multiple literary movements of the 19th: romanticism, realism, naturalism, and the individualism of the generation of '98. Included will be plays by the Duque de Rivas and Benavente; novels by Valera and Galdós; short stories by Becquer, Pardo Bazán, Pereda, Azorín and Valle Inclán; as well as selected materials and essays of Larra, Unamuno, Ortega y Gasset and Baroja. The course terminates with the poetry of four great moderns: Darío, Antonio Machado, Juan Ramón Jiménez and García Lorca. (Prerequisite: 30)

Fall Semester

M 6:20-8:00, Folwell 305, Rundorff

Span 76. Survey of the Literature of Spanish America. 3 degree credits. \$30.

Modernismo to contemporary social novel. (Prerequisite: 30)

Spring Semester

T 6:20-8:00, Folwell 205, Floripe

Span 80, 81. Spanish-American Novel and Social Problems. 2 degree credits each semester. \$20 each semester.

Deals with some of the outstanding social problems of Latin America as presented in the novels of its leading authors. These works capture the essence of social problems and suggest possible solutions for them. Conducted entirely in Spanish. 81 differs from 80 only in the works and problems studied. (Prerequisite: junior or ♯, two courses beyond 25 or 25B. Need not be taken in sequence)

Fall Semester

80 Th 8:15-9:20, Folwell 109, Cúneo

Spring Semester

81 Th 8:15-9:20, Folwell 109, Cúneo

Span 131. The Picaresque Novel. 3 degree credits. \$30.

The course will begin with the first published work of this thoroughly Spanish genre: *Lazarillo de Tormes*, which is representative of the Erasmian thinking of the first half of the 16th century. It will be followed by two *novelas ejemplares* of the great humanist, Miguel de Cervantes, and will conclude with the *Vida del búscon* by the baroque author, Francisco Quevedo. The novels chosen reveal how thought and feeling changed between the late Renaissance and that complex period referred to as the baroque. (Prerequisite: 30 or 27 and 28 or ♯)

Spring Semester

M 6:20-8:00, Folwell 305, Rundorff

Span 174. Twentieth-Century Spanish Literature: Drama. 3 degree credits. \$30.

Benavente, Martínez Sierra, Linares-Rivas, Alvarez Quintero, Valle Inclán, Marquina, García Lorca, and Casona. (Prerequisite: 30 or 27 and 28 or ♯)

Fall Semester

T 6:20-8:00, Folwell 306, Floripe

Spanish for Graduate Students

The Spanish language requirements for a graduate degree can be satisfied by successfully passing an examination given at the end of a 1-quarter course, 17A, specifically designed for students who desire only a reading knowledge of the language.

Symbols explained on page 11.

Evening and Special Classes

Span 17A. Spanish for Graduate Students. No credit. \$30.

This course is designed solely to impart a basic reading knowledge of the Spanish language; full time is devoted to intensive reading and translation of a variety of texts. Since this approach deals with only one aspect of the language, reading, with no time-consuming sessions for oral-aural drills and composition, great skill can be acquired in a short time. At the end of 1 quarter the student is given the equivalent of the Spanish Graduate Reading Examination. Successfully passing this examination fulfills the Graduate School requirement of a reading knowledge of a foreign language. (No prerequisite. Repeated winter and spring quarters)

Fall Quarter		Winter Quarter		Spring Quarter	
W	6:20-8:50, Folwell 105, Estelle	W	6:20-8:50, Folwell 105, Estelle	W	6:20-8:50, Folwell 105, Estelle

SPEECH AND THEATRE ARTS

H. Lee Adey, Assistant Professor of Speech and Theatre Arts
Arthur H. Ballet, Associate Professor of Speech and Theatre Arts
Leonard Bart, Instructor in Speech and Theatre Arts
Frank T. Benson, Assistant Professor of Speech and Theatre Arts
Ernest Bormann, Associate Professor of Speech and Theatre Arts
Virginia Fredricks, Assistant Professor of Speech and Theatre Arts
Albert M. Fulton, Professor of Speech
Maxine Klein, Instructor in Speech and Theatre Arts
Merle W. Lopnow, Assistant to the Director, University Theatre
Robert Moulton, Associate Professor of Speech and Theatre Arts
Robert L. Scott, Associate Professor of Speech and Theatre Arts
George L. Shapiro, Assistant Professor of Speech and Theatre Arts

*Spch. Beginning Practical Speech Making. 3 certificate credits. \$30 plus \$5.50 materials and laboratory fee.

This course is designed particularly for the adult student who wants a practical application of the fundamentals of speech to his professional, business, and social needs. The primary purpose of the course is to develop confidence and effectiveness in speaking situations. Individual attention will be given to cases of nervousness, embarrassment, inadequacy, inferiority, and stage fright. Each student speaks before the class each meeting. Voice recordings and an analysis of the speaking voice will be made. (Prerequisite: high school graduate or #. Each section limited to 20 students. Repeated winter and spring quarters)

Fall Quarter		Winter Quarter		Spring Quarter	
T	6:20-8:50, Architecture 60, Fulton	T	6:20-8:50, Architecture 60, Fulton	T	6:20-8:50, Architecture 60, Fulton
Th	6:20-8:50, Architecture 60, Fulton	Th	6:20-8:50, Architecture 60, Fulton		

Spch 5X-6X.†† Fundamentals of Speech. 3 degree credits each semester. \$30 each semester.

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. (No prerequisite for 5X; 5X for 6X. Must be taken in sequence)

Fall Semester			Spring Semester		
5X	M	6:20-8:00, Folwell 306, Scott	5X	T	6:20-8:00, Folwell 306, Shapiro
5X	T	7:00-8:40, StP Ext Center 102, Bart	6X	M	6:20-8:00, Folwell 306, Scott
			6X	T	7:00-8:40, StP Ext Center 102, Bart

†† Credit for Spch 5X without Spch 6X by petition only.
 Symbols explained on page 11.

Course Offerings—Arts and Sciences

Spch 31. Introduction to the Theatre. 3 degree credits. \$30.

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

Fall Semester

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

Spch 32. Beginning Acting: Creative Approach. 3 degree credits. \$30.

Creation and presentation of original scenes and skits. Ability to respond to the imaginative situation with individuality and effectiveness is stressed. (Prerequisite: 31)

Spring Semester

T 6:20-8:00, Scott 19, Adey

Spch 65. Radio and Television Speech. 3 degree credits. \$30.

Speech arts and psychology of radio and television. Practice exercises, projects, and reports on problems of appeal and audience response. (Prerequisite: 5 or 5X-6X or #)

Spring Semester

W 6:20-8:00, Folwell 306, Bormann

Spch 77. Theatre Dance. 2 certificate credits. \$30.

A course in dance designed to acquaint actors with dance techniques and to give dancers a knowledge of theatrical performance. Course work will consist of European and American dance techniques, and the learning of period dance, musical comedy dance, and one major concert work. (Prerequisite: 32 or #)

Fall Semester

T 6:20-8:00, Scott 19, Moulton

Spch 78. Advanced Acting. 3 degree credits. \$30.

Characterization, styles of acting, and stage technique. Presentation of scenes from great plays. (Prerequisite: 32 or #)

Fall Semester

M 6:20-8:00, Nicholson 304, Klein

Spch 106. Discussion. 3 degree credits. \$30.

Group techniques in creative problem solving: co-operative thinking, recognition and definition of problems, idea-finding, evaluation of solutions. Practice in planning, preparing for, participating in, and leading various forms of discussion. (Prerequisite: 5 or 5X-6X or #)

Fall Semester

T 8:15-9:55, Folwell 109, Benson

*Spch. Voice and Diction. 3 certificate credits. \$30.

A practical and beginning course in training the speaking voice as an expressive instrument. The emphasis is on understanding and practicing the physical skills, emotional attitudes, and vocal habits necessary for good voice production. Individual attention to common deficiencies in breath control, volume, pitch placement and melody, resonance, articulation, pronunciation, speech rhythm, and phrasing. The course is designed to help both students with mild vocal deficiencies and those

Symbols explained on page 11.

Evening and Special Classes

with adequate voices who wish to increase their range of expressiveness. (No prerequisite. Limited to 25 students)

Fall Semester

T 6:20-8:00, Folwell 307, Fredricks

Spch. Contemporary Theatre. 3 certificate credits. \$30.

This course is designed to acquaint the individual with the many facets of theatre productions, and to enable him to develop his understanding and appreciation of plays in production. It will include trips backstage, attendance of performances of approximately eight plays in the field of professional, educational, community, and children's theatre. The registration fee does not include theatre tickets. There will be discussions and analyses by available theatre personalities. (No prerequisite)

Fall Semester

M 6:20-8:00, Wulling 130, Josal and Loppnow

STUDY SKILLS

Fred M. Amram, Instructor in Speech and Problem Solving

James I. Brown, Professor of Rhetoric

Theodore L. Campbell, Instructor in Literature and Writing

Richard Horberg, Instructor in Rhetoric

William M. Marchand, Instructor in Rhetoric

Starling W. Price, Instructor in Rhetoric

Dorothy L. Sheldon, Assistant Professor of Literature and Writing

Margaret N. Space, Instructor in Psychology

William A. Stockdale, Assistant Professor of Literature and Writing

David M. Wark, Assistant Professor of Psychology

Eugene S. Wright, Associate Professor of Rhetoric

°PO 1. How to Study. 2 degree credits (see course description). \$30.

Practical assistance to the student in developing efficient methods of study and concentration, organizing material, preparing for examinations, and improving reading ability. Attention to the orientation of students in their attitudes and motivation, and the relation of these to satisfactory performance. (No prerequisite. Limited to 20 students. Repeated spring semester. Students intending to use this course in a degree program should consult an adviser before registering)

Fall Semester

M 6:20-8:00, Johnston 114, Wark
 M 8:15-9:55, Johnston 114, Wark
 W 6:00-7:40, StP Ext Center 1, Space
 Th 6:00-7:40, Agricultural Engineering 306,
 St. Paul Campus

Spring Semester

M 6:00-7:40, StP Ext Center 7, Space
 W 6:20-8:00, Johnston 105, Wark
 W 8:15-9:55, Johnston 105, Wark
 Th 6:00-7:40, Agricultural Engineering 306,
 St. Paul Campus

°SSk. Creative Problem Solving. No credit. \$30.

A course organized around a study of creativity and creative problem solving especially designed to meet the needs of people employed in, or preparing for, careers in business and industry. Emphasis will be directed toward making students aware of the need for creative behavior in business, industry, and community affairs, and in the arts. Students will participate in exercises to help them become more sensitive to problems, better able to analyze problems, and to demonstrate some of the techniques which aid in the discovery of unique solutions. Class discussion about the social and emotional blocks to creative behavior will be designed to help students discover and overcome their

Symbols explained on page 11.

Course Offerings—Arts and Sciences

own blocks. Students will be encouraged to apply their creative activities to their academic, professional, or artistic interests. (No prerequisite. Limited to 25 students)

Fall Semester

T 6:20-8:00, Nicholson 107, Amram

***Rhet 47. Efficient Reading.** 3 certificate credits (may be used on degree program by petition: 1 credit in Arts or Bus; 3 credits in GC, Educ, IT, or Ag). \$30 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. Limited to 32 students. Repeated spring semester)

Fall Semester

M 6:20-8:00, Ford 185, Wright
M 8:15-9:55, Ford 185, Wright
T 6:20-8:00, Ford 85, Price
T 8:15-9:55, Ford 85, Price
W 6:20-8:00, Ford 85, Horberg
W 8:15-9:55, Ford 85, Horberg
Th 6:00-7:40, StP Ext Center 4, Marchand
Th 7:50-9:30, StP Ext Center 4, Marchand

Spring Semester

M 6:20-8:00, Ford 85, Wright
M 8:15-9:55, Ford 85, Wright
T 6:20-8:00, Ford 85, Price
T 8:15-9:55, Ford 85, Price
W 6:20-8:00, Ford 180, Horberg
Th 7:00-8:40, StP Ext Center 4, Marchand

***SSk. Efficient Reading II.** No credit. \$30 plus \$2 materials fee.

A short, intensive course in efficient reading for students, business, and professional people of above-average reading ability, reading at about 500 words-per-minute, normally. A suggested follow-up for Efficient Reading (Rhet 47) or other reading efficiency training, either as an immediate continuation or refresher course. Emphasis on further refinement of reading techniques and skills of particular use in maintaining superior scholastic or professional status. No duplication of material with Efficient Reading I. Maximum use is made of the perceptoscope, a newly developed remote-control projector with multipurpose training functions. (No prerequisite. Limited to 32 students)

Special Class

(March 29 to June 12)

T 6:20-8:00, Nicholson 216, Brown

SSk. Vocabulary Building: How to Expand Your Word Power. 3 certificate credits. \$30. plus 25 cents materials fee.

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

Fall Semester

T 6:20-8:00, Nicholson 207, Sheldon
W 8:15-9:55, Nicholson 207, Stockdale
Th 6:00-7:50, StP Ext Center 103, Campbell

Spring Semester

T 6:20-8:00, Nicholson 207, Sheldon
W 8:15-9:55, Nicholson 207, Stockdale
Th 6:00-7:50, StP Ext Center 103, Campbell

Symbols explained on page 11.

BUSINESS ADMINISTRATION

Your attention is called to the Master of Business Administration program on page 43 and to the certificate programs in secretarial training, industrial relations, business administration, accounting, and management of administrative services; see pages 24 to 30.

Effective fall, 1962, the School of Business Administration changed its prefix designations for degree courses previously having a BA prefix. In all cases, the former course number has been retained and only the prefix has been changed. For example, BA 5 has been changed to QA (Quantitative Analysis) 5, etc.

ACCOUNTING

Your attention is called to the Accounting Certificate programs; see page 28.

Alvin Arens, Lecturer in Accounting

J. R. Bentley, Lecturer in Accounting

D. J. Berkeley, Lecturer in Accounting

R. Glen Berryman, Associate Professor of Accounting

Wallace Johnson, Lecturer in Accounting

Jerome Lee, Lecturer in Accounting

Reuel I. Lund, Professor of Accounting

Roland Menk, Lecturer in Accounting

Robert R. Ostlund, Lecturer in Accounting

Charles R. Purdy, Assistant Professor of Accounting

Leonard A. Rapoport, Lecturer in Accounting

Gilbert W. Urban, Lecturer in Accounting

First-Year Accounting Courses

Acct 24-25-26, Principles of Accounting, is the first-year introductory course. It is designed to meet the needs of three groups of students: (a) those who plan to use accounting information for business management purposes; (b) those who intend to be practicing accountants (and who expect, therefore, to continue with the second-year and advanced accounting courses); (c) those who wish an introduction to the "language of business" as part of a liberal education. It is not designed to train students to be book-keepers.

Persons with prior background or training may receive credit in one or more of these courses by passing an advanced standing examination. *These examinations will be given at the following times in 632 Business Administration Building (West Bank):*

Acct 24 Wednesday, September 16, 7:00 p.m.

Wednesday, September 23, 7:00 p.m.

Wednesday, December 23, 7:00 p.m.

Wednesday, February 3, 7:00 p.m.

Acct 25 Thursday, September 17, 7:00 p.m.

Thursday, September 24, 7:00 p.m.

Thursday, February 4, 7:00 p.m.

Acct 26 Friday, September 18, 7:00 p.m.

Friday, September 25, 7:00 p.m.

Friday, February 5, 7:00 p.m.

Course Offerings—Business Administration

The three courses are scheduled on three plans.

- | | |
|--|---|
| <p>1. Regular semester class schedule for 3 credits each of 3 semesters for full first-year course.</p> | <p>For students who wish regular class periods in order to take two classes the same evening or who do not wish to spend the time necessary for the more concentrated scheduling.</p> |
| <p>2. Quarter basis, two 75-minute classes or one 2½-hour class each week, 3 credits each quarter, course completed in 1 year.</p> | <p>For students who wish to complete the entire course in 1 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.</p> |
| <p>3. Combined course, meeting twice weekly in 2½-hour sessions, spring semester only, 1 year course covered in 1 semester.</p> | <p>For those who wish to concentrate on completion of the course in the spring semester in order to begin advanced courses in the following term.</p> |

Acct 24-25-26. Principles of Accounting. 3 degree credits each term, §Acct 55A-55B. \$30 each term.

Methods of recording, reporting, and interpreting business events. Use of accounting as a tool of business management. (No prerequisite for 24; 24 for 25; 25 for 26. Must be taken in sequence)

Fall Semester

24	W	6:20-8:00, West Bank CB 110
24	W	8:15-9:55, West Bank CB 110
25	W	8:15-9:55, West Bank CB 120
26	M	6:20-8:00, West Bank CB 120

Spring Semester

24	W	6:20-8:00, West Bank CB 135
24	W	8:15-9:55, West Bank CB 135
25	W	6:20-8:00, West Bank CB 155
26	M	6:20-8:00, West Bank CB 120

Fall Quarter

24	MW	5:10-6:25, StP Ext Center 2
24	MW	6:30-7:45, StP Ext Center 2
24	MW	7:50-9:05, StP Ext Center 2
24	TTh	5:30-6:45, West Bank CB 125
24	TTh	6:50-8:05, West Bank CB 125
24	TTh	8:15-9:30, West Bank CB 125
24	TF	5:30-6:45, StP Ext Center 2
24	TF	7:50-9:05, StP Ext Center 2
24	WF	6:30-7:45, West Bank CB 140
24	Th	6:30-9:00, Robbinsdale HS 217

Winter Quarter

25	MW	6:00-7:15, StP Ext Center 2
25	TTh	5:30-6:45, West Bank CB 140
25	TTh	6:50-8:05, West Bank CB 140
25	TF	6:00-7:15, StP Ext Center 2
25	Th	6:30-9:00, Robbinsdale HS 217

Spring Quarter

24	MW	6:30-7:45, West Bank CB 145
26	MW	6:00-7:15, StP Ext Center 2
26	TTh	6:30-7:45, West Bank CB 140
26	TF	6:00-7:15, StP Ext Center 2
26	Th	6:30-9:00, Robbinsdale HS 217

Acct 24-25-26. Principles of Accounting (Combined). 9 degree credits, §Acct 55A-55B. \$90.

This course covers Acct 24-25-26 complete in 1 semester. (No prerequisite. Registrations will be accepted for the entire course only. Not recommended for people with no accounting experience)

Spring Semester

MTh	6:20-8:50, West Bank CB 250
MTh	6:00-8:30, StP Ext Center 3

Symbols explained on page 11.

Evening and Special Classes

Second-Year and Advanced Accounting Courses

Acct 105A-B-C. Intermediate Accounting. 3 degree credits each term, §Acct 55D for 105C. \$30 each term.

Second-year accounting for students intending to specialize in accounting or in business finance. 105A: Review of accounting processes, measurement of income, accounting treatment of inventories and plant assets. 105B: Accounting treatment of cash, receivables, investments, intangible assets, liabilities, and applications of actuarial mathematics. 105C: Accounting treatment of stockholders' equity, interpretation and analysis of financial statements. (Prerequisite: 26 and Econ 2 for 105A [see page 114 for advanced standing examinations]; 105A and Math 10 or equivalent for 105B; 105A for 105C)

Fall Semester

105A Th 6:20-8:00, West Bank CB 425
105C M 6:20-8:00, West Bank CB 415

Spring Semester

105B Th 6:20-8:00, West Bank CB 415

Fall Quarter

105A M 5:15-7:45, StP Ext
Center 1

Winter Quarter

105B M 5:15-7:45, StP Ext
Center 1

Spring Quarter

105C M 5:15-7:45, StP Ext
Center 1

Acct 115A-B. Cost Accounting. 3 degree credits each semester, §Acct 55C. \$30 each semester.

115A: Practices, principles, and procedures of handling production costs for use in inventory valuation and income determination. Job order, process, and standard cost systems. A brief introduction to standard cost as a tool of cost control. 115B: Use of cost information in managerial decision-making. (Prerequisite: 26, Econ 2 and Math 10 or equivalent for 115A [see page 114 for advanced standing examinations]; 115A for 115B)

Fall Semester

115A T 6:20-8:00, West Bank CB 415

Spring Semester

115B T 6:20-8:00, West Bank CB 415

Special Interest and Advanced Accounting Courses

Acct. Elementary Functional Wiring for Punched Card Equipment. 3 certificate credits. \$30.

This course will cover the functions, operations, and the wiring concept of the basic tabulating equipment. It will be primarily a wiring course and each of the basic machines will be covered in detail. Basic machines are sorter, interpreter, collator, reproducer, and accounting machine.

Fall Semester

T 6:20-8:00, West Bank CB 230, Crosby

Acct 89B. Tabulating Equipment Applied to Business (Data Processing Techniques). 2 degree credits plus 1 certificate credit. \$30.

Covers the general principles and fundamentals of punched card accounting found in business today. Includes current techniques of pre- and post-computer data processing with emphasis on proper management of noncomputer type equipment. For those seeking a better understanding of punched card systems, their application, control and method. (No prerequisite)

Spring Semester

M 6:20-8:00, West Bank CB 105, Ostlund

Acct 125. Auditing Principles and Procedures. 3 degree credits. \$30.

Verification of financial data, including consideration of auditing procedures and their application. Preparation of working papers and audit reports is emphasized. Not available for graduate credit. (Prerequisite: 105C or §105C)

Fall Semester

W 6:20-8:00, West Bank CB 240, Lee

Symbols explained on page 11.

Course Offerings—Business Administration

Acct 135A-B. Income Tax Accounting. 3 certificate credits each semester. (4 degree credits on completion of both courses consecutively.) \$30 each semester.

Principles involved in determining taxable net income and computation of federal and state income taxes for individuals, partnerships, and corporations. Not available for graduate credit. (Prerequisite: 105A for 135A; 135A for 135B. Must be taken in sequence)

Fall Semester

135A M 8:15-9:55, West Bank CB 240,
Rapoport

Spring Semester

135B M 8:15-9:55, West Bank CB 240,
Rapoport

Acct 145B. Internal Auditing. 3 degree credits. \$30.

Comprehensive course in auditing taught jointly with members of the Twin Cities Chapter of the Institute of Internal Auditors. The principles of internal auditing, organization of the internal auditor's functions, and detailed discussion of the performance of particular activities will be covered. Not available for graduate credit. (Prerequisite: 6 degree credits of accounting courses numbered above 50)

Fall Semester

M 6:20-8:00, West Bank CB 425, Menk

Acct 145C. Systems and Procedures. (See Pol 67, Administrative Analysis, page 96.) Not available for graduate credit.

Acct 185A. Advanced Accounting. 3 degree credits. \$30.

Consolidated statements, fiduciary and fund accounting, partnership accounting. (Prerequisite: 105C or ¶105C)

Spring Semester

M 6:20-8:00, West Bank CB 415

Acct 185C. Governmental Accounting. (See Pol 58, Governmental Accounting, page 96.) Not available for graduate credit.

BUSINESS ENGLISH

Clifford I. Haga, Assistant Professor of English

John W. Lippert, Lecturer in English

Comp. Review of Business English. 3 certificate credits. \$30.

For those who have been out of school for a while or 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. Repeated spring semester)

Fall Semester

T 6:00-7:40, StP Ext Center 3, Lippert
T 8:15-9:55, Main Engineering 4, Lippert
W 6:20-8:00, Main Engineering 4, Lippert

Spring Semester

M 6:20-8:00, Main Engineering 4, Lippert
W 6:20-8:00, Main Engineering 4, Lippert

Comp. Business Correspondence. 3 certificate credits. \$30.

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

Fall Semester

M 6:20-8:00, Main Engineering 4, Lippert
W 8:15-9:55, Main Engineering 215, Haga

Spring Semester

T 6:00-7:40, StP Ext Center 1, Lippert
W 6:20-8:00, Main Engineering 215, Haga

Symbols explained on page 11.

Evening and Special Classes

Comp 58. Business Reports and Letters. (See Communication in Management.)

Comp. Communication in Management. 3 certificate credits. \$30.

Note—On approval of petition by instructor and the School of Business Administration, degree credit (not in excess of 3 credits) applicable on a business degree will be recognized for Communication in Management in lieu of Comp 58, provided class work has included appropriate supplementary assignments. Consult instructor at beginning of class term.

An advanced course for people working at the administrative level. Reviews and analyzes the forms and styles appropriate in the three major classes of management communication: downward (order-giving), upward (administrative reporting), and horizontal (clearance and review). In addition to the class assignments, each student will work out an individual communication project related to his specific job. (No prerequisite. Repeated spring semester)

Fall Semester

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

Spring Semester

W 8:15-9:55, Main Engineering 215, Haga

BUSINESS FINANCE

J. R. Nelson, Associate Professor of Finance

George Power, Jr., Lecturer in Business Finance

Peter Rosko, Lecturer in Finance

Harold W. Stevenson, Professor of Finance

BFin 56. Corporation Finance. 3 degree credits. \$30.

Principles governing the planning, raising, and control of short- and long-term funds for a business enterprise. Cash-flow, valuation, capital structures, investment banking, dividend policy, mergers, and reorganization. (Prerequisite: Acct 26; not suggested for students who have had Acct 105B. Repeated spring semester)

Fall Semester

T 6:00-7:40, StP Ext Center 103

T 6:20-8:00, West Bank CB 135

T 8:15-9:55, West Bank CB 135

Spring Semester

T 6:00-7:40, StP Ext Center 103

T 6:20-8:00, West Bank CB 135

BFin 66. Investment Fundamentals. 3 degree credits, §Introduction to Investments or BFin 116. \$30.

The nature of different types of securities and the characteristics of industrial, utility, and financial enterprises and various government units from the viewpoint of the individual investor. Security analysis and portfolio needs. (Prerequisite: 56. Primarily for business and professional students)

Fall Semester

T 6:20-8:00, West Bank CB 145

BFin 72. Capital Markets and Institutions. 3 degree credits, §BFin 106. \$30.

The institutional structure of the stock and bond markets. Internal organization and operation of the exchanges, the co-ordination of markets, problems of price behavior of the market as a whole and of specific types of securities. (Prerequisite: 56)

Spring Semester

T 8:15-9:55, West Bank CB 125

BFin 76. Financial Management. 3 degree credits. \$30.

Financial problems of business concerns presented in case materials. Application of principles to such situations as budgeting, short- and long-term fund needs, debt and equity choices, mergers, and reorganizations. (Prerequisite: 56 or Acct 105B)

Spring Semester

T 6:20-8:00, West Bank CB 145

Symbols explained on page 11.

BUSINESS LAW

John R. Carroll, Lecturer in Business Law

Verne W. Moss, Lecturer in Business Law

James D. Olson, Lecturer in Business Law

C. Harold Peterson, Lecturer in Business Law

William R. Rosengren, Lecturer in Business Law

Frederick W. Thomas, Lecturer in Business Law

Ross L. Thorfinnson, Lecturer in Business Law

James VanValkenburg, Lecturer in Business Law

BLaw 58, 78, 88, 98. Business Law. 3 degree credits each term. \$30 each term.

Comprehensive course in the fundamental principles of law for the business and professional man. 58: Contracts—formation, operation, transfer, discharge. 78: Business associations—nature, creation and terms of the relation, rights, and liabilities of the parties when doing business through agents, partnerships, and corporations. 88: Law of sales of goods under the Uniform Sales Act and law of commercial paper under the Uniform Negotiable Instruments Law. 98: 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. (No prerequisite for 58; 58 or ¶58 or ¶ for 78; 58 or ¶58 or ¶ for 88; none for 98)

Fall Semester

58 T 7:50-9:30, StP Ext Center 201, Van-Valkenburg
 58 W 6:20-8:00, West Bank CB 120, Moss
 78 T 6:00-7:40, StP Ext Center 201, Van-Valkenburg
 78 W 8:15-9:55, West Bank CB 140, Moss
 88 T 6:20-8:00, West Bank CB 110, Thomas

Spring Semester

58 T 6:00-7:40, StP Ext Center 201, Van-Valkenburg
 58 W 8:15-9:55, West Bank CB 145, Moss
 78 T 7:50-9:30, StP Ext Center 201, Van-Valkenburg
 78 W 6:20-8:00, West Bank CB 140, Moss
 88 T 6:20-8:00, West Bank CB 125, Thomas
 98 W 6:20-8:00, West Bank CB 415, Carroll
 98 Th 6:20-8:00, West Bank CB 425, Olson

Spring Quarter

58 T 6:30-9:00, Robbinsdale HS 233, Rosengren

BLaw. Common Legal Problems. 3 certificate credits. \$30 plus \$1 materials fee.

The Common Legal Problems course provides a comprehensive course in everyday legal principles, designed to assist the businessman, layman, and housewife to recognize their legal rights and more intelligently and efficiently manage their personal affairs. Any individual, whether married or single, housewife or businessman, is bound to come up against many legal problems in varied fields during a lifetime. Many of these problems might be avoided or 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. Specifically, this course will consider legal problems of the following types: the purchase, sale, rental, or lease of homes and other real property; the making of wills and handling of estates; the preparation of income tax returns; the rights of persons injured in accidents and the liability of persons causing accidents; liability for various other types of tortious conduct; the making of contracts; the sale of personal property; negotiable instruments; the formation and operation of a small business as a sole proprietorship, partnership or corporation; workmen's compensation laws; the rights and responsibilities of husband, wife, parent, and child in their relations with each other, including divorce; the collection of monies through garnishment, attachment, and mechanic's liens; and criminal law. (No prerequisite. Repeated spring semester)

Fall Semester

Th 6:20-8:00, Johnston 106, Thorfinnson and Peterson

Spring Semester

Th 6:20-8:00, Johnston 106, Thorfinnson and Peterson

Symbols explained on page 11.

Evening and Special Classes

ECONOMICS

(A department of the College of Liberal Arts. See page 60.)

INDUSTRIAL RELATIONS

Robert E. Carlson, Instructor in Industrial Relations
George W. England, Professor of Industrial Relations
Jack Flagler, Associate Professor of Industrial Relations
Herbert G. Heneman, Jr., Professor of Labor Economics and Industrial Relations
Thomas A. Mahoney, Professor of Industrial Relations
Merrill P. Robinson, Lecturer in Industrial Relations
Donald Schwab, Instructor in Industrial Relations
Cyrus F. Smythe, Associate Professor of Industrial Relations
Richard Woods, Instructor in Industrial Relations

Your attention is called to the Industrial Relations Certificate program; see page 25.

IR 52. Systems of Industrial Relations; Labor Marketing. 3 degree credits. \$30.

Introductory analysis of employment relationships emphasizing economic analysis. Fundamentals of application and conservation of human resources in employment with consideration of related social and economic problems. Labor marketing, collective bargaining, unions and employer associations, industrial unrest and conflict, employment and unemployment, wage problems. (Prerequisite: Econ 2 or 3. Repeated spring semester)

Fall Semester

M 7:50-9:30, StP Ext Center 5, Schwab
W 6:20-8:00, West Bank CB 145, Heneman

Spring Semester

W 8:15-9:55, West Bank CB 155, Mahoney

IR 62. Human Relations in Industry. 3 degree credits. \$30.

Philosophy, policy, and methods. The problems of human relations arising in large scale organization of people and approaches to their solution. Role playing, sensitivity training, conference and discussion methods, case study. (No prerequisite)

Fall Semester

M 8:15-9:55, West Bank CB 145, England

IR 72. Systems of Industrial Relations: Manpower Management. 3 degree credits. \$30.

Introductory analysis of personnel management and labor relations in the development and utilization of effective work-teams within firms and agencies. Overview of policy and practice in major manpower management functions of staffing, training, communications, motivation, compensation, and morale maintenance. (Prerequisite: Econ 2 or 3. Repeated spring semester)

Fall Semester

W 8:15-9:55, West Bank CB 155, Woods

Spring Semester

M 7:50-9:30, StP Ext Center 5, Carlson
W 6:20-8:00, West Bank CB 250, Mahoney

IR 82. Modern Labor Relations. 3 degree credits. \$30.

Collective bargaining between employers and/or employer associations and unions. Relevant policies of employers, unions, and the public; background of the labor movement; current practices in labor relations; and significant trends. (Prerequisite: 52)

Spring Semester

M 8:15-9:55, West Bank CB 230, Flagler

Symbols explained on page 11.

Course Offerings—Business Administration

IR 182A. Intermediate Labor Marketing. 3 degree credits. \$30.

Advanced discussion and analysis of labor marketing concepts, structures, and processes. Examination of sources of information and different approaches to study, analysis, and resolution of problems in the labor market. (Prerequisite: 52)

Spring Semester

Th 6:20-8:00, West Bank CB 255, Smythe

IR. Supervision I: Elements of Supervision. 3 certificate credits. \$30 plus \$2 materials fee.

A general discussion of basic principles of supervision in the office and factory. Survey of principles for the handling of day-to-day problems of supervisors with emphasis upon human relations aspects of such problems. Deals with such problems as selection, induction and training of new employees, employee appraisal, giving orders, handling grievances, discipline, and employee morale. Extensive use of class discussion of practical problems drawn from office and plant situations. (No prerequisite. Repeated spring semester)

Fall Semester

M 6:00-7:40, StP Ext Center 5, Schwab
T 6:20-8:00, West Bank CB 120, Carlson

Spring Semester

M 6:00-7:40, StP Ext Center 5, Carlson
M 6:20-8:00, West Bank CB 110, Carlson

IR. Supervision II: Advanced Techniques of Supervision. 3 certificate credits. \$30 plus \$2 materials fee.

Emphasizes specialized supervisory techniques based upon principles outlined in Supervision I. Includes discussion of research in supervisory methods and practices and their relative success in application in the office and plant. Methods of supervisory training, morale measurement, job analysis and job evaluation, safety programs, wage and salary administration, principles of organization and communications are among the topics discussed. Extensive use is made of discussion method and case studies. (Prerequisite: Supervision I or #. Repeated spring semester)

Fall Semester

M 6:20-8:00, West Bank CB 450, Carlson
W 6:00-7:40, StP Ext Center 103, Schwab

Spring Semester

M 6:00-7:40, StP Ext Center 103, Carlson
T 6:20-8:00, West Bank CB 450, Carlson

IR. Supervision III: Techniques of Employee Training. 3 certificate credits. \$30.

Primary emphasis is on the training techniques a line supervisor could use in developing his employees. Course content includes discussion of basic principles of training, training on an individual basis, group training, and special problems of orienting the new employee, making use of staff training services, safety training and evaluation of training. Extensive use is made of class discussion, role playing, case studies, and demonstrations. (Prerequisite: Supervision II or #)

Fall Semester

T 6:20-8:00, West Bank CB 450, Robinson

INSURANCE

David M. Barker, Lecturer in Insurance
Bernard C. Bengtson, Lecturer in Insurance
David Blackwell, Lecturer in Insurance
Alfred R. W. Larkin, Lecturer in Insurance
Philip Larson, Lecturer in Insurance
James Nowak, Lecturer in Insurance
Raymond Reister, Lecturer in Insurance
Orem O. Robbins, Lecturer in Insurance
George W. Ulseth, Lecturer in Business Administration

Symbols explained on page 11.

Evening and Special Classes

Roger Wheeler, Lecturer in Insurance

C. Arthur Williams, Professor of Economics and Insurance

Glenn L. Wood, Assistant Professor of Insurance

Ins 53. Risk Management and Insurance. 3 degree credits. \$30.

Recognition, measurement, and evaluation of insurable property, and liability and personnel risks of firms and families. Tools of risk management; retention, loss prevention, transfer, and others with emphasis on insurance. Design and implementation of the optimum risk management program. Government regulation of insurance. (Prerequisite: Econ 2 or #. Repeated spring semester)

Fall Semester

M 8:15-9:55, West Bank CB 415, Williams

Spring Semester

M 8:15-9:55, West Bank CB 415, Williams

College of Life Underwriters Curriculum.

In co-operation with the Minneapolis and St. Paul chapters of the American College of Life Underwriters (CLU), this year the Extension Division is offering Parts I, II, III, IV, and V of the CLU 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 CLU which is available at Extension offices or through the Minneapolis or St. Paul chapters of the Chartered Life Underwriters.

Minneapolis—J. Harold Skelton, 900 First National Bank Building, 332-0353

St. Paul—David York, 1005 Pioneer Building, 225-4616

CLU Part I. Fundamentals of Life and Health Insurance, A-B. 3 certificate credits each semester. \$30 each semester.

This course is designed as preparation for the annual CLU examination in Part I. The subject matter will cover such topics as needs and uses; types of contracts; the arithmetic of premiums and reserves; introduction to health insurance; contract provisions; structure of the business; fundamentals of programming and settlement options. (No prerequisite for Part IA; Part IA or # for Part IB. Must be taken in sequence. For information concerning the CLU educational program and its requirements, see notice above)

Fall Semester

A M 4:00-6:00, 430 Oak Grove, Nowak

Spring Semester

B M 4:00-6:00, 430 Oak Grove, Nowak

CLU Part II. Group Insurance, Health Insurance and Pensions, A-B. 3 certificate credits each semester. \$30 each semester.

This course is designed as preparation for the annual CLU examination in Part II, as conducted by the American College of Life Underwriters. The subject matter will cover group life insurance, individual health insurance, group health insurance, pensions, problems of old age, unemployment, and disability. (No prerequisite for Part IIA; Part IIA or # for Part IIB. Must be taken in sequence. For information concerning the CLU educational program and its requirements, see notice above)

Fall Semester

A W 4:30-6:30, 3701 Wayzata Blvd,
Blackwell

Spring Semester

B W 4:30-6:30, 3701 Wayzata Blvd,
Blackwell

CLU Part III. Law, Trusts, and Taxation, A-B. 3 certificate credits each semester. \$30 each semester.

This course is designed as preparation for the annual CLU examination in Part III, as conducted by the American College of Life Underwriters. The subject matter will cover such topics as business

Symbols explained on page 11.

Course Offerings—Business Administration

law; legal aspects of life insurance; estates, wills, and trusts; taxation. (No prerequisite for Part IIIA; Part IIIA or # for Part IIIB. Must be taken in sequence)

Fall Semester

Spring Semester

A M 4:00-5:40, StP Ext Center 201, Wheeler
A W 4:30-6:30, 3701 Wayzata Blvd, Reister

B M 4:00-5:40, StP Ext Center 201, Wheeler
B W 4:30-6:30, 3701 Wayzata Blvd, Reister

CLU Part IV. Finance and Economics, A-B. 3 certificate credits each semester. \$30 each semester.

This course is designed as preparation for the annual CLU examination in Part IV, as conducted by the American College of Life Underwriters. Section A will cover family and business finance. Section B will be devoted to the study of basic principles of economics. (No prerequisite for Part IVA: Part IVA or # for Part IVB. Must be taken in sequence. For details as to the conduct of the course and for information concerning the CLU educational program and its requirements, see page 122)

Fall Semester

Spring Semester

A T 4:30-6:30, 3701 Wayzata Blvd, Barker

B T 4:30-6:30, 3701 Wayzata Blvd, Barker

CLU Part V. Business Insurance and Estate Planning, A-B. 3 certificate credits each semester. \$30 each semester.

This course is designed as preparation for the annual CLU examination in Part V. The subject matter will cover settlement options and programming; life insurance for business purposes; estate planning; human behavior and motivation; ethics. (Prerequisite: Part I, II, III and IV for Part VA; Part VA or # for Part VB. Must be taken in sequence)

Fall Semester

Spring Semester

A Th 4:30-6:30, 1100 2nd Ave S, Robbins

B Th 4:30-6:30, 1100 2nd Ave S, Robbins

Property and Casualty Insurance Curriculum.

The University of Minnesota co-operates with the Insurance Institute of America and the American Institute for Property and Casualty Underwriters, Inc., by offering an educational program that provides the basic courses needed by those who wish to take the examinations of either or both of the institutes. The Insurance Institute of America courses are considered excellent preparation for the more difficult American Institute courses which lead to the Chartered Property and Casualty Underwriters (CPCU) award. Complete details of the program of training under both institutes are printed in the institutes' annual announcements, copies of which may be obtained from the General Extension Division of the University of Minnesota. (Co-ordinator for CPCU program for 1964-65 will be Bernard C. Bengtson, 224-3737)

IIA Parts A, B, and C. 3 certificate credits each for Parts A and B; \$30 each quarter. 2 certificate credits for Part C, \$20.

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 CPCU program. *Part A:* Economic and social influences of insurance; types of risk and kinds of insurance to meet them; legal principles important to property and liability insurance; historical development of insurance; rate making; types of insurers and their organization; underwriting and re-insurance; analysis of insurance contracts; regulation. *Part B:* An intensive study of fire and marine insurance contracts. *Part C:* An intensive study of casualty insurance contracts. (It is highly recommended but not required that all parts be taken in sequence)

Fall Quarter

Winter Quarter

Special Term—March 22- May 10

A M 5:30-8:00, West Bank
BA 632, Wood

B M 5:30-8:00, West Bank
BA 632, Wood

C M 5:30-8:00, West Bank
BA 632, Wood

Symbols explained on page 11.

Evening and Special Classes

IIA Part Adjustment 2. Principles of Insurance and Liability Claim Adjusting. 3 certificate credits. \$30.

Based on the Part Adjustment 2 Topical Outline of the Insurance Institute of America and designed as a preparatory course for the second examination in the I.I.A. Program for Adjusters. Subjects to be covered include types of insurers, measurement of risk and rate-making, underwriting and reinsurance, the legal liability hazard, adjustment of liability claims, adjustment of automobile physical damage claims, regulation of insurance companies, and human behavior and adjusting. (No prerequisite)

Part Adjustment 3 and Part Adjustment 4 are equivalent to IIA Parts B and C described on page 123. Part Adjustment 1, which was first offered during Fall Quarter 1963, will be offered again Fall Quarter 1965. Parts 5 and 6 will be offered as soon as there is sufficient demand.

Fall Quarter

M 5:30-8:00, West Bank
CB 205, Williams

CPCU Part I. Insurance Principles and Practices, A-B. 3 certificate credits each semester. \$30 each semester.

An intensive course in the basic principles of property and casualty insurance, designed as preparation for examination I for the Chartered Property Casualty Underwriter (CPCU) award offered by the American Institute for Property and Casualty Underwriters, Inc. The course will be conducted by a panel of instructors selected from practicing insurance men, co-ordinated and supervised by the University School of Business Administration. (Prerequisite: at least 3 years' general experience or the equivalent in formal study or acceptance of special registration application; consult any Extension office)

Fall Semester

A M 6:20-8:00, West Bank CB 110, Bengtson
(co-ordinator)

Spring Semester

B M 6:20-8:00, West Bank CB 425, Bengtson
(co-ordinator)

CPCU Part II. Insurance Principles and Practices, A-B. 3 certificate credits each semester. \$30 each semester.

An intensive course in the basic functional aspects of insurance, designed as preparation for examination II for the Chartered Property Casualty Underwriter (CPCU) award offered by the American Institute for Property and Casualty Underwriters, Inc. The course will be conducted by a panel of instructors selected from practicing insurance men, co-ordinated and supervised by the University School of Business Administration. (Prerequisite: CPCU Part I or at least 3 years' general experience or the equivalent in formal study or acceptance of special registration application; consult any Extension office)

Fall Semester

A M 8:15-9:55, West Bank CB 110, Bengtson
(co-ordinator)

Spring Semester

B M 8:15-9:55, West Bank CB 425, Bengtson
(co-ordinator)

CPCU Part III. Economics; Government and Business, A-B. (Not offered 1964-65)

CPCU Part IV. Law, A-B. 3 certificate credits each semester. \$30 each semester.

This course is designed as preparation for examination IV for the Chartered Property Casualty Underwriter (CPCU) award. The subject matter covers (a) the general commercial law pertaining to contracts, agency, partnerships, corporations, personal property, real estate and mortgages, negotiable instruments, bankruptcy, bailments, common and private carriers, negligence; (b) insurance law, including construction of insurance contracts. (Prerequisite: acceptance of special registration application or completion of one or more parts of the CPCU program)

Fall Semester

A Th 6:20-8:00, West Bank CB 210, Peet

Spring Semester

B Th 6:20-8:00, West Bank CB 115, Peet

Symbols explained on page 11.

Course Offerings—Business Administration

CPCU Part V. Management, Accounting, and Finance A-B. (Not offered 1964-65)

MANAGEMENT

Nicholas A. Glaskowsky, Jr., Associate Professor of Management and Logistics

Elvin L. Peterson, Lecturer in Management

Mgmt 60. Management and Management Control. 3 degree credits. \$30.

Managerial authority and responsibilities, organizational relationships, and effective executive action. Managerial problems of policy formulation involving decisions based upon a knowledge of all the major functions in the firm. (Prerequisite: IR 52, Prod 50, Mktg 57, and BFin 56)

Spring Semester

M 8:15-9:55, West Bank CB 10, Peterson

Mgmt 70. Fundamentals of Management. 3 degree credits. \$30.

The principal functional areas of management: planning, organizing, staffing, directing, and controlling. Examines attributes of good organization, establishment of goals, policies, and procedures; control systems and techniques; providing necessary factors and relationships to achieve organizational objectives. (Prerequisite: Econ 2)

Fall Semester

M 6:20-8:00, West Bank CB 410, Glaskowsky

Mgmt 80. Administrative Practices. 3 degree credits. \$30.

Develops awareness and perception of the executive's relationships with individuals and groups in the firm. Opportunity to develop administrative abilities, to think and act responsibly, to make decisions which provide opportunities for others in the organization to work effectively toward individual and organizational goals. (Prerequisite: 12 credits of School of Business Administration courses numbered 50 and above)

Fall Semester

M 8:15-9:55, West Bank CB 425, Glaskowsky

MARKETING

Robert S. Hancock, Professor of Marketing

Donald V. Harper, Associate Professor of Marketing and Transportation

Robert J. Holloway, Professor of Marketing

Edwin H. Lewis, Professor of Marketing

Carl W. Rudelius, Lecturer in Marketing

Mktg 57. Principles of Marketing. 3 degree credits. \$30.

Marketing functions and institutions. Channels of distribution. Retail and wholesale trades. Pricing policies and practices. Marketing policies and methods for consumers' goods, producers' goods, and raw materials. (Prerequisite: Econ 2. Repeated spring semester)

Fall Semester

M 6:20-8:00, West Bank CB 150
W 6:20-8:00, West Bank CB 155
Th 6:00-7:40, StP Ext Center 7

Spring Semester

M 6:20-8:00, West Bank CB 255
W 6:20-8:00, West Bank CB 255

Symbols explained on page 11.

Evening and Special Classes

Mktg 87. Credits and Collections. 3 degree credits. \$30.

Nature and types of credit and of credit instruments and agencies; qualifications and work of credit manager; valuation and use of financial statements and credit reports; collection methods and correspondence; bankruptcy and adjustments; credit limits and control. (Prerequisite: 57)

Fall Semester

Th 6:20-8:00, West Bank CB 415

Mktg 97. Market Analysis and Research I. 3 degree credits. \$30.

Techniques used in marketing research. Emphasis on marketing information which can aid in the solution of marketing problems. Selected nonsurvey and survey research techniques. (Prerequisite: 57 and QA 51)

Fall Semester

M 6:20-8:00, West Bank BA 468, Rudelius

Mktg 97C. Marketing Research II. 3 degree credits. \$30.

Intensive coverage of nonsurvey techniques, especially experimentation in marketing. (Prerequisite: 97)

Spring Semester

M 6:20-8:00, West Bank BA 468, Holloway

Mktg. Principles of Credits and Collections II. 3 certificate credits. \$30.

This course is designed to follow Mktg 87 with emphasis upon analysis of financial statements as a source of credit information; legal remedies used in collection of delinquent accounts; handling insolvent accounts and bankruptcies; adjustment problems and the use of adjustment bureaus; credit insurance; activities and services of credit associations; measures of credit department efficiency, and other important phases of credit work. (Prerequisite: 87 or #)

Spring Semester

Th 6:20-8:00, West Bank BA 468, Kerns

Mktg 117. Sales Management. 3 degree credits. \$30.

Sales policies and planning, sales organization, selection, training, and compensation of salesmen, control of sales performance, sales budgets, and cost control. Case materials. Not available for graduate credit. (Prerequisite: 57)

Spring Semester

T 6:20-8:00, West Bank CB 105, Wallace

OFFICE MANAGEMENT

Audrey S. Briggs, Lecturer in Office Management

Ernestine C. Donaldson, Associate Professor of Office Management

John P. Northcott, Lecturer in Office Management

Your attention is called to the Management of Administrative Services Certificate programs; see page 29.

OMgt 36. Office Procedures. 3 degree credits. \$30.

Editing and revising correspondence; communications; basic indexing and filing problems; intra-office relationships. (Prerequisite: 34 or #)

Fall Semester

W 6:20-8:00, Vincent 209, Briggs

Symbols explained on page 11.

Course Offerings—Business Administration

OMgt 79A. Administrative Secretarial Studies. 3 degree credits. \$30.

Office situations and problems in the work of an administrative assistant to an executive. Office procedures and secretarial dictation and transcription. (Prerequisite: 34 and 39 or #)

Spring Semester

W 6:20-8:00, Vincent 209

OMgt. Scientific Management in the Office. 3 certificate credits. \$30.

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

Spring Semester

T 6:20-8:00, West Bank CB 245, Northcott

OMgt 99. Office Management—Management of Administrative Services. 3 degree credits. \$30.

Problems involving organization, planning, and control of administrative services. Communications; records management; equipment analysis and control; forms and supplies; flow of work, layout, and environment; office personnel. (Prerequisite: Econ 2 or #)

Spring Semester

T 6:20-8:00, West Bank CB 245, Northcott,
Donaldson

PRODUCTION

Elvin L. Peterson, Lecturer in Management

Prod 50. Production Management. 3 degree credits. \$30.

The techniques, the managerial problems, and the decision-making processes in planning and controlling the production activity. Production as a function of the enterprise rather than as a strictly manufacturing activity. Research and development, the role of standards, physical facilities, systems and procedures analysis, work measurement, materials control, quality control, and production planning and control. (Prerequisite: Econ 2. Repeated spring semester)

Fall Semester

M 6:20-8:00, West Bank CB 435, Peterson
M 8:15-9:55, West Bank CB 435, Peterson

Spring Semester

M 6:20-8:00, West Bank CB 435, Peterson
T 6:00-7:40, StP Ext Center 202

QUANTITATIVE ANALYSIS

Gordon B. Davis, Associate Professor of Accounting

John Neter, Professor of Economics and Statistics

Donald Olson, Lecturer in Statistics

QA 5. Elements of Statistics. 3 degree credits. \$30.

Elementary concepts in statistical methods. Sources and collection of data; tabular and graphic presentation; frequency distributions; probability; sampling; introduction to statistical estimation and decision-making. (Prerequisite: Math 10 or equivalent. Repeated spring semester)

Fall Semester

M 6:20-8:00, West Bank CB 225
T 6:20-8:00, West Bank CB 225
W 6:20-8:00, West Bank CB 230
Th 6:20-8:00, West Bank CB 205

Spring Semester

T 6:20-8:00, West Bank CB 230
W 6:20-8:00, West Bank CB 230

Symbols explained on page 11.

Evening and Special Classes

QA 51. Business Statistics. 3 degree credits. \$30.

Basic concepts of regression and correlation; statistical estimation and decision-making, applications to such fields as survey sampling, acceptance sampling, and statistical quality control; introduction to time series analysis and index numbers. (Prerequisite: 5. Repeated spring semester)

Fall Semester

T 8:15-9:55, West Bank CB 245
W 6:20-8:00, West Bank CB 115

Spring Semester

T 8:15-9:55, West Bank CB 225
W 8:15-9:55, West Bank CB 225

***QA 61. Introduction to Electronic Computers. 2 degree credits plus 1½ certificate credits. \$35 plus \$15 special fee.**

Basic concepts of computer logic and construction. Flow charting and programming problems for computers. Operating a computer. Programming and processing short problems. (Prerequisite: 5 and Math 10 or equivalent. Limited to 22 students. Repeated spring semester)

Fall Semester

T 6:20-8:40, West Bank CB 93, Davis

Spring Semester

T 6:20-8:40, West Bank CB 93, Davis

***QA. Programming Computers Using Fortran. 1½ certificate credits. \$15 plus \$5 laboratory fee.**

Fortran is an easily learned macro-instruction language which can be used to instruct most electronic computers. The language is used to program solutions to problems in engineering, mathematics, statistics, business analysis, etc. For those who need to use the computer for computational work or special analyses. Students will develop proficiency in writing problems in Fortran. Includes the running of problems utilizing the SBA Computer Center. No previous computer knowledge is required. (No prerequisite. Limited to 25 students. Repeated spring semester)

Fall Semester

T 9:00-9:50, West Bank CB 93, Davis

Spring Semester

T 9:00-9:50, West Bank CB 93, Davis

QA. Introduction to Computers. 3 certificate credits. \$30.

A basic course in the application and use of modern computers. Should be of particular benefit to those who are seeking a better understanding of the value of computers, the methods and techniques of their use, in the conduct of business, scientific, and educational processes and research projects. No special knowledge of computer operation is required. (No prerequisite. Repeated spring semester)

Fall Semester

M 6:20-8:00, West Bank CB 240, Berkeley

Spring Semester

M 6:20-8:00, West Bank CB 240, Berkeley

REAL ESTATE

The University of Minnesota co-operates with the National Association of Real Estate Boards and with the Real Estate Boards of St. Paul and Minneapolis in a program of educational training leading toward competence in the professional aspects of real estate practice. Instructing staff for each course will be made up of a number of practicing realtors in the Twin Cities. Co-ordinator for the Real Estate Boards: Bernard G. Rice, 415 Minnesota Federal Building, Minneapolis.

RE. Fundamentals of Real Estate Practice. 3 certificate credits. \$30.

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

Symbols explained on page 11.

Course Offerings—Business Administration

management; ethics of real estate practice. Basic course; should be taken prior to any other courses in real estate curriculum. (No prerequisite)

Fall Semester

Th 6:20-8:00, West Bank CB 410, Rice
(co-ordinator)

RE. Real Estate Financing and Insurance. 3 certificate credits. \$30.

A study of financing methods and practice relating to conventional, FHA, VA, and combination loans; secondary financing; special loans on leases, farms, industrial and commercial properties; and primary phases of insurance procedures in the average real estate office. (No prerequisite)

Fall Semester

T 6:20-8:00, West Bank CB 425, Rice
(co-ordinator)

RE. Real Estate Sales Brokerage. 3 certificate credits. \$30.

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)

Spring Semester

T 6:20-8:00, West Bank CB 235, Rice
(co-ordinator)

RE. Real Estate Appraisal. 3 certificate credits. \$30.

Detailed consideration of principles and practices involved in appraising various types of real property for various purposes. Factors determining valuations; making and reporting appraisals. Appraisals procedures in various legal actions. (No prerequisite)

Spring Semester

Th 6:20-8:00, West Bank CB 235, Rice
(co-ordinator)

Real Estate Law (BLaw 98, Business Law). (See page 119)

SALESMANSHIP

Steele S. Stanchfield, Lecturer in Salesmanship

Sal. Salesmanship. 3 certificate credits. \$30.

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

Fall Semester

M 6:20-8:00, West Bank CB 230, Stanchfield
Th 6:00-7:40, StP Ext Center 102, Stanchfield

Spring Semester

M 6:20-8:00, West Bank CB 225, Stanchfield
Th 6:00-7:40, StP Ext Center 102, Stanchfield

TRANSPORTATION

Nicholas A. Glaskowsky, Associate Professor of Management and Logistics

Donald V. Harper, Associate Professor of Marketing and Transportation

Edmund A. Nightingale, Professor of Economics and Transportation

Symbols explained on page 11.

Evening and Special Classes

Tran 54. Fundamentals of Transportation. 3 degree credits. \$30.

Organization and economic aspects of the transportation system of the United States including rail, highway, air, pipeline, and water transportation. The nature of the transportation function in business. Regulatory problems associated with transportation. Current transportation developments and problems. (Prerequisite: Econ 2. Repeated spring semester)

Fall Semester

W 6:20-8:00, West Bank CB 425, Harper

Spring Semester

W 8:15-9:55, West Bank CB 425, Harper

Tran 164. Business Logistics. 3 degree credits. \$30.

Physical supply and distribution activities in the firm as a logistics system. Elements of logistics systems; constraints on logistics systems; planning, organization, management, and operation of logistics systems. (No prerequisite)

Spring Semester

Th 6:20-8:00, West Bank CB 230, Glaskowsky

Tran 184A. Carrier Management: Rail and Highway Transportation. 3 degree credits. \$30.

Managerial problems of carriers by rail and highway. Problems associated with carrier organization, operations, labor relations, finance, pricing, equipment, terminal operations, sales, government regulation, and others. (Prerequisite: 54)

Spring Semester

Th 8:15-9:55, West Bank CB 435, Glaskowsky

Tran 194A-B. Topics in Transportation: Advanced Traffic Management I-II. 3 degree credits each semester. \$30 each semester.

Transportation rates, transport control practices, and their applications within the individual firm. Analysis of important current ICC cases and decisions affecting users of the service and carriers. (Prerequisite: 174 for 194A; 194A for 194B. Must be taken in sequence)

Fall Semester

194A M 6:20-8:00, West Bank CB 210,
Nightingale

Spring Semester

194B M 6:20-8:00, West Bank CB 430,
Nightingale

Tran. Interstate Commerce Practice and Procedure I-II. 3 certificate credits each semester. \$30 each semester.

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: 194A or # for I; I for II. Must be taken in sequence)

Fall Semester

I M 8:15-9:55, West Bank BA 837,
Nightingale

Spring Semester

II M 8:15-9:55, West Bank BA 837,
Nightingale

Symbols explained on page 11.

EDUCATION

Prospective Teachers: Persons interested in undergraduate programs preparing them to teach in elementary or secondary schools should make an appointment through the General Extension Division with an adviser in the College of Education. Most professional education courses must be taken in day school, when schools are in session for observation. However, all programs in the College of Education emphasize the preparation of the teacher in general education and in the teaching subjects. Many evening offerings listed in the Arts and Sciences section of this bulletin may be taken by prospective teachers for later use toward degree programs in the College of Education.

Teachers-in-Service: Many courses in academic fields are available for teachers through evening class registration. Attention is called particularly to offerings listed under Arts and Sciences in this bulletin. Professional education courses available through evening classes are limited because of an extensive offering in the late afternoon and Saturday morning hours as part of the day school program of the College of Education.

Renewal of Teaching Certificates: Former teachers wishing to renew certificates should check with the State Department of Education concerning their individual requirements. Those who need an additional 8 quarter credits may select courses in education pertinent to their teaching level (elementary or secondary) or courses in the major teaching field. Secondary teachers are especially urged to emphasize current work in the teaching subject itself.

ART EDUCATION

Clifton A. Gayne, Jr., Professor of Art Education

Gopal Mitra, Instructor in Art Education

George K. Olson, Instructor in Art Education

Ruth E. Zuelke, Instructor in Art Education

ArEd 17. Pictorial Expression for Elementary Education. 3 degree credits. \$30 plus \$2 materials fee.

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. Repeated spring quarter)

Fall Quarter

Th 6:20-8:50, Wulling 240, Gayne

Spring Quarter

F 6:00-8:30, StP Ext Center 4, Olson

ArEd 18. Design Activities for Elementary Education. 3 degree credits. \$30 plus \$2 materials fee.

Relationships between art and nature. Problems in inventions, arrangement and decoration, color, lettering, poster, and bulletin board displays. (No prerequisite. Repeated winter quarter)

Fall Quarter

F 6:00-8:30, StP Ext Center
4, Olson

Winter Quarter

Th 6:20-8:50, Wulling 240,
Gayne

Symbols explained on page 11.

Evening and Special Classes

ArEd 19. Functional Arts and Crafts in Elementary Education. 3 degree credits. \$30 plus \$2 materials fee.

Influence of art on modern life. Typical opportunities for integrated experiences. Clothing, architecture and interior design, community planning, commercial and industrial design, puppetry, dramatics, intercultural relations, holiday projects, etc. (No prerequisite. Repeated spring quarter)

Winter Quarter		Spring Quarter	
F	6:00-8:30, StP Ext Center 4, Olson	Th	6:20-8:50, Wulling 240, Gayne

***ArEd 80. Contemporary Crafts.** 3 degree credits. \$30.

Basic materials, equipment, design criteria and techniques for textile, wood, metal, and ceramics. Contemporary emphasis for application to educational programs in elementary and secondary schools, adult education, special education, recreation, and occupational therapy. (No prerequisite. Limited to 30 students. Repeated spring quarter)

Fall Quarter		Spring Quarter	
T	6:20-8:50, Wulling 110, Zuelke	T	6:20-8:50, Wulling 110, Zuelke

The following two courses, ArEd 90 and 95, are available to out-state communities on a workshop basis involving 10 hours of instruction in four or five daily sessions in late afternoons or evenings during a 1-week period. For further information, write Professor Clifton A. Gayne, 135 Wulling Hall, University of Minnesota, Minneapolis, Minnesota 55455.

ArEd 90. Understanding Children's Art. 1 degree credit.

Lectures, discussions, demonstrations with art materials; recent developments regarding art activities important to the educational achievement and personality development of all children at school and at home; suggestions for parents, elementary teachers, and others who work with young children.

ArEd 95. Painting for Amateurs. No credit.

Lectures, demonstrations, discussions, critique sessions; effective methods for independent study, use of basic references, defining and applying standards for self criticism and improvement.

CHILD PSYCHOLOGY

Sara Allen, Lecturer in Child Psychology
George Flamer, Lecturer in Child Psychology
Arthur J. Gallese, Lecturer in Child Psychology
Lauren Harris, Lecturer in Child Psychology
Kennedy Hill, Lecturer in Child Psychology
Robert Klein, Lecturer in Child Psychology
Murray K. Reed, Lecturer in Child Psychology

CPsy 80. Child Psychology. 3 degree credits. \$30.

Introduction to the science of child behavior. Emphasis is placed upon a critical review of theories and research in child psychology. (Prerequisite: Psy 2. Repeated spring semester)

Fall Semester		Spring Semester	
T	6:20-8:00, Johnston 105, Harris	T	6:20-8:00, Johnston 115, Hill
W	7:00-8:40, StP Ext Center 201, Flamer	W	7:00-8:40, StP Ext Center 201, Klein

Symbols explained on page 11.

Course Offerings—Education

CPsy 132. Adolescent Development. 3 degree credits. \$30.

Social, physical, mental, emotional, and personality development during adolescence. Students wishing graduate credit should inquire at time of registration. (Prerequisite: 80 or equivalent)

Fall Semester

M 6:20-8:00, Johnston 105, Allen

CPsy 140. Behavior Problems. 3 degree credits. \$30.

Types, origin, development, and treatment of behavior difficulties in normal children. Students wishing graduate credit should inquire at time of registration. (Prerequisite: 80 or equivalent)

Fall Semester

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

CPsy 143. Problems of Mental Deficiency. 3 degree credits. \$30.

Diagnosis, care, training; social and vocational problems. Students wishing graduate credit should inquire at time of registration. (Prerequisite: 80 or equivalent)

Fall Semester

M 8:15-9:55, Johnston 105, Gallese

CPsy 144. Psychology of the Gifted Child. 3 degree credits. \$30.

Psychology and development of high intellectual ability and of special talents. (Prerequisite: 80 or equivalent)

Spring Semester

M 8:15-9:55, Johnston 115, Reed

CPsy 179. Clinical Procedures with Children. 3 degree credits. \$30.

Survey of methods of clinical psychology emphasizing basic concepts and research problems in clinical work with children. Primarily for students not majoring in clinical psychology. Students wishing graduate credit should inquire at time of registration. (Prerequisite: 12 credits in child psychology, psychology, educational psychology, or sociology)

Spring Semester

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

CURRICULUM AND INSTRUCTION

Clarence H. Boeck, Professor of Education

Neville P. Pearson, Associate Professor of Education

EdCI 103. Teaching of Science in the Elementary School. 3 degree credits. \$30.

Resources, materials, and their application in the elementary grades. Students wishing graduate credit should inquire at time of registration. (Prerequisite: senior class level, Ed 75B or teaching experience)

Fall Semester

M 6:20-8:00, Peik 365, Boeck

EdCI 105. Audio-Visual Materials in Education. 3 degree credits. \$30 plus \$6 laboratory fee.

Characteristics, advantages, limitations, and practical schoolroom use of audio-visual materials of nonprojected and projected types. Practice in operation of accepted audio-visual equipment such as slide projectors, opaque projectors, film strip projectors, tape recorders, 16mm projectors, and overhead projectors. Opportunity to operate newer mediums, such as teaching machines and closed

Symbols explained on page 11.

Evening and Special Classes

circuit television equipment. Students wishing graduate credit should inquire at time of registration. (Prerequisite: senior. Class meets for 4 hours and 40 minutes weekly, as indicated below. Repeated winter term)

**Special Term—October 7
to November 11**

W 4:30-6:00, 6:30-10:00,
Anoka HS, Pearson

**Special Term—January 7
to February 11**

Th 4:30-6:00, 6:30-10:00,
Columbia Heights
HS, Pearson

EdCI 108. Nonprojected Audio-Visual Materials and Equipment Laboratory. 3 degree credits. \$30 plus \$6 laboratory fee.

The planning and making of nonprojected materials for audio-visual education; use of the materials and equipment involved. Course includes lettering (use of pens, types, and other materials); poster design and construction; bulletin board design and construction; wet mounting and dry mounting of instructional materials; laminating; felt, flannel, and magnetic board techniques; flip charts, graphs; models, mock-ups, exhibits, displays; dioramas; preparation of spirit and mimeo type materials for duplication. Students wishing graduate credit should inquire at time of registration. (Prerequisite: 105. Repeated winter term)

**Special Term—November 18
to January 6**

W 4:30-6:00, 6:30-10:00,
Anoka HS, Pearson

**Special Term—February 18
to March 25**

Th 4:30-6:00, 6:30-10:00,
Columbia Heights
HS, Pearson

EdCI 109. Projected Audio-Visual Materials and Equipment Laboratory. 3 degree credits. \$30 plus \$6 laboratory fee.

The planning and making of projected materials for audio-visual education; use of the materials and equipment involved. Course includes hand-made lantern slides; basic photography for high contrast type photography; scripting for slide sequences; preparation of a 35mm slide sequence; 8mm motion picture photography; preparation of transparencies for the overhead projector. Students wishing graduate credit should inquire at time of registration. (Prerequisite: 105. Repeated spring term)

**Special Term—January 13
to February 17**

W 4:30-6:00, 6:30-10:00,
Anoka HS, Pearson

**Special Term—April 1
to May 13**

Th 4:30-6:00, 6:30-10:00,
Columbia Heights
HS, Pearson

EDUCATIONAL PSYCHOLOGY

Henry Borow, Professor of Education

Cyril J. Hoyt, Professor of Education

EPsy 60. Introduction to Measurements and Statistics. 3 degree credits. \$30.

A study of measures of central tendency, variability, and correlation, as well as principles of test construction. (Prerequisite: 6 credits in psychology)

Fall Semester

Th 6:20-8:00, Burton 123, Hoyt

EPsy 110. Educational Measurement in the Classroom. 3 degree credits. \$30.

Principles and methods for construction, evaluation, and improvement of educational measurement in classroom construction. Students wishing graduate credit should inquire at time of registration. (Prerequisite: senior class level or #)

Spring Semester

Th 6:20-8:00, Burton 123, Hoyt

Symbols explained on page 11.

EPsy 159. Personality Development and Mental Hygiene. 3 degree credits. \$30.

This course purports to give the teacher a fresh way of looking at his task and at his relations with students by drawing upon modern concepts of mental health. The thesis is developed that emotional and intellectual growth in the classroom can best be fostered when the teacher understands and comes to grips with the motives and values which characterize his students. Topics treated include a description of the person in good mental health, an analysis of adjustment processes and of common sources of conflict and anxiety, psychological descriptions of the major grade-range groups in our schools and the mental health implication for dealing with them in the classroom; typical distinctions in the psychological makeup of successful and unsuccessful teachers; examination of sources of frustration in teaching and of behavior conducive to sound mental health in teaching. Students wishing graduate credit should inquire at time of registration. (Prerequisite: junior class level or teaching experience or #. Repeated spring semester)

Fall Semester

M 6:20-8:00, Nicholson 216, Borow

Spring Semester

M 6:20-8:00, Nicholson 122, Borow

MUSIC EDUCATION

Robert L. Borg, Assistant Professor of Music Education

***MuEd 51. Teaching Music (Kindergarten-Primary grades).** 2 degree credits. \$30.

For nonmusic majors. Practical methods, materials, and new practices in teaching music in nursery and kindergarten through third grade, emphasizing singing, rhythm, history and appreciation, theory, and creative activities. (Prerequisite: Music 4 or #. Limited to 30 students)

Fall Semester

M 6:20-8:00, Scott 104, Borg

***MuEd 52. Teaching Music (Intermediate grades).** 2 degree credits. \$30.

For nonmusic majors. Appreciation, methods, and materials. (Prerequisite: 51 and Music 4 or #. Limited to 30 students)

Spring Semester

M 6:20-8:00, Scott 104, Borg

MUSIC

(See page 87)

PHYSICAL EDUCATION

(See page 156)

ENGINEERING, PHYSICAL AND TECHNICAL SCIENCES

Your attention is called to the Engineering Science and Engineering Technician Certificate programs; see page 31.

AERONAUTICS

Sam R. Hamilton, Aeronautical Ground Instructor

Ground School Courses for Air Pilots—General Information

The University Ground School offers several different courses at various times throughout the entire year (12 months). Each course is designed to meet the needs of pilots who are preparing for one of the following Federal Aviation Agency written and oral examinations: Private Pilot Certificate, Commercial Pilot Certificate, Flight Instructor Certificate, Instrument Rating, and Airline Transport Pilot Certificate.

Upon satisfactory completion of the Basic Ground School course, the University Extension Division awards F.A.A. Private-Pilot School Graduation Certificates and 4 Extension certificate credits; and the Department of Aeronautics and Engineering Mechanics, Institute of Technology, awards 3 degree credits if the student has also taken 3 hours of dual flight instruction from any certificated flight instructor and presents either a pilot certificate or logbook or a written statement from the flight instructor, to substantiate this. (It is NOT necessary that the flight instruction be taken at the University of Minnesota.)

The University Ground School meets all requirements of, and is certificated by, the F.A.A. as an Approved Basic and Advanced Ground School, and as such offers to its students all of the privileges extended by the F.A.A. to such approved schools. It is to the flight student's advantage to complete the ground-school studies and F.A.A. written examinations as early as possible in his or her flight training program, as there is a 2-year time limit, following the completion of an F.A.A. written examination, before the related flight test must be passed.

In addition to the 50-hour basic course (described below), special accelerated short courses (described below) are offered from time to time, depending upon the demand, for pilots who have completed the basic course and who are now preparing for the F.A.A. written and oral examinations for the Instrument Rating or the Airline Transport Pilot Certificate. In this way it is possible to satisfy pilots' ground-school requirements in the shortest possible time and at minimum expense.

Most classes meet on Tuesdays and Fridays, starting at 7 p.m., in 209 Aeronautical Engineering building on the Minneapolis Campus of the University. The director and principal instructor for all courses is Sam R. Hamilton.

Specific information regarding starting dates, class meeting schedules, tuition fees, and class load limits can be obtained from airport bulletin boards, or by calling the General Extension Division, telephone 373-3930, or by calling Mr. Hamilton at 698-2559. Persons who need any further information regarding the different courses or who wish to be personally notified when a specific course is to be started should contact Mr. Hamilton.

Basic Ground School Course

This 7-week course, which is open to all pilots and prospective pilots, regardless of their educational or flight experience background, is designed primarily to prepare for the Federal Aviation Agency's written and oral examinations for certification as a private pilot, but, in addition to this, through extra meetings, the course also prepares for the commercial pilot written and oral examinations and for the more difficult parts of the flight instructor and instrument rating written and oral examinations.

The course consists of at least 50 hours of group and individual instruction on air navigation, radio aids, meteorology, flight theory and analysis of flight maneuvers, aircraft and engine operation, federal aviation regulations, aircraft instruments, and other subjects pertaining to the safe, efficient, and economical operation of aircraft.

The class meets twice a week, on Tuesdays and Fridays, at 7 p.m., for 7 weeks, in 209 Aeronautical Engineering building on the Minneapolis Campus of the University. The tuition fee is \$40 and registration can be accomplished either in the classroom or at any University Extension Division office.

Course Offerings—Engineering, Physical and Technical Sciences

Students who are interested in degree credit should register for Aero 9 (Basic Ground School and Flying), and must furnish the instructor, Sam R. Hamilton, certification of eligibility for degree credit, as described under "Ground School General Information."

Starting dates for the course are posted on airport bulletin boards from time to time throughout the entire year (12 months), or can be obtained by calling the General Extension Division, telephone 373-3930, or by calling Mr. Hamilton at 698-2559. Persons who wish to be personally notified when the next basic course is to be offered should contact Mr. Hamilton.

Accelerated Advanced Ground School Courses

From time to time, depending upon the demand, the University Ground School offers special short courses preparing for the Federal Aviation Agency's written and oral examinations for the Instrument Rating and the Airline Transport Pilot Certificate. These accelerated courses are open to pilots who have completed the basic course described above, and who now need only a further short course of instruction. The principal instructor is Sam R. Hamilton.

Specific information regarding starting dates, class meeting schedules, tuition fees, and class load limits can be obtained from airport bulletin boards, or by calling the General Extension Division, telephone 373-3930, or by calling Mr. Hamilton at 698-2559. Persons who need any further information regarding these special short courses or who wish to be personally notified when a specific course is to be started should contact Mr. Hamilton.

ARCHITECTURE

Arch. Architectural Drafting I-II-III-IV. (Not offered 1964-65)

Arch. Refresher Course in Structural Design for Architects. No credit. \$40.

This course is designed for practicing architects and will consist of lectures and problem sessions relating to structural design in steel, timber and concrete. (No prerequisite)

Special Class

(January 4 to March 20)

M 6:30-9:00, Architecture 35, Andersen

Art. Home Design and Planning. (See page 56)

ASTRONOMY

Karlis Kaufmanis, Associate Professor of Astronomy

Ast 12. Solar System. 3 degree credits, §Ast 11. \$30.

The general principles and fundamental facts of the solar system, illustrated by slides, simple problems, and naked-eye and telescopic observations. Higher mathematics not necessary. (No prerequisite)

Fall Semester

T 6:20-8:00, Physics 133, Kaufmanis

Ast 13. Stars and Galaxies. 3 degree credits, §Ast 11 in day classes. \$30.

Supplements Ast 12 which, however, is not prerequisite. A detailed description of the constellations and individual stars and structure of the sidereal universe; extended opportunity for the use of the telescope and the observation of the heavenly bodies. Higher mathematics not necessary. (No prerequisite)

Spring Semester

T 6:20-8:00, Physics 133, Kaufmanis

Symbols explained on page 11.

Evening and Special Classes

CHEMISTRY

Wesley N. Herr, Associate Professor of 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. An equipment 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.

General Chemistry

GeCh 4-5.† General Principles of Chemistry. 5 degree credits each semester. \$50 plus \$5 laboratory fee each semester.

An introduction to chemistry from the standpoint of atomic structure; periodic properties of the elements and compounds derivable from structural considerations; a study of the laws governing the behavior of matter, theories of solutions, acids, bases, and equilibrium. (Prerequisite: elementary algebra. Higher algebra and trigonometry strongly recommended. Students attend twice a week)

Fall Semester

4 Lab T 6:20-9:20, Chemistry 325,†† Herr
Lect Th 6:20-8:00, Chemistry 325, Herr

Spring Semester

5 Lab T 6:20-9:20, Chemistry 325,†† Herr
Lect Th 6:20-8:00, Chemistry 325, Herr

GeCh 6. Principles of Solution Chemistry. 4 degree credits. \$40 plus \$5 laboratory fee.

Lecture and laboratory work related to the chemistry of selected cations and anions. The detection and behavior of those ions are included in the study as well as heterogeneous and homogeneous equilibria systems. Attention is given to oxidation-reduction systematics, complex ion formation as it relates to aqueous solution chemistry, and general chemical phenomena interrelated with structure. (Prerequisite: 5 or 15 or 25. Students attend twice a week)

Fall Semester

Lect T 6:20-8:00, Chemistry 325, Herr
Lab Th 6:20-9:30, Chemistry 210, Herr

Organic Chemistry

OrCh 61-62.† Elementary Organic Chemistry. 5 degree credits each semester. \$50 plus \$5 laboratory fee each semester.

Discussion of important classes of organic compounds, both aliphatic and aromatic, together with some heterocyclic compounds. Laboratory work includes the preparation of typical substances. (Prerequisite: 12 to 15 credits in chemistry. Students attend twice a week)

Fall Semester

61 Lab M 6:20-10:00, Chemistry 390
Lect W 6:20-8:00, Chemistry 325

Spring Semester

62 Lab M 6:20-10:00, Chemistry 390
Lect W 6:20-8:00, Chemistry 325

OrCh 63. Elementary Organic Chemistry. 3 degree credits. \$30.

This is a lecture course and represents a continuation of OrCh 61-62. It is prerequisite to all other advanced courses in organic chemistry. (Prerequisite: 42 or 62)

Fall Semester

M 6:20-9:00, Chemistry 325

†† First class meeting, only, in room 325 Chemistry.
Other symbols explained on page 11.

CIVIL ENGINEERING

Your attention is called to the Senior Civil Engineering Technician program; see page 34.

CE 18. Surveying. 3 degree credits. \$30.

Theory and practice in length, angle, and elevation measurements; transit and level adjustments and use. Astronomic observations for azimuth. Field problems in traverses and level circuits. Adjustments of traverses, triangulation and level circuits. (Prerequisite: ITM 12. Some extra class periods held Saturday mornings for those without instrument experience)

Fall Quarter

W 6:20-9:20, Main Engineering 316, Fant

CE 19. Surveying. 3 degree credits. \$30.

Simple, compound, and spiral horizontal curves; vertical curves; elements of route surveying, grades, curvature, rise and fall, mass diagram and earthwork volume calculations. (Prerequisite: 18)

Winter Quarter

W 6:20-9:20, Main Engineering 316, Fant

CE 20. Surveying. 3 degree credits. \$30.

Property and design surveys including land surveys, topographic surveys, design computations and methods, and construction surveys. Field problems in stadia mapping. (Prerequisite: 18)

Spring Quarter

W 6:20-9:20, Main Engineering 316, Fant

CE 31-32-33. Structural Design. (Not offered 1964-65)

CE 111. Land Surveying. (Not offered 1964-65)

CE 112. Aerial Surveying and Photogrammetry. (Not offered 1964-65)

CE 113. Land Planning and Subdivision Design. (Not offered 1964-65)

CE 130. Statically Indeterminate Structures. 3 degree credits. \$30.

Method of moment area. Williot diagram. Slope-deflection method. (Prerequisite: 33 or equivalent)

Fall Quarter

T 6:20-9:00, Experimental Engineering 193,
Andersen

CE 131. Structural Analysis. 2 degree credits. \$30.

Moment distribution method. (Prerequisite: 130)

Winter Quarter

T 6:20-9:00, Experimental Engineering 193, Andersen

Symbols explained on page 11.

Evening and Special Classes

CE 132. Structural Design. 2 degree credits. \$30.

Continuous structures of steel and concrete. (Prerequisite: 131)

Spring Quarter

T 6:20-9:00, Experimental Engineering 193,
Andersen

CE 141. Reinforced Concrete. (Not offered 1964-65)

CE 142. Reinforced Concrete Design. (Not offered 1964-65)

CE 144. Prestressed Reinforced Concrete. (Not offered 1964-65)

CE 147. Foundations. 3 degree credits. \$30.

Design and construction of footings, cofferdams, and caissons for bridges and buildings. Piers, abutments, and sheet piling. Exploration and testing of foundation sites. Excavation and removal of materials from foundation site. (Prerequisite: 141)

Spring Quarter

W 6:20-9:00, Experimental Engineering 22,
Andersen

CE. Highways and Pavements I and II. (Not offered 1964-65)

CE. Soil Engineering. (Not offered 1964-65)

CE. Plain Concrete. (Not offered 1964-65)

ELECTRICAL ENGINEERING

Paul A. Cartwright, Associate Professor of Electrical Engineering

Loyst C. Caverley, Professor of Electrical Engineering

Henry E. Hartig, Professor of Electrical Engineering

Sidney C. Larson, Associate Professor of Electrical Engineering

David Lo, Lecturer in Electrical Engineering

Joseph T. Maupin, Lecturer in Electrical Engineering

EE 61-62-63. Introductory Circuit Theory. 4 degree credits each quarter. \$40 each quarter.

Analysis of linear circuits excited by constant, exponential, and sinusoidal sources. Time and frequency analysis of the forced and free response of circuits and the concepts of power and energy in lumped constant elements. (Prerequisite: ITM 26A and Phys 14 for 61; 61 for 62; 62 and ITM 60 for 63. Must be taken in sequence. Students attend twice a week)

Fall Quarter

61 M 6:00-9:00, Archi-
tecture 60
W 6:00-7:40, Mechanical
Engineering 214

Winter Quarter

62 M 6:00-9:00, Archi-
tecture 60
W 7:50-9:30, Mechanical
Engineering 214

Spring Quarter

63 M 6:00-9:00, Archi-
tecture 60
W 7:50-9:30, Mechanical
Engineering 214

Symbols explained on page 11.

Course Offerings—Engineering, Physical and Technical Sciences

EE 71-72-73. Electromagnetic Fields and Materials. 4 degree credits each quarter. \$40 each quarter.

Properties and behavior of electromagnetic fields under static and time-varying conditions based upon the experimental laws of electromagnetism leading to Maxwell's equations; interaction of fields and matter; energy concepts; conductive, dielectric, and magnetic properties of materials. (Prerequisite: MM 27, ITM 26A and Phys 50 for 71; 71 for 72; 72 for 73. Must be taken in sequence. Concurrent registration in 81-82-83 strongly recommended. Students attend twice a week)

Fall Quarter		Winter Quarter		Spring Quarter	
71	M	6:00-8:40, Architecture 50	72	M	6:00-8:40, Architecture 50
	W	6:00-7:40, Architecture 50		W	6:00-7:40, Architecture 50

EE 81-82-83. Electrical Engineering Laboratory. 2 degree credits each quarter. \$20 plus \$10 lab fee each quarter.

Experimental study of electric circuits and electromagnetic fields. (Prerequisite: 61, 62, 63, and 71 or ¶71 for 81; 81 and 72 or ¶72 for 82; 82 and 73 or ¶73 for 83. Must be taken in sequence. Students attend twice a week)

Fall Quarter		Winter Quarter		Spring Quarter	
81	M	8:40-9:30, Architecture 50	82	M	8:40-9:30, Architecture 50
	W	7:40-10:00, Electrical Engineering Labs		W	7:40-10:00, Electrical Engineering Labs

EE 104-105-106. Electronics. 4 degree credits each quarter. \$40 each quarter.

An introduction to physical electronics; electronic properties of metals, insulators, semiconductors, junctions; electron emission and gaseous discharge phenomena. 105-106: Quasi-linear and non-linear behavior of vacuum, gas, and semiconductor devices; principles of rectification, amplification, frequency-conversion, oscillation; generic 2- and 4-terminal active circuits. (Prerequisite: 73 or equivalent for 104; 63 and 104 or equivalent for 105-106; ¶114-115-116 strongly recommended for students who have completed EE 111-112-113. Students attend twice a week)

Fall Quarter		Winter Quarter		Spring Quarter	
104	M	6:00-8:15, Architec- ture 45	105	M	6:00-8:15, Architec- ture 45
	W	6:00-7:15, Architec- ture 45		W	6:00-7:15, Architec- ture 45

EE 111-112-113. Circuits and Fields. (Not offered 1964-65)

Students who have completed the 3rd-year EE sequences should register for EE 104-105-106 and EE 114-115-116.

EE 114-115-116. Electrical Engineering Laboratory. 2 degree credits each quarter. \$20 plus \$10 lab fee each quarter.

Experimental studies in electrical engineering for fourth-year students. (Prerequisite: 83, 113 and ¶104. Must be taken in sequence. Students attend twice a week)

Fall Quarter		Winter Quarter		Spring Quarter	
114	M	8:15-9:15, Architec- ture 45	115	M	8:15-9:15, Architec- ture 45
	W	7:15-10:00, Electrical Engineering Labs		W	7:15-10:00, Electrical Engineering Labs

Symbols explained on page 11.

Evening and Special Classes

EE. Semiconductor Device Applications I-II. (Not offered 1964-65)

The following courses carry certificate credit and are offered as part of the Senior Electrical Engineering Technician program.

EE. Elements of Electric Circuits. 5 certificate credits. \$50 plus \$5 laboratory fee.

Fundamentals of direct and alternating current circuits. Network theorems. Network analysis—singlephase and polyphase. Transient analysis. Frequency response of networks; power and energy concepts. Nonsinusoidal waveforms, nonlinear circuit elements, nonlinear circuit analysis methods. Electric and magnetic fields. Magnetic circuits. Lecture and laboratory. (Prerequisite: ITM 13A or #)

Fall Semester

T 6:00-9:00, Architecture 15

EE. Elements of Electronics I. 5 certificate credits. \$50 plus \$5 laboratory fee.

Electronic emission, conduction through vacuum and gases. Characteristics of vacuum and gas tubes. Photosensitive devices, electronic control circuits. Amplifier circuits, feedback; oscillators. Applications of vacuum and gas tube devices. Lecture and laboratory. (Prerequisite: Elements of Electric Circuits)

Spring Semester

T 6:00-9:00, Architecture 15

EE. Elements of Electronics II. 5 certificate credits. \$50 plus \$5 laboratory fee.

Semiconductor devices and their circuit application; conduction in semiconductors, transistor characteristics and equivalent circuits; transistor amplifiers, oscillators, and multivibrators. Tunnel diodes. Lectures, problems, and laboratory. Knowledge of circuit analysis using complex numbers is required. (Prerequisite: Elements of Electronics I or #)

Fall Semester

Th 6:00-9:00, Electrical Engineering 237

EE. Elements of Electronics III. 5 certificate credits. \$50 plus \$5 laboratory fee.

Terminal course of the certificate credit electronics sequence. Digital and analogue computer circuits—operational amplifiers, binary systems, memory units. Application of electronic instruments to measurements and instrumentation, transducers. Lecture and laboratory. (Prerequisite: Elements of Electronics II)

Spring Semester

Th 6:00-9:00, Architecture 15

ENGINEERING ENGLISH

John W. Lippert, Lecturer in English

*Engl 85(IT). Advanced Technical Communication. 3 degree credits. \$30.

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 styles; 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. (Prerequisite: Engl 3B or Comm 3. Limited to 25 students. Repeated spring semester)

Fall Semester

M 8:15-9:55, Main Engineering 4, Lippert

Spring Semester

T 8:15-9:55, Main Engineering 4, Lippert

Symbols explained on page 11.

Course Offerings—Engineering, Physical and Technical Sciences

*Engl 86(IT). Advanced Technical Communication. 3 degree credits. \$30.

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. (Prerequisite: 85[IT]. Limited to 25 students)

Spring Semester

M 8:15-9:55, Main Engineering 4, Lippert

Engl. Basic Technical Writing I-II. 3 certificate credits each semester. \$30 each semester.

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

Fall Semester

I W 8:15-9:55, Main Engineering 4, Lippert

Spring Semester

II W 8:15-9:55, Main Engineering 4, Lippert

ENGINEERING GRAPHICS

Paul W. Bullen, Assistant Professor of Mechanical Engineering

Lewis G. Palmer, Assistant Professor of Mechanical Engineering

Richard D. Springer, Associate Professor of Mechanical Engineering

EG 25 replaces 14, 15, and 16 as the basic drawing course required in the Institute of Technology. Some departments in the institute require additional graphic courses; these, however, are not presently available for the evening student.

EG 4 and 5 which are certificate credit courses present a slightly different approach to graphics. Students who satisfactorily complete them may upon approval of the Division of Engineering Graphics petition for a comprehensive examination if credit for EG 25 is desired.

EG 4. Engineering Graphics. 3 certificate credits. \$30.

Engineering representation, orthographic and pictorial. Multiview drawings, auxiliary and sectional views, size description, standard practices and specifications. Axonometric, oblique, and perspective drawing; freehand sketching and shading. (No prerequisite. Repeated spring semester)

Fall Semester

W 6:00-8:00, Architecture 10, Palmer

Spring Semester

T 6:00-8:00, Architecture 10, Bullen

EG 5. Engineering Graphics. 3 certificate credits. \$30.

Engineering representation, graphical analysis and synthesis, co-ordinate systems, auxiliary projection. Solution of space problems and vector applications with mathematical correlation. (Prerequisite: 4. Repeated spring semester)

Fall Semester

T 6:00-8:00, Architecture 10, Bullen

Spring Semester

W 6:00-8:00, Architecture 10, Palmer

Symbols explained on page 11.

Evening and Special Classes

EG 25. Engineering Graphics. 4 degree credits. \$40.

Engineering representation and analysis of systems of projection; the co-ordinate systems, graphical solution of space problems, intersections and developments. Precision in graphics and techniques of sketching; pictorial projection systems, size description, standard and simplified practices applied to graphic communication. (Prerequisite: ITM 13A or ITM 13A. Repeated spring semester)

Fall Semester

T 6:00-8:30, StP Ext Center 1, Springer

Spring Semester

M 6:00-8:30, Architecture 10, Graphics staff

GENERAL ENGINEERING

Joseph Wetzel, Instructor in Civil Engineering

°GE 70. The Slide Rule. 1 certificate credit. \$15.

Theory and computation practice necessary for those who wish to use the slide rule in ordinary computations. Drills on fundamental processes. (No prerequisite. Limited to 25 students. Repeated spring semester)

Fall Semester

T 6:00-7:00, Architecture 40, Wetzel
T 7:00-8:00, Architecture 40, Wetzel

Spring Semester

T 6:00-7:00, Architecture 40, Wetzel
T 7:00-8:00, Architecture 40, Wetzel

GEOLOGY AND GEOPHYSICS

Robert E. Sloan, Associate Professor of Geology and Geophysics

Paul E. Scheerer, Instructor in Geology and Geophysics

Geo 1. Physical Geology. 4 degree credits, \$old Geol 1, A. \$40.

A first course in geology for science majors and an introduction to scientific methods and the nature of the earth for others. Survey of the main features of the physical world and of the processes that have evoked them. (No prerequisite, but high school physics and chemistry advisable. Repeated spring semester)

Fall Semester

Lect T 6:20-8:00, Pillsbury 110, Sloan
Lab T 8:10-9:30, TSF 153

Spring Semester

Lect M 6:20-8:00, Pillsbury 110, Scheerer
Lab M 8:10-9:30, TSF 153

Geo 2. Historical Geology. 4 degree credits, \$old Geol 2, B. \$40.

Evolution of the earth from its origin to the present, with special attention to the succession of physical and biological events of the past 600 million years. (Prerequisite: 1 or old Geol 1 and A. Repeated spring semester)

Fall Semester

Lect M 6:20-8:00, Pillsbury 110, Scheerer
Lab M 8:10-9:30, Main Engineering 18

Spring Semester

Lect T 6:20-8:00, Pillsbury 110, Sloan
Lab T 8:10-9:30, Main Engineering 18

Geo 1E-2E. Physical Geology and Historical Geology. 3 degree credits each semester. \$30 each semester.

Lecture concurrent with Geo 1 and 2, see descriptions above; no laboratory. Not acceptable toward degrees for physical science and engineering majors. (No prerequisite for 1E; 1E or 1 for 2E. Must be taken in sequence)

Fall Semester

1E T 6:20-8:00, Pillsbury 110, Sloan
2E M 6:20-8:00, Pillsbury 110, Scheerer

Spring Semester

1E M 6:20-8:00, Pillsbury 110, Scheerer
2E T 6:20-8:00, Pillsbury 110, Sloan

Symbols explained on page 11.

INDUSTRIAL ENGINEERING

Sant R. Arora, Assistant Professor of Mechanical Engineering

Gayle W. McElrath, Professor of Mechanical Engineering

R. Stanford Nyquist, Instructor in Mechanical Engineering

James L. Reynolds, Instructor in Mechanical Engineering

Your attention is called to the Senior Industrial Engineering Technician program; see page 36.

IE. Industrial Engineering and Management. 5 certificate credits. \$50.

A study of the problems and techniques of developing a highly efficient management team for a modern manufacturing concern. Includes discussions on business organization and financing, research and product development, standardization, plant layout and materials handling, production and inventory control, quality control, cost control, labor relations. (No prerequisite)

Fall Semester

T 6:20-9:20, Mechanical Engineering 214

IE. Motion and Time Study. 5 certificate credits. \$50 plus \$1 laboratory fee.

Principles and techniques for effective work methods and analysis. Process charts, flow diagrams, paper work systems, work distribution tables, micromotion study. The role of the worker in the work environment. Fundamentals of work measurement: time study, work sampling, predetermined time systems, and standard data. Discussion of performance rating, number of cycles to study, allowances, and other factors necessary to develop an effective standard. (No prerequisite)

Spring Semester

T 6:20-9:20, Mechanical Engineering 208

IE. Corporate Standard Data (C.S.D.) I. 5 certificate credits. \$50.

Corporate Standard Data is a procedure for analyzing manual work in terms of elemental motions for which standard times have been established. C.S.D. 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 C.S.D. to factory and office operations. (No prerequisite)

Fall Semester

T 6:20-9:20, Mechanical Engineering 208

IE. Corporate Standard Data (C.S.D.) II. 5 certificate credits. \$50.

An entirely new and original approach in the field of standard data and work measurement. Reduce engineering analysis time 50 per cent to 75 per cent—enable economic setting of standards on hard-to-measure direct work, indirect work, long cycle work, single item production, short runs of great variety, estimating, methods work, etc. Reduce labor costs systematically on an integrated corporate-wide or small company basis in manufacturing, offices, maintenance, tool making, warehousing, handling, etc. Discussions as to how this technique may be computerized. (Prerequisite: Corporate Standard Data I or #)

Spring Semester

T 6:20-9:20, Mechanical Engineering 214

IE. Inventory and Production Control. 5 certificate credits. \$50.

Development of systems for increasing plant efficiency through effective co-ordination of inventories, manpower, and equipment with sales. Lectures and discussion on sales forecasting, master

Evening and Special Classes

scheduling, inventory control, work routing, scheduling of operations, dispatching, analysis of equipment requirements. (Prerequisite: ITM 11 or #)

Fall Semester

W 6:20-9:20, Mechanical Engineering 208

IE. Statistical Quality Control. 5 certificate credits. \$50.

Determination of quality requirements and their relation to manufacturing costs. Establishing 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: ITM 11 or #)

Fall Semester

M 6:20-9:20, Mechanical Engineering 110,
McElrath

IE. Advanced Statistical Quality Control. (Not offered 1964-65)

IE. Introduction to Operations Research. (Not offered 1964-65)

IE. Plant Layout and Materials Handling. (Not offered 1964-65)

IE. Introduction to Reliability. (Not offered 1964-65)

IE. Manufacturing Cost Analysis. (Not offered 1964-65)

MATHEMATICS

Ronald Apelquist, Lecturer in Mathematics

Steve S. Barich, Assistant Professor of Mechanical Engineering

George U. Brauer, Assistant Professor of Mathematics

James R. Carlson, Teaching Assistant in Mathematics

William G. Chaplin, Instructor in Mathematics

William J. A. Culmer, Assistant Professor in Agricultural Engineering

William A. Dolid, Instructor in Mathematics

Immanuel C. Fischer, Associate Professor of Engineering

Nathaniel Grossman, Instructor in Mathematics

Laurence R. Harper, Jr., Assistant Professor of Mathematics

Richard Hotchkiss, Instructor in Mathematics

Laurence A. Liddiard, Research Fellow, Numerical Analysis Center

Edward S. Loye, Associate Professor of Mathematics

William D. Munro, Associate Professor of Mathematics

Frank J. Polansky, Assistant Professor of Mathematics

Gaylord P. Schwartz, Instructor in Mathematics

Burton O. Scott, Lecturer in Mathematics

James Swenson, Lecturer in Mathematics

James E. Thompson, Assistant Professor of Mathematics

Symbols explained on page 11.

Course Offerings—Engineering, Physical and Technical Sciences

Jon Tolle, Teaching Assistant in Mathematics

Hubert Walczak, Lecturer in Mathematics

C. Duane Zimmerman, Teaching Assistant in Mathematics

Grenith Zimmerman, Teaching Assistant in Mathematics

Changes in Mathematics Course Numbering and Prerequisites

The Institute of Technology is introducing a new 6-quarter mathematics sequence beginning Fall Quarter 1964 with Math 21 and continuing in successive quarters with Math 22, 23, 31, 32, and 33. The entrance requirement for the Institute of Technology and the prerequisite for Math 21 is 4 years of high school mathematics divided approximately into 2 years of algebra and 2 years of geometry including solid geometry and trigonometry. Any student who meets this requirement is eligible to register for Math 21. However, if it has been some time (2 years or more) since he took his last mathematics course, the student is strongly advised to register for Math 12 or even Math 11.

ITM 9 and ITM 11 have been combined into a single course Math 11, Intermediate Algebra. Students who had 2 years of high school mathematics or had their course in higher algebra more than 2 years ago should take Math 11.

Students who have completed ITM 9 or its equivalent (higher algebra) in high school or college (not a trade school) within the last 2 years may register for Math 12.

Math 11 and Math 12 take the place of the junior and senior mathematics courses in high school.

Math T, 10, and 40

Math T, 10, and 40 are offered for the benefit of prebusiness students and Arts College nonmathematics majors only. They are not designed for the student who wishes to continue with Institute of Technology advanced mathematics courses or for Arts College mathematics majors. If in doubt about your registration for mathematics, please consult an adviser.

Math T. Trigonometry. (Open to prebusiness and arts students) 3 degree credits. \$30.

A prebusiness or arts course in analytic trigonometry emphasizing identities, equations, and properties of the trigonometric functions; right and oblique triangles without logarithmic computation. (Students who plan to take several courses in mathematics in evening classes should begin with Math 12, not Math T. Prerequisite: plane geometry and either Z or ITM 9, or Math 11, or equivalent. May be taken concurrently with 10)

Fall Semester

T 8:15-9:55, Ford 115

Math 5. Basic Mathematics. No credit. \$50.

A practical course for anyone needing an elementary background in basic mathematics such as shop men in industry or machine work. It is also valuable as a refresher in elementary mathematics. It includes a study of the arithmetic of whole numbers, fractions and decimals; an introduction to algebra and linear equations; other topics selected from elementary algebra, geometry and trigonometry. (Prerequisite: arithmetic. Repeated spring semester)

Fall Semester

TTh 6:20-7:45, Main Engineering 206

Spring Semester

TTh 6:20-7:45, Main Engineering 206

Symbols explained on page 11.

Evening and Special Classes

Math 6. Elementary Algebra. Entrance credit. \$60.

Elements of algebra to quadratic equations, equivalent to 1 year of ninth grade algebra. (Prerequisite: arithmetic. Entrance requirement for College of Agriculture, Forestry, and Home Economics; College of Veterinary Medicine; College of Liberal Arts; and Institute of Technology. Repeated spring semester)

Fall Semester

MW 6:20-8:00, Main Engineering 217
TTh 6:20-8:00, Main Engineering 217

Spring Semester

MW 6:20-8:00, Main Engineering 217
TTh 6:20-8:00, Main Engineering 217

Math 7. Plane Geometry. Entrance credit. \$60.

Elements of plane geometry, equivalent to 1 year of high school plane geometry. (Prerequisite: arithmetic. Entrance requirement for College of Agriculture, Forestry, and Home Economics; College of Veterinary Medicine; College of Liberal Arts; and Institute of Technology. Repeated spring semester)

Fall Semester

MW 6:20-8:00, Main Engineering 203

Spring Semester

MW 6:20-8:00, Main Engineering 203

Math 8. Solid Geometry. Entrance credit. \$30.

Lines, planes, dihedral and polyhedral angles, polyhedrons, surfaces, prisms, cylinders, cones, prismsatoids, and spheres. Three-dimensional visualization and sketching. Numerical exercises in areas, volumes, weights. (Prerequisite: plane geometry. Entrance requirement for Institute of Technology. Repeated spring semester)

Fall Semester

Th 6:20-8:00, Main Engineering 203

Spring Semester

Th 6:20-8:00, Main Engineering 203

Math 10. College Algebra and Analytic Geometry. (Open to prebusiness students and Arts College nonmathematics majors only.) 5 degree credits. \$50.

A course for students requiring only some analytic geometry and college algebra without trigonometry, or whose background does not include logarithms. (Students who plan to take several courses in mathematics in evening classes should register for Math 12, not Math 10). Functions and graphs, quadratic equations, permutations and combinations, probability, systems of equations, determinants, graphing of linear and quadratic equations, conics in standard position, logarithms. (Prerequisite: Z or ITM 9 or Math 11 or equivalent. Repeated spring semester)

Fall Semester

TTh 6:20-7:45, Ford 115

Spring Semester

TTh 6:20-7:45, Ford 115

Math 11. Intermediate Algebra. 5 certificate credits. \$50.

Fundamental operations, factoring, fractions, functions and graphs, linear equations, exponents and radicals, quadratic equations, ratio and variation, progressions, binomial theorem, logarithms. (Prerequisites: 6 or equivalent. Entrance requirement for Institute of Technology. Repeated spring semester)

Fall Semester

MW 6:20-7:45, Main Engineering 205
TTh 6:20-7:45, Main Engineering 205
TTh 6:00-7:25, StP Ext Center Aud

Spring Semester

MW 6:00-7:25, StP Ext Center 4
MW 6:20-7:45, Main Engineering 205
TTh 6:20-7:45, Main Engineering 205

Math 12. College Algebra and Trigonometry. 5 certificate credits. \$50.

Trigonometric functions, right triangles, oblique triangles, radian measure. Trigonometric formulas and identities, trigonometric curves, inverse trigonometric functions, trigonometric equations. Inequalities, theory of equations, determinants, mathematical induction, exponential and logarithmic

Symbols explained on page 11.

Course Offerings—Engineering, Physical and Technical Sciences

functions, complex numbers. (Prerequisite: 11 or equivalent. Entrance requirement for Institute of Technology. Repeated spring semester)

Fall Semester

MW 6:20-7:45, Main Engineering 106
 TTh 6:20-7:45, Main Engineering 106
 MW 6:00-7:25, StP Ext Center 3

Spring Semester

MW 6:20-7:45, Main Engineering 106
 TTh 6:20-7:45, Main Engineering 106
 TTh 6:00-7:25, StP Ext Center 5

Fall Quarter

MW 6:10-8:15, Robbinsdale HS 211

Math 21. Calculus I: Calculus and Analytic Geometry. 5 degree credits. \$50.

Review of algebra, inequalities, relations and functions, graphs, line, linear inequalities, preview of calculus, limits, continuity, differentiation of algebraic functions, applications, differential. (Prerequisite: 12 or equivalent. See page 147. Repeated winter quarter and spring semester)

Fall Semester

MW 6:20-7:45, Main Engineering 104
 TTh 6:20-7:45, Main Engineering 104
 TTh 6:00-7:25, StP Ext Center 101

Winter Quarter

MW 6:10-8:15, Robbinsdale HS 211

Spring Semester

MW 6:20-7:45, Main Engineering 104
 MW 6:00-7:25, StP Ext Center 101
 TTh 6:20-7:45, Main Engineering 104

Math 22. Calculus II: Calculus and Analytic Geometry. 5 degree credits. \$50.

Trigonometric review, definite integral, lines and circles, conics, calculus of trigonometric, exponential, logarithmic and hyperbolic functions. (Prerequisite: 21 or 13A. See page 147. Offered spring semester and spring quarter)

Spring Semester

MW 6:20-7:45, Main Engineering 229
 TTh 6:20-7:45, Main Engineering 229
 TTh 6:00-7:25, StP Ext Center 101

Spring Quarter

MW 6:10-8:15, Robbinsdale HS 211

Math 23. Calculus III: Calculus and Analytic Geometry. (Offered Fall 1965)

Math 24A. Calculus II: Analytic Geometry and Calculus. (Offered last time Fall 1964) 5 degree credits. \$50.

Differentials, parametric equations. Definite integral, mean-value theorem, areas, volumes, work, energy, moments of inertia. Further topics in analytic geometry. Calculus of exponential, logarithmic and hyperbolic functions. Techniques of integration. (Prerequisite: 13A)

Fall Semester

T 6:00-9:00, Main Engineering 215
 Th 6:00-9:00, Main Engineering 215
 W 6:00-9:00, StP Ext Center 5

Math 25A. Calculus III: Analytic Geometry and Calculus. (Offered last time Spring 1965) 5 degree credits. \$50.

Further applications of integration, polar-coordinates, vectorial treatment of motion in a curve, methods of approximation. Solid analytic geometry with vectors, partial differentiation, multiple integration. (Prerequisite: 24A. Repeated spring semester)

Fall Semester

T 6:00-9:00, Main Engineering 203

Spring Semester

T 6:00-9:00, Main Engineering 215
 Th 6:00-9:00, Main Engineering 215

Symbols explained on page 11.

Evening and Special Classes

Math 26A. Calculus IV: Differential Equations and Calculus. (Offered last time Fall 1965) 5 degree credits. \$50.

Further study of limits, L'Hospital's rule. Sequences, series, Taylor's formula. Convergence absolute and conditional, improper integrals, power series, expansion of functions. Differential equations; equations of first order; standard methods of solutions; linear equations with constant coefficients application; simultaneous equations, integration by series, numerical methods. (Prerequisite: 25A. Repeated spring semester)

Fall Semester

M 6:00-9:00, Main Engineering 215

Spring Semester

T 6:00-9:00, Main Engineering 203

Math 31. Calculus IV: Calculus and Analytic Geometry. (Offered Spring 1966)

Math 32. Calculus V: Calculus, Linear Algebra, Differential Equations. (Offered Fall 1966)

Math 33. Calculus VI: Calculus, Linear Algebra, Differential Equations. (Offered Spring 1967)

Math 40. Introduction to Calculus. (Open to prebusiness students and Arts College non-mathematics majors only.) 5 degree credits. \$50.

A 1-semester course designed for those who wish a brief introduction to calculus which includes some integration. (Students planning to take more than one course in calculus in evening classes should not take Math 40 and must consult an adviser before registering.) Functions and limits, differentiation of algebraic, trigonometric, exponential, and logarithmic functions with applications to velocity and acceleration, maxima and minima, approximations by differentials. Integration with standard forms with application to area, volume, simple differential equations. (Prerequisite: 10 and either T or ¶T or equivalent, or Math 12)

Spring Semester

TTh 6:20-7:45, Ford 180

Math 60. Operational Methods for Linear Systems. (Primarily for EE students) 3 degree credits. \$30.

Review of Fourier Series and their applications to linear ordinary differential equations. The Fourier transform, mathematical properties, amplitude and phase spectra, energy. The Laplace transform, mathematical properties and elementary inversion techniques, applications to systems of ordinary differential equations, transfer function of a filter, time and frequency domain relations. (Prerequisite: 26A. Repeated spring semester)

Fall Semester

W 6:00-7:40, Main Engineering 227

Spring Semester

W 6:00-7:40, Main Engineering 227

Math 65. Introduction to Programming Modern Digital Computers. (Replaces Math 165A) 3 degree credits, \$Math 165A. \$30.

Number systems. Computer organization. Elementary coding techniques. Scaling. Introduction to problem oriented language. Program organization. Informal laboratory. (Prerequisite: 25A or ¶. Repeated spring semester)

Fall Semester

W 6:00-7:40, Experimental Engineering 193

Spring Semester

W 6:00-7:40, Experimental Engineering 193

Symbols explained on page 11.

Course Offerings—Engineering, Physical and Technical Sciences

Math 90. Elementary Engineering Statistics. 3 degree credits. \$30.

Probability, permutations, and combinations. Frequency distributions. Introduction to sampling significance tests, regression charts. (Prerequisite: 24A. Repeated spring semester)

Fall Semester

W 6:20-8:00, Mines and Metallurgy 116

Spring Semester

W 6:20-8:00, Mines and Metallurgy 116

Math 147. Calculus V: Vector Analysis. 3 degree credits, §Math 152. \$30.

Scalar and vector products, derivatives, geometry of space curves, del operator, line and surface integrals, divergence and Stokes' theorem, transformation of co-ordinates, applications. (Prerequisite: 25A)

Fall Quarter

Th 6:00-8:40, Main Engineering 227

Math 148. Differential Equations. 3 degree credits, §Math 150. \$30.

Linear differential and difference equations with constant coefficients, isoclines, phase, plane, reduction in order, numerical solutions, series solutions, Bessel functions, Legendre polynomials, introduction to boundary value problems. (Prerequisite: 80 or 26A)

Winter Quarter

Th 6:00-8:40, Main Engineering 227

Math 149. Determinants and Matrices. 3 degree credits, §Math 142. \$30.

Determinants, matrices, linear equations, vector spaces, quadratic and bilinear forms, characteristic roots, applications to systems of ordinary differential equations. (Prerequisite: 25A)

Spring Quarter

Th 6:00-8:40, Main Engineering 227

Math 164-165-166.† Theory and Programming of Modern Digital Computers. (Replaces Math 165A-B-C) 3 degree credits each quarter, §Math 65 or 165A. \$30 each quarter.

Numbers systems. Analysis of arithmetic algorithms. Logical organization. Storage, control and input-output units. Basic and advanced machine language and computer programming. Libraries, advanced assembly techniques, interpretive systems, compilers. Applications to mathematical and physical problems. Informal laboratory. (Prerequisite: 26A or # for 164; 164 or # for 165; 165 or # for 166)

Fall Quarter

164 M 6:00-8:40, Architecture 25

Winter Quarter

165 M 6:00-8:40, Architecture 25

Spring Quarter

166 M 6:00-8:40, Architecture 25

MECHANICAL ENGINEERING

Fulton Holby, Associate Professor of Mechanical Engineering

Thomas E. Murphy, Associate Professor of Mechanical Engineering

Ephraim Sparrow, Professor of Mechanical Engineering

Your attention is called to the Senior Mechanical Engineering Technician program; see page 37.

Symbols explained on page 11.

Evening and Special Classes

ME 21. Mechanisms: Kinematic Analysis. 3 degree credits. \$30.

Analysis of motion transfer in mechanisms by use of constraint equations and vector analysis. An analysis of the kinematic capability of various mechanisms to fulfill specific design objectives. (Prerequisite: Phys 14 and ITM 26A or ¶ITM 26A; or completion of courses in integral and differential calculus and sophomore-level college physics)

Fall Quarter

T 6:20-9:00, Mechanical Engineering 106

ME 22. Mechanisms: Dynamic Analysis. 3 degree credits. \$30.

The influence of mechanism inertia on energy transfer. Elimination of unbalance in rigid body mechanisms. Gyroscopic phenomena applied to mechanism design. (Prerequisite: 21)

Winter Quarter

T 6:20-9:00, Mechanical Engineering 106

ME 23. Mechanisms: Components and Synthesis. 3 degree credits. \$30.

Component classes. The synthesis of mechanisms to produce desired motion, optimum sequencing of open loop rigid mechanisms based upon energy loss and force transfer limitations. (Prerequisite: 22)

Spring Quarter

T 6:20-9:00, Mechanical Engineering 106

ME 30. Thermodynamics. 3 degree credits. \$30.

Properties and processes for working fluids in engineering devices. Application of the fundamental laws correlating energy with heat and work. (Prerequisite: ITM 26A or ¶ITM 26A, Phys 14; or completion of courses in integral and differential calculus and sophomore-level college physics)

Fall Quarter

Th 6:20-9:00, Mechanical Engineering 321, Murphy

ME 31-32. Thermodynamics. (Offered 1965-66)

ME 133. Heat Transmission. 3 degree credits. \$30.

Introduction to conduction, convection, and radiation of heat and their utilization in engineering applications. (Prerequisite: 31 and Hydr 101 or 103 or Aero 100 or ¶)

Fall Quarter

M 6:20-9:00, Mechanical Engineering 214, Sparrow

ME 134. Thermodynamics of Fluid Flow. 3 degree credits. \$30.

Thermodynamic analysis of internal flow of viscous and compressible fluids. Applications to various flow processes and components in engineering systems. (Prerequisite: 32 and Hydr 103 or ¶)

Spring Quarter

M 6:20-9:00, Mechanical Engineering 214, Sparrow

ME. Machine Design I-II. 5 certificate credits each semester. \$50 each semester.

Fundamental principles of design of machine elements: lubrication, theory, and application; friction drives, screws, gears, belts, connectors, flywheels, machine frames, shrink fits, stress concentration, vibration analysis, and application of velocity and acceleration analysis to machine design

Symbols explained on page 11.

Course Offerings—Engineering, Physical and Technical Sciences

problems. The course will consist of a series of lectures and problems to be solved in class. Laboratory experiments will be used whenever possible. Special movies will be used. (Prerequisite: ITM 11 or # for I; for II, I)

Fall Semester

I Th 6:20-9:20, Mechanical Engineering 308

Spring Semester

II Th 6:20-9:20, Mechanical Engineering 308

***ME. Machine Tool Fundamentals.** 5 certificate credits. \$50 plus \$3 laboratory fee.

Lecture and laboratory course which covers all types of machines for production such as lathes, drill presses, shapers, milling machines, turret lathes, automatic screw machines, surface grinders, cylindrical grinders, centerless grinders, thread grinders, thread milling machines, jig boring machines, gear hobbers, gear shapers, and profile milling machines. Also topics in tool wear, surface finish, coolants, and metal cutting economics. (Prerequisite: ITM 11 or #. Limited to 20 students)

Fall Semester

M 6:20-9:20, Mechanical Engineering 106

ME. Tool Design. (Not offered 1964-65)

ME. Instrumentation and Automatic Control. (Not offered 1964-65)

ME. Refrigeration. (Not offered 1964-65)

ME. Air Conditioning. (Not offered 1964-65)

ME. Value Engineering. (Not offered 1964-65)

***ME. Plastics Technology.** 5 certificate credits. \$50 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. Limited to 20 students)

Fall Semester

Th 6:20-9:20, Mechanical Engineering 106,
Holtby

MECHANICS AND MATERIALS

Allan A. Blatherwick, Associate Professor of Aeronautics and Engineering Mechanics

Carl N. DeSilva, Associate Professor of Aeronautics and Engineering Mechanics

MM 27. Rigid-Body Mechanics I. 3 degree credits. \$30.

Vector algebra. Application of the equations of equilibrium to the analysis of simple engineering structures and machines. Nature and influence of friction. Elementary theory of statically determinate framed structures. (Prerequisite: ITM 25A and Phys 14; MM 27 may be substituted for 92)

Fall Semester

Th 6:20-8:00, Aeronautical Engineering 313,
DeSilva

Symbols explained on page 11.

Evening and Special Classes

MM 28. Rigid-Body Mechanics II. 3 degree credits. \$30.

Application of the principles of particle motion. Kinematics. Impulse-momentum and work-energy principles. Potential and potential energy, motion in a central force field. Introduction to forced and free mechanical vibrations. (Prerequisite: 27 and ITM 26A)

Spring Semester

Th 6:20-8:00, Aeronautical Engineering 313,
DeSilva

MM 29. Rigid-Body Mechanics III. 3 degree credits, §Phys 101A. \$30.

Dynamics of rigid-body motions. Extension of the principles of impulse-momentum and work-energy. Euler's equations of motion. The gyroscope. Virtual work. Stability. (Prerequisite: 28)

Spring Semester

Th 6:20-8:00, Aeronautical Engineering 215,
Blatherwick

MM 40. Deformable-Body Mechanics I. 3 degree credits. \$30.

Introductory treatment of stress and strain at a point. Stress-strain relation in two dimensions. Linear torsion. Bending stresses. (Prerequisite: 27)

Fall Semester

Th 6:20-8:00, Aeronautical Engineering 215,
Blatherwick

MM 41. Deformable-Body Mechanics II. (Not offered 1964-65)

MM 142. Experimental Mechanics I. (Not offered 1964-65)

METALLURGY

Henry S. Jerabek, Associate Professor of Metallurgy

Met I-II. Physical Metallurgy. 3 certificate credits each semester. \$30 each semester.

An introductory course for those engaged in heat treating, metal working, specification writing, inspection, or dealing in metal products. The structure of metals and alloys and the effect of working and heat treatment on structure and properties; steels, cast irons, surface treatments, and nonferrous alloys. This is a lecture course. No laboratory work involved. (No prerequisite for I; I for II)

Fall Semester

I T 6:20-8:00, Mines and Metallurgy 116,
Jerabek

Spring Semester

II T 6:20-8:00, Mines and Metallurgy 116,
Jerabek

PHYSICS

J. Merle Harris, Associate Professor of Physics

Phys 11. General Physics. 5 degree credits. \$50.

Kinematics and classical dynamics. Lectures, recitation, and quiz each week. (Prerequisite: ITM 13A or §ITM 13A, ¶Math 21, or Math 42 or ¶Math 42)

Fall Semester

MW 6:30-8:30, Physics 150, Harris

Symbols explained on page 11.

Course Offerings—Engineering, Physical and Technical Sciences

Phys 12-12A. General Physics and Physics Laboratory. 5 degree credits. \$50 plus \$10 laboratory fee.

Mechanics, heat, elementary kinetic theory. Lectures, quiz, and laboratory exercises in mechanics each week. (Prerequisite: 11 and ITM 24A or ¶ITM 24A, or Math 24A or ¶Math 22, or Math 43 or ¶Math 43; 12 and 12A must be taken concurrently)

Spring Semester

MW 6:30-8:30, Physics 170, Harris

Phys 13-13A. General Physics and Physics Laboratory for Engineers. 5 degree credits. \$50 plus \$10 laboratory fee.

Wave motion, sound, and light; lecture and laboratory each week. (Prerequisite: 12 and ITM 25B or ¶ITM 25B, or ITM 25A or ¶Math 25A, or Math 44 or ¶Math 44; 13 and 13A must be taken concurrently)

Fall Semester

MW 6:30-8:30, Physics 170

Phys 14-14A. Intermediate General Physics and Physics Laboratory. 5 degree credits. \$50 plus \$10 laboratory fee.

Electricity and magnetism. (Prerequisite: 13 and ITM 26B or ¶ITM 26B, or ITM 26A or Math 26A or ¶Math 26A, or Math 55 or ¶Math 55; 14 and 14A must be taken concurrently, unless 14A or equivalent has been previously completed)

Spring Semester

MW 6:30-8:30, Physics 166

Phys 50-50A. Intermediate General Physics and Physics Laboratory. 5 degree credits. \$50 plus \$10 laboratory fee.

Elementary kinetic theory, charged particle dynamics, special relativity, electromagnetic radiation, elementary atomic physics. (Prerequisite: 6 or 9 or 14 and ITM 27 or ¶ITM 27, or ITM 26A or ¶Math 26A, or Math 106 or ¶Math 106; 50 and 50A must be taken concurrently)

Fall Semester

MW 6:30-8:30, Physics 166

Symbols explained on page 11.

PHYSICAL EDUCATION AND RECREATION

Bruce D. Anderson, Instructor in Physical Education
Patrick Bird, Instructor in Physical Education
H. Robert Giles, Associate Professor of Recreation
Belmar S. Gunderson, Instructor in Physical Education
Zolton Hradetsky, Lecturer in Physical Education
J. Ronald Jaco, Instructor in Physical Education
Mary B. Lampe, Assistant Professor of Physical Education
Donald R. Lewis, Assistant Professor of Physical Education
Jean M. Morrison, Instructor in Physical Education
Robert G. Mowerson, Assistant Professor of Physical Education
Jeralyn J. Plack, Instructor in Physical Education
Lela June Stoner, Instructor in Physical Education

Note that these classes are offered in six groups: for girls only, for boys only, for boys and girls, for women only, for men only, and for men and women. Recreation classes carry no credit and require no prerequisite. A health examination is required for admission to all recreation classes except golf.

Registration for all children's swimming classes must be made *by mail*. (If you have not received an "Application Form," please telephone—*do not write*—the campus office, telephone 373-3930.) The envelope containing your application must be postmarked *on or after* Friday, September 4, 1964, for fall classes and should be postmarked no later than September 11, 1964. Applications for winter classes must be postmarked *on or after* Friday, December 11, 1964, and should be postmarked no later than December 18, 1964. Applications for spring classes must be postmarked *on or after* Friday, March 5, 1965, and should be postmarked no later than March 12, 1965.

ACTIVITIES OPEN TO GIRLS

A health examination is required of all girls taking recreation classes. Each girl must bring a letter from her own physician stating approval of the activity in which she is registered.

*Swimming for Small Girls.†† No credit. \$9 plus \$2 equipment fee.

A course in swimming for girls between the ages of 6 and 12 years. Each girl must bring a written permit for swimming from her own doctor; no one will be allowed in the pool without permit. First meeting will be for the purpose of classifying swimmers into the following groups: Beginners; Advanced Beginners (those who swim with ease in shallow water); Intermediates (those who swim with ease in deep water); Advanced Intermediates (those who swim with ease but wish to improve

†† Registration by mail only. See box above.
Other symbols explained on page 11.

Course Offerings—Physical Education and Recreation

strokes); Advanced (those who wish to learn advanced strokes—both synchronized and speed—and spring board diving). Swimmers must bring their own suits and towels. Caps are required for all swimmers. (Each section limited to 20 girls)

Special Class (September 28 to December 19)	Special Class (January 4 to March 20)	Special Class (March 29 to June 12)
Beginners	Beginners	Beginners
S 8:45-9:30, Norris Gym 51, Lampe	S 8:45-9:30, Norris Gym 51, Lampe	S 8:45-9:30, Norris Gym 51, Lampe
S 11:00-11:45, Norris Gym 51, Lampe	S 11:00-11:45, Norris Gym 51, Lampe	S 11:00-11:45, Norris Gym 51, Lampe
S 11:45-12:30, Norris Gym 51, Lampe	S 11:45-12:30, Norris Gym 51, Lampe	S 11:45-12:30, Norris Gym 51, Lampe
Advanced Beginners	Advanced Beginners	Advanced Beginners
S 9:30-10:15, Norris Gym 51, Lampe	S 9:30-10:15, Norris Gym 51, Lampe	S 9:30-10:15, Norris Gym 51, Lampe
S 10:15-11:00, Norris Gym 51, Lampe	S 10:15-11:00, Norris Gym 51, Lampe	S 10:15-11:00, Norris Gym 51, Lampe
Intermediates	Intermediates	Intermediates
S 11:00-11:45, Norris Gym 58, Stoner	S 11:00-11:45, Norris Gym 58, Stoner	S 11:00-11:45, Norris Gym 58, Stoner
Advanced Intermediates	Advanced Intermediates	Advanced Intermediates
S 10:15-11:00, Norris Gym 58, Stoner	S 10:15-11:00, Norris Gym 58, Stoner	S 10:15-11:00, Norris Gym 58, Stoner
Advanced	Advanced	Advanced
S 9:30-10:15, Norris Gym 58, Stoner	S 9:30-10:15, Norris Gym 58, Stoner	S 9:30-10:15, Norris Gym 58, Stoner

***Tournament Tennis—for Girls (Junior and Senior High).** No credit. \$12 plus \$2 equipment fee.

This class is designed for girls who have better-than-average skill and interest in tournament tennis. The class includes both group and individual instruction and coaching. (Students must furnish own rackets and balls for out-of-doors play. Limited to 20 students)

Note: Students who register for this class must show evidence of having had previous instruction or having engaged in tournament play.

Special Class

(March 29 to June 12)

W 5:30-6:30, Norris Gym 151, Gunderson

ACTIVITIES OPEN TO BOYS

A health examination is required of all boys taking recreation classes. Each boy must bring a letter from his own physician stating approval of the activity in which he is registered.

Swimming for Boys.†† No credit. \$9 plus \$2 equipment fee.

A course in swimming for boys between the ages of 6 and 12 years who are at least 50 inches tall. Each boy must furnish his own towel. Swimming suits are not worn. Each boy should be registered for an appropriate section according to his estimated ability. Sections are classified as follows: *Nonswimmers*; *Beginners*—those who can swim, but not 10 yards; *Advanced Beginners*—those who can swim 10 yards, but not in deep water; *Intermediates*—those who can swim 25 yards of two or

†† Registration by mail only. See page 9.
Other symbols explained on page 11.

Evening and Special Classes

more strokes; *Advanced*. The first meeting will be used for the purpose of reclassifying swimmers where necessary.

Special Class

(March 29 to June 12)

Nonswimmers

- S 9:00-9:45, Cooke Hall, Whitehead
- S 9:45-11:30, Cooke Hall, Whitehead

Beginners

- S 10:30-11:15, Cooke Hall, Whitehead

Advanced Beginners

- S 11:15-12:00, Cooke Hall, Whitehead

Intermediates

- S 9:45-10:30, Cooke Hall, Mowerson

Advanced Intermediates

- S 10:30-11:15, Cooke Hall, Mowerson

Advanced

- S 11:15-12:00, Cooke Hall, Mowerson

ACTIVITIES OPEN TO BOYS AND GIRLS

A health examination is required of all children taking recreation classes. Each child must bring a letter from his own physician stating approval of the activity in which he is registered.

***Creative Dance for Boys and Girls.** †† No credit. \$14 plus \$2 equipment fee.

A course in creative rhythmic movement for children between the ages of 5 and 11 years. Classes are divided by age groups. A leotard is the preferred costume, but shorts and blouse or similar apparel is acceptable. Tights with feet are not acceptable. (Each section limited to 15 children)

Special Class

(March 29 to June 12)

Ages 5-7

- S 9:00-9:45, Norris Gym 151, Morrison

Ages 8-11

- S 9:45-10:30, Norris Gym 151, Morrison

***Swimming for Boys and Girls.** †† No credit. \$9 plus \$2 equipment fee.

A beginning course in swimming for children. Children must be at least 7 years of age and at least 46 inches tall. Each child should furnish his own suit and towel. Woolen suits are not permitted. (Each section limited to 20 students)

Special Class

(March 29 to June 12)

- S 9:00-9:45, StP Gymnasium, Jaco
- S 9:45-10:30, StP Gymnasium, Jaco

Tennis for Boys and Girls. No credit. \$10 plus \$2 equipment fee.

A beginning course in tennis for youth. Students should be at least 10 years old. Each student should furnish own racket and at least three new tennis balls. (Class meets twice a week for 6 weeks)

Special Class

(September 29 to November 5)

TTh 5:30-6:15, Tennis Courts, Lewis

Special Class

(May 4 to June 10)

TTh 5:30-6:15, Tennis Courts, Lewis

†† Registration by mail only. See page 9.
Other symbols explained on page 11.

ACTIVITIES OPEN TO WOMEN

Each student is required to bring to the first class meeting a letter from her own physician stating approval of the activity in which she is registered. Information about lockers will be given at the first class meeting. In swimming classes, a sterilized suit and towel are provided for each swimmer. Swimmers must provide own caps and may not swim without them.

Bowling (See listing under Activities Open to Men and Women, page 162)

Fencing (See listing under Activities Open to Men and Women, page 162)

***Golf (Beginning)—for Women.** No credit. \$12 plus \$2 equipment fee.

For those who have no previous experience. Class and individual instruction in the fundamentals of golf. 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, and two golf balls. (Each section limited to 20 students)

Special Class

(March 29 to June 12)

T 5:30-6:30, Norris Gym 60, Gunderson
W 5:30-6:30, Norris Gym 60

***Golf (Intermediate)—for Women.** No credit. \$12 plus \$2 equipment fee.

A review of the fundamentals (as listed for Beginning Golf) with the work of the class planned to meet individual needs. Students furnish own clubs for outdoor play, and two golf balls. (Prerequisite: some knowledge of and experience in golf. Each section limited to 20 students)

Special Class

(March 29 to June 12)

T 6:30-7:30, Norris Gym 60, Gunderson
W 6:30-7:30, Norris Gym 60

***Swimming (Beginning)—for Women.** No credit. \$12 plus \$2 equipment fee.

For those who have had no previous experience in swimming. (Each section limited to 25 students)

Special Class

(September 28 to December 19)

T 5:30-6:30, Norris Gym 51, Stoner

Special Class

(March 29 to June 12)

T 5:30-6:30, Norris Gym 51

***Swimming (Advanced Beginning)—for Women.** No credit. \$12 plus \$2 equipment fee.

For those able to float and swim slightly but who are not yet at home in deep water. (Each section limited to 25 students)

Special Class

(September 28 to December 19)

T 6:30-7:30, Norris Gym
51, Stoner

Special Class

(January 4 to March 20)

T 5:30-6:30, Norris Gym
51, Stoner

Special Class

(March 29 to June 12)

T 6:30-7:30, Norris Gym 51

Symbols explained on page 11.

Evening and Special Classes

*Swimming (Intermediate)—for Women. No credit. \$12 plus \$2 equipment fee.

For those who are able to swim in deep water but wish to perfect their swimming strokes. Instruction in diving is included. (Each section limited to 25 students)

Special Class

(September 28 to December 19)

T 7:30-8:30, Norris Gym
58, Stoner

Special Class

(January 4 to March 20)

T 6:30-7:30, Norris Gym
58, Stoner

Special Class

(March 29 to June 12)

T 7:30-8:30, Norris Gym 51

*Tennis (Beginning)—for Women. No credit. \$12 plus \$2 equipment fee.

Group and individual instructions. Individual practice for the improvement of strokes. Students furnish own tennis rackets and balls for out-of-doors play. (Limited to 20 students)

Special Class

(March 29 to June 12)

W 6:30-7:30, Norris Gym 151, Gunderson

Tournament Tennis for Girls. (See page 157)

PEW C11. Senior Life Saving. 1 degree credit. \$20 plus \$2 equipment fee.

Designed to provide the individual with the knowledge and skills to save his own life or the life of another in an emergency. A certificate of American Red Cross Life Saving will be given to those who complete the necessary requirements. (Prerequisite: minimum age 18 and ability to swim 440 yards continuously)

Winter Quarter

T 7:30-9:00, Norris Gym 58, Stoner

*PEW C12. Water Safety Instruction. 1½ degree credits. \$30 plus \$2 equipment fee.

A review of life saving and water safety techniques, methods and materials for women who plan to supervise or lifeguard on a waterfront or teach courses in water safety. Students must hold a current American Red Cross Senior Life Saving or Water Safety Instructor Certificate to be eligible for the course. A certificate of Water Safety Instructor will be given to those who complete the necessary requirements. (Prerequisite: minimum age 18 and Senior Life Saving Certificate. Limited to 28 students)

Spring Quarter

T 5:30-8:30, Norris Gym 58, Stoner

ACTIVITIES OPEN TO MEN

A health examination is required for all recreational classes except golf. Each student is required to bring a letter from his own physician stating approval of the activity for which he is registered.

Tennis—for Men. No credit. \$14 plus \$2 equipment fee.

Intermediate-advanced course covering a review of the basic fundamentals. Instruction will emphasize the lob, volley, overhead, tactics, and strategy. Class meets twice a week for 6 weeks.

Special Class

(September 28 to November 4)

MW 5:30-6:15, Tennis Courts, Lewis

Special Class

(May 3 to June 9)

MW 5:30-6:15, Tennis Courts, Lewis

Symbols explained on page 11.

Course Offerings—Physical Education and Recreation

***Golf—for Men.** No credit. \$18 plus \$2 equipment fee.

The fundamentals of golf. The first eight or ten meetings will be held in the golf gymnasium; the last six meetings will be held, weather permitting, at the University Golf Course. The outdoor schedule is adjusted to light. Students will furnish their own clubs and a minimum of five golf balls. (Each section limited to 20 men)

Special Class

(February 1 to June 12)

M	6:00-7:00,	South Tower, Stadium, Anderson
M	7:00-8:00,	South Tower, Stadium, Anderson
M	8:00-9:00,	South Tower, Stadium, Anderson
T	6:00-7:00,	South Tower, Stadium, Anderson
T	7:00-8:00,	South Tower, Stadium, Anderson
T	8:00-9:00,	South Tower, Stadium, Anderson

Swimming—for Men. No credit. \$12 plus \$2 equipment fee.

Class and individual instruction for beginners in all swimming strokes, in diving, and in fundamentals of lifesaving. Woolen swim suits are not permitted.

Special Class

(March 29 to June 12)

M	8:00-9:00,	Cooke Hall, Giles
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Scuba—for Men. No credit. \$28 plus \$2 equipment fee.

The course covers all of the techniques and safety features of scuba. Upon satisfactory completion of this course, the student will be certified by the National Association of Underwater Instructors and will receive a certificate and wallet card so stating. (Prerequisites: ability to swim 440 yards free style, float as motionless as possible for 10 minutes, tread water without hands for 3 minutes, swim 75 feet underwater, recover 10-pound object in 10 feet of water from surface dive, tow a quiescent victim 50 yards, and be at least 15 years of age.)

Equipment: Upon a rental basis, tank and regulator can be obtained for \$1 per session per unit used. If tank, mask, fins, and snorkel are all required, rental will be \$1.50 per session. This includes tank refill. Instructor will bring equipment to and from pool.

Special Class

(September 28 to December 19)

W	7:30-9:30,	Cooke Hall Pool, Mowerson
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Special Class

(February 15 to May 8)

W	7:30-9:30,	Cooke Hall Pool, Mowerson
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ACTIVITIES OPEN TO MEN AND WOMEN

A health examination is required of all men and women taking recreation classes. Each person must bring a letter from his/her own physician stating approval of the activity for which he is registered.

PEW 40C. Gymnastics and Apparatus. 1 degree credit. \$24 plus \$2 equipment fee.

A course in teaching gymnastics to women, for teachers who need an introductory or a refresher. Lecture and laboratory include techniques of teaching, spotting, and organization of women's gymnastics; activities include vaulting, balance beams, uneven parallel bars, free exercise, tumbling, and trampoline. (Prerequisite: open only to physical education teachers)

Fall Quarter

W	7:30-9:30,	Norris Gym 153, Bird
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Symbols explained on page 11.

Evening and Special Classes

Badminton (Intermediate—Advanced)—for Men and Women. No credit. \$12 plus \$2 equipment fee.

Designed for the person who has had some experience in badminton. Special attention given to the development of skill and tournament play.

Special Class

(January 4 to March 20)

M 6:00-7:00, Norris Gym 153, Gunderson

***Bowling (Beginning)—for Men and Women.** No credit. \$12 plus \$3.50 equipment fee.

For those who have had no or little previous bowling experience. Class and individual instruction in the fundamentals of bowling. Discussion of scoring, rules, terminology, and etiquette. Use of bowling shoes included in equipment fee, but no cut in fees if own shoes are used. (Each section limited to 24 students)

Special Class

(September 28 to December 19)

M (women only) 6:00-7:00, Bowling Lanes,
Coffman Union, Plack

M (men and women) 7:00-8:00, Bowling
Lanes, Coffman Union, Plack

***Bowling (Intermediate)—for Men and Women.** No credit. \$12 plus \$3.50 equipment fee.

For those who average 120 and above. Special attention is given to analysis of common errors, spare bowling, and advanced techniques. Tournament rules. Use of bowling shoes included in equipment fee, but no cut in fees if own shoes are used. (Each section limited to 24 students)

Special Class

(January 4 to March 20)

M (women only) 6:00-7:00, Bowling Lanes,
Coffman Union, Plack

M (men and women) 7:00-8:00, Bowling
Lanes, Coffman Union, Plack

Fencing—for Men and Women. No credit. \$18 plus \$2 equipment fee.

For experienced and inexperienced students interested in learning the art of foil and sabre fencing. Equipment will be furnished.

Special Class

(September 28 to December 19)

M 7:00-8:30, South Tower,
Stadium, Hradetsky

Special Class

(January 4 to March 20)

M 7:00-8:30, South Tower,
Stadium, Hradetsky

Special Class

(March 29 to June 12)

M 7:00-8:30, South Tower,
Stadium, Hradetsky

Symbols explained on page 11.

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Classes are listed here by quarters for convenience in planning your program. Please do not register using this list alone. Look up the class on the page referred to in the list.

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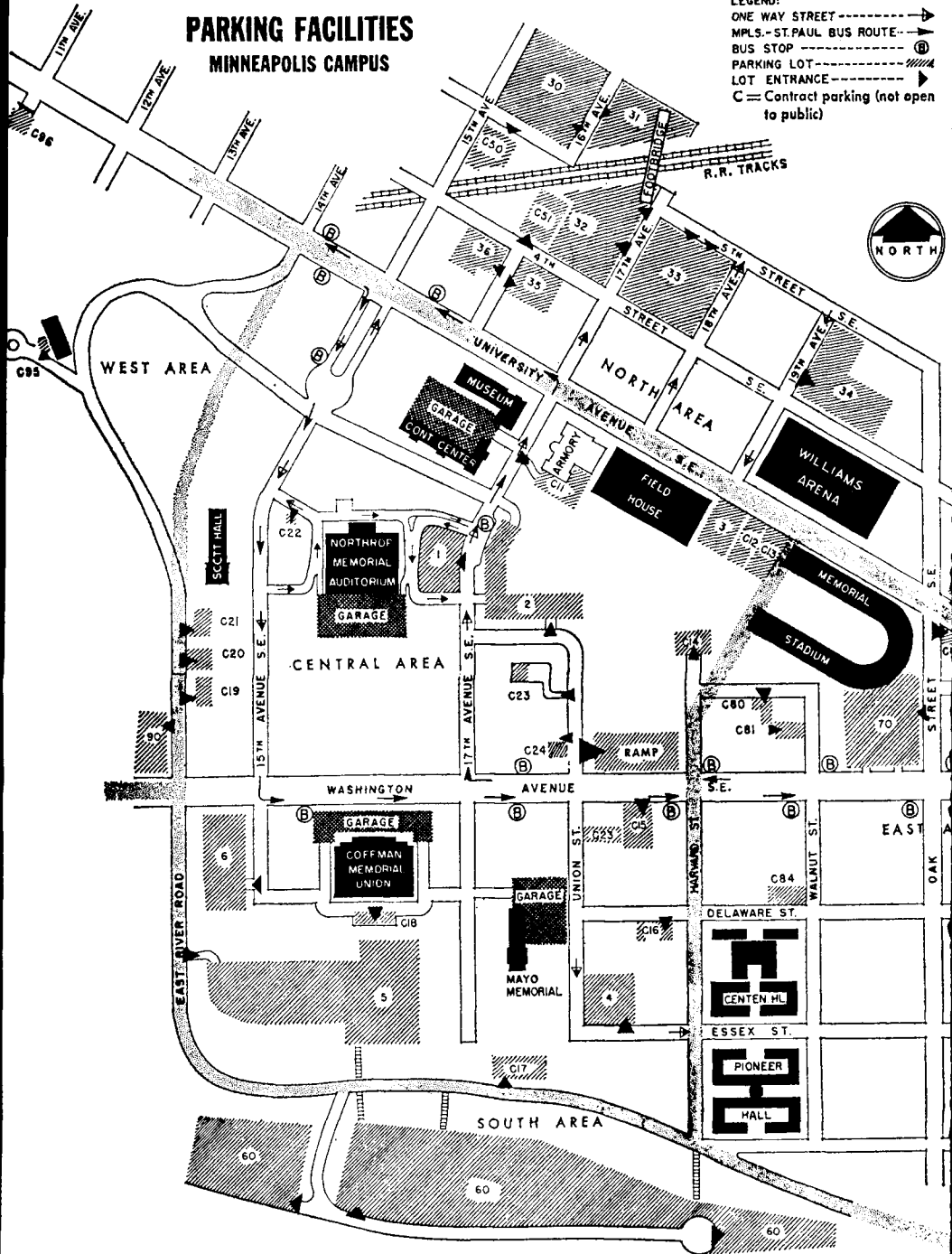
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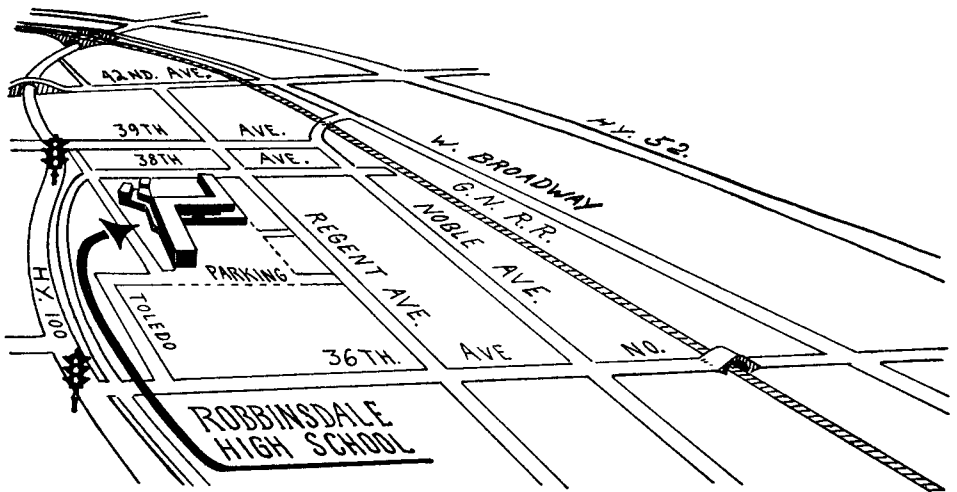
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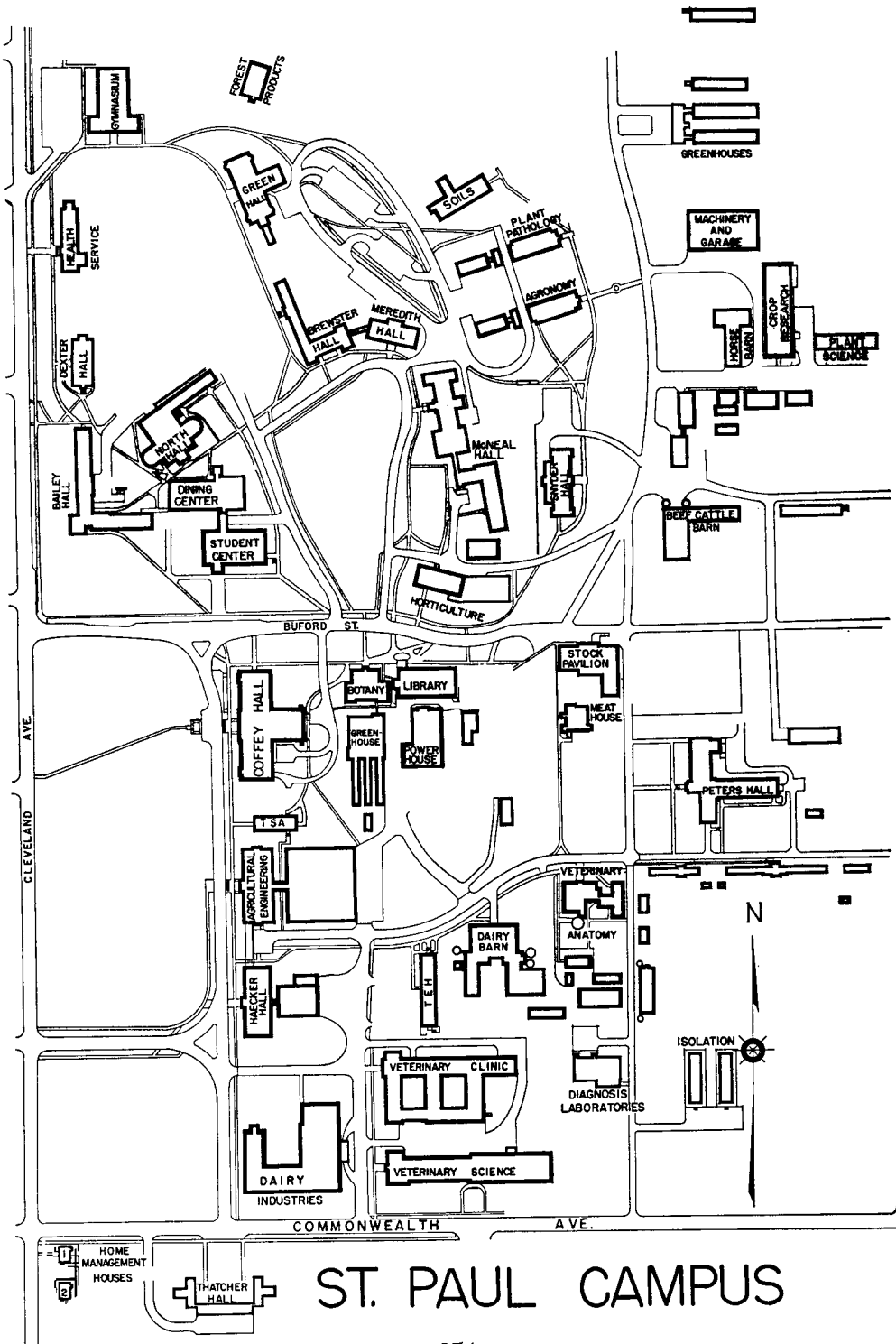
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PARKING FACILITIES MINNEAPOLIS CAMPUS

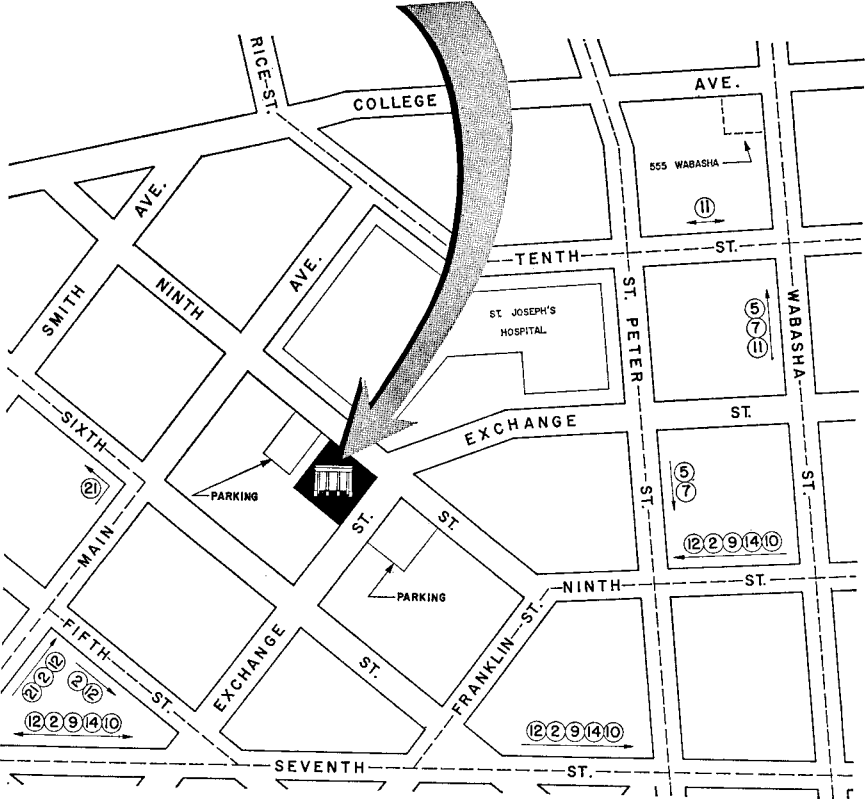
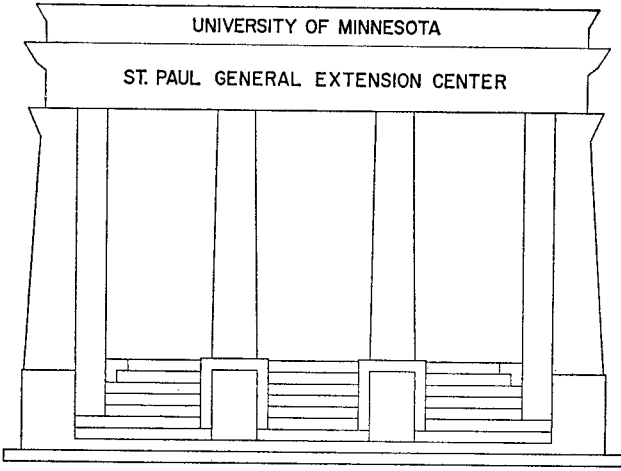
- LEGEND:**
 ONE WAY STREET ->
 MPLS. - ST. PAUL BUS ROUTE ->
 BUS STOP - (B)
 PARKING LOT - (hatched area)
 LOT ENTRANCE ->
 C = Contract parking (not open to public)



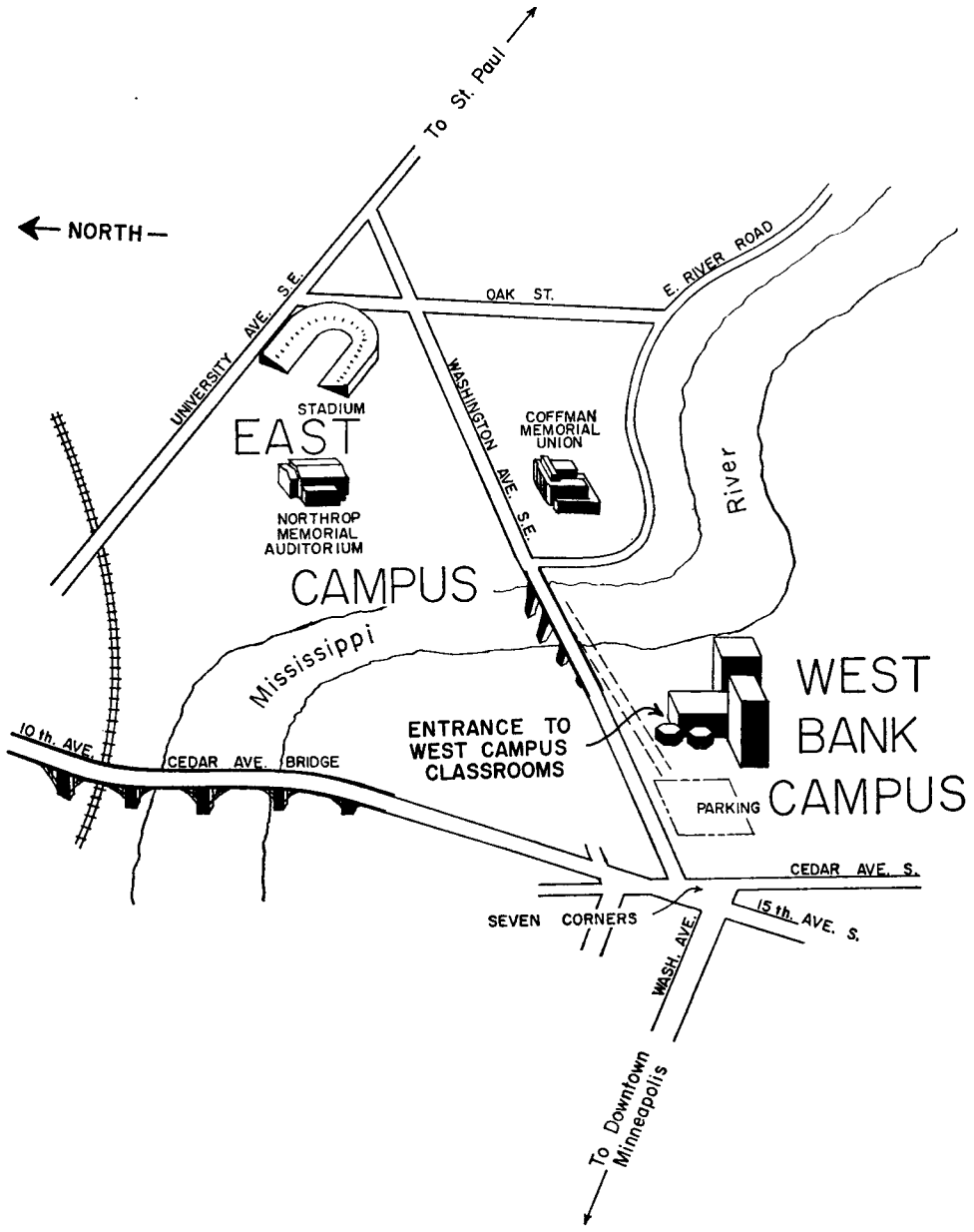




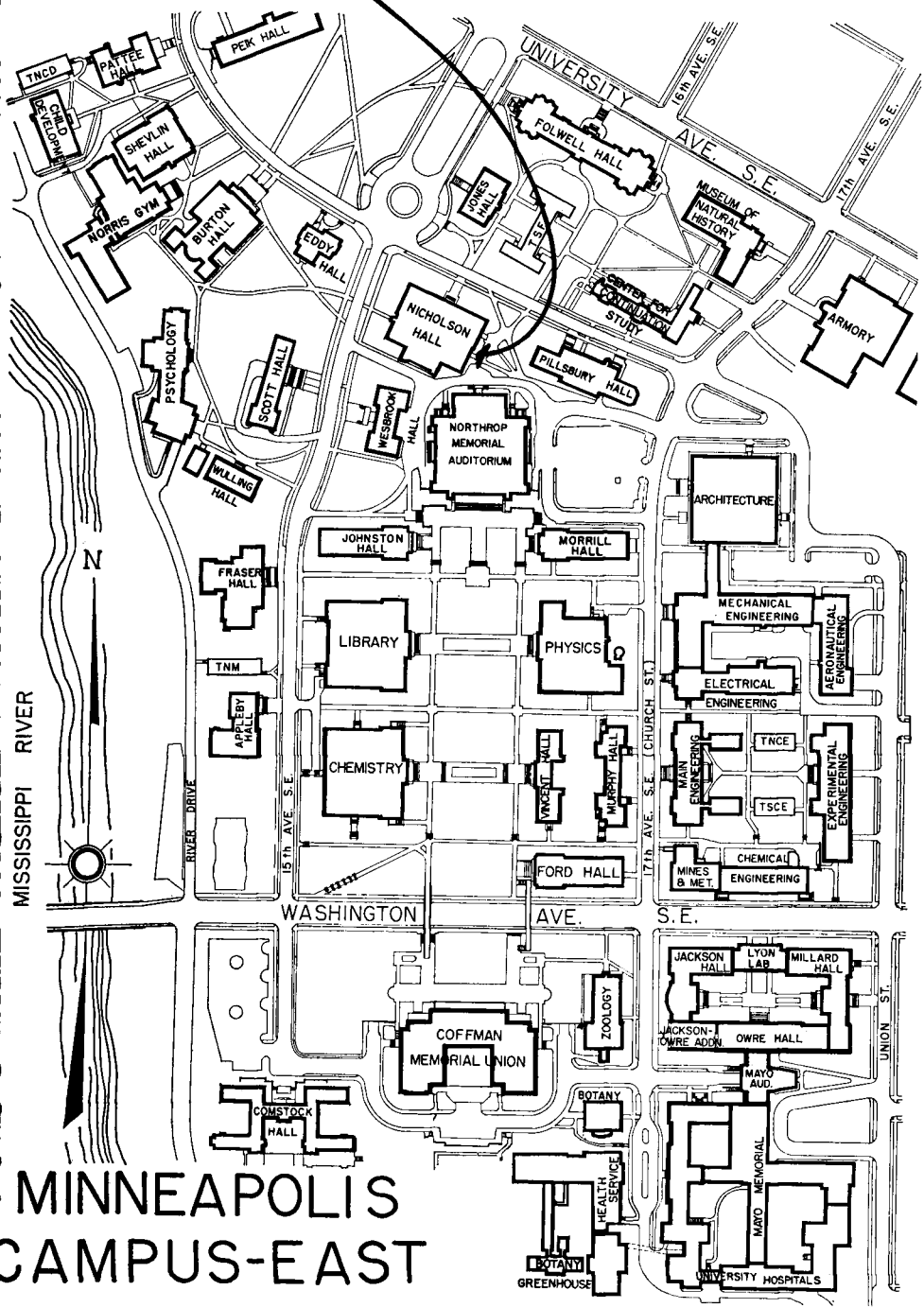
ST. PAUL CAMPUS



Dotted lines and numbers show bus routes.



The MAIN OFFICE of the GENERAL EXTENSION DIVISION is located in NICHOLSON HALL. Students should use entrance immediately behind NORTHROP AUDITORIUM.



MINNEAPOLIS CAMPUS-EAST

How to Register for Classes Listed in This Bulletin

You may register for any class listed in this bulletin by (1) filling out one or more of the four appropriate registration forms plus one class card for each class plus one addressograph and tally card; (2) having your forms tallied at the proper tally desk; and (3) paying your tuition fees to the cashier.

Under each class description you will find clearly stated whether the class is taught as a semester length, quarter length, or special term length class, or as a special class. You will also find listed the day, hour, building, and room number in which the class is taught, and in most cases the instructor involved. Details are as follows:

Semester length classes. Most classes in this bulletin are semester in length. The registration form to be filled out is white in color and is marked "semester." You must fill in all information requested. You may register for as many as four semester classes on this form. Then fill out one class card (blue in color) for each class, one addressograph and tally card (pink in fall—yellow in winter and spring). After the registration has been tallied at a tally desk, go to the cashier's office and pay your tuition and fees.

Quarter length classes. If you register for classes taught on the quarter basis, you use the form marked "quarter." It is green in color. Again you may register for as many as four of these classes on one form. Then fill out one class card (blue in color) for each class; also, one addressograph and tally card (pink in fall—yellow in winter and spring). Have all forms tallied. Pay the cashier.

Special term length classes. If you register for classes taught on a special term basis you use the form marked "special." Again you may register for as many as four of these classes on one form. It is salmon in color. Then fill out one class card (blue in color) for each class; also, one addressograph and tally card (pink in fall—yellow in winter and spring). Have all forms tallied. Pay the cashier.

Special class. If you register for a class that is taught as a special class, you use the form marked "Special Class." It is blue in color. Don't confuse these classes with those marked special term. You can register for only one "special class" on each special class form. Incidentally, *all recreation classes are special classes.* Again you will need to fill out a class card (blue in color) and an addressograph and tally card (pink in fall—yellow in winter and spring). After you have had the forms tallied, pay the cashier.

Remember that all forms have a name and color. *Semester*—white; *quarter*—green; *special term*—salmon; *special class*—blue. Class cards are 3 x 5 inches and blue. Addressograph and tally card—pink in fall and yellow in winter and spring.

All forms are multiple forms. You must use a ball point pen and press hard.

11-17

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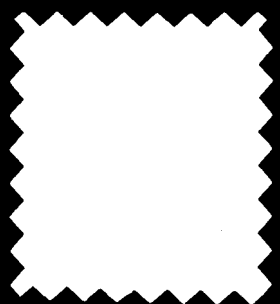
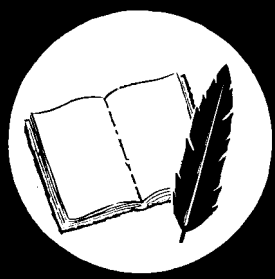
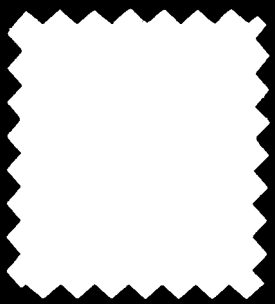
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GENERAL EXTENSION DIVISION

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**CORRESPONDENCE
STUDY COURSES**

1964 - 1966



UNIVERSITY of MINNESOTA BULLETIN

THE GUIDE TO CORRESPONDENCE STUDY

The Correspondence Study Department is a member of the Correspondence Division of the National University Extension Association. The Division publishes a **GUIDE TO CORRESPONDENCE STUDY** which lists correspondence courses offered from 62 colleges, universities, and comparable educational agencies. It is available from the Business Office: National University Extension Association, 122 Social Science Building, University of Minnesota, Minneapolis, Minnesota 55455. For single copies, the cost is 25 cents.

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September 1, 1964

UNIVERSITY OF MINNESOTA BULLETIN

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CORRESPONDENCE STUDY DEPARTMENT

Application Blank—page 65
How to Study Course—page 49
Index—inside back cover
Refunds—page 4
Military Personnel and Veterans—page 5

General Information

Location

The Correspondence Study Department is a part of the General Extension Division which is housed in the east wing of Nicholson Hall on the Minneapolis Campus. The main office is in room 254 Nicholson Hall. The telephone number is 373-3256.

Eligibility

The University's correspondence courses are open to everyone who can handle them successfully, but the department reserves the right to (a) discontinue any courses if materials, textbooks, or instructors are not available, and (b) cancel any registration for cause.

Cost

Tuition fees are \$10 per credit hour plus a \$3 per course fee for registrations originating outside of Minnesota. The tuition fee for each course is stated in the course description section of this bulletin. Some courses have a material fee. Textbooks are not included in the tuition cost. Fees are subject to change without notice.

Applicants, except military personnel, living outside Minnesota must add the \$3 per course fee to their remittance. (See Application Blank in the back of this bulletin).

Books

It is not feasible to list the required textbooks or costs in this bulletin because book prices are not stable and are subject to change. The required books are listed in the introduction to each course study guide and a list of the textbooks for any course will be sent on request.

The Nicholson Hall Bookstore, University of Minnesota, has made a special effort to stock books required in correspondence courses, but texts may be purchased from other campus bookstores or from the publishers. With your study guide you will find an order blank for Nicholson Hall Bookstore. Complete the blank on the basis of the required textbooks and materials listed in the introduction to the study guide. Attach remittance, using the prices in the study guide plus 50 cents per course to

cover the cost of mailing and handling, and send to Nicholson Hall Bookstore, University of Minnesota, Minneapolis, Minnesota 55455.

Students must purchase or have constant access to the required textbooks and materials. Contact the bookstore regarding partial refunds on your texts when the course has been completed.

Registration

Complete the Application Blank that is on page 65 of this bulletin and send it with the proper fee to the Correspondence Study Department, University of Minnesota, Minneapolis, Minnesota 55455. Payment should be made by post office or express money order, personal check, or draft. Make remittance payable to the University of Minnesota for the *exact* amount of the fee.

With the acceptance of the application and the mailing of lesson materials, the student is enrolled.

No receipts for payments by check or money order will be issued unless requested. No receipts will be issued for cash payments of less than \$1.

Beginning Date

A correspondence course may be started at any time, as the department operates throughout the calendar year. This is an advantage of home study.

Completion Date

You have 1 year from the date of registration for completion of your course. Students, teachers, and others working against a deadline for submission of credits must take full responsibility for arranging the work in such a manner as to allow ample time for their final grade. No 3-credit course is to be completed in less than 6 weeks from receipt of the first lesson, except as approved by the director, subject matter department, and instructor.

Reinstatements

If a correspondence course is not completed in 1 year, reinstatements are provided as follows:

First 6-month extension for a fee of \$2 per course.

Second 6 months, or for any subsequent 6-month extension, a fee of \$3 per course

Lesson Service

At least 1 week is required for an assignment to be received on campus, read, and graded, and returned to the department for distribution to the student. Note that "postage due" mail is delayed at least 2 days.

The department will make every effort to provide reasonable and prompt lesson service throughout the calendar year. Service may become delinquent, however, due to circumstances over which the department has no control. A critical period may be during the summer months or vacation periods when some lessons must be sent to off-campus addresses.

Credits

Degree Credit—Most of the courses in this bulletin are listed for credit toward a degree in the appropriate college of the University of Minnesota, subject to limita-

tions mentioned in this bulletin. *Credits are not applicable in the Graduate School.* The credits are *quarter credits*: 3 quarter credits equal 2 semester credits.

Extension Credit—A few courses are listed for Extension credit only. Such courses *cannot* be used in degree programs at the University of Minnesota or for teacher's certification from the Minnesota State Department of Education. Extension credits can be used only in Extension certificate programs.

Transfer of Credits and Transcripts

The Extension clerk in the University Office of Admissions and Records has an official record of credits and grades earned by correspondence study. Grades and credits are transferred to other University records only on request. Such requests are made at the time of the final examination. Transcripts can be requested through the Extension clerk or the Transcript Division, Office of Admissions and Records.

Students transferring credits to other universities and colleges should write to the Transcript Division or the Extension clerk for official grades. Make certain that you indicate your credits were earned in correspondence study. (Note: Many colleges and universities will accept credits earned through correspondence, but the amount and application varies with each institution. The student should check the credit policy of the school from which he expects to receive transfer credit for correspondence work.)

Program Advising

Advisers in the department will assist in the selection of courses and programs of study leading to occupational or educational objectives. They will also assist in making contact with advisers in the resident colleges at the appropriate stage of the educational program.

When you write or call for such advice, please give full information about your past training, educational and occupational experience, and your objectives.

Examinations

To earn credit in a correspondence course the student must pass the final examination.

All supervised examinations may be taken at the following offices or under the supervision of the following individuals; but the department reserves the right to approve or reject any supervisor.

1. Correspondence Study Department, 254 Nicholson Hall, University of Minnesota.
2. General Extension offices in Minneapolis, St. Paul, or Duluth.
3. Correspondence Study Department at any institution affiliated with the National University Extension Association (write for list).
4. School superintendent or principal; college instructor or administrator at an accredited institution.
5. Commissioned officers (for military personnel only).

Refunds

To receive a partial refund of tuition, the student must make application within 6 months from the date of registration. This application must be submitted prior to the completion of half of the lessons in the course.

If the student is eligible for a refund, 20 per cent of the cost of the course and \$1.60 for each lesson serviced are nonrefundable from the tuition fee.

High School Courses

This bulletin carries only a listing of high school courses (see page 62). A more complete course description is contained in a separate high school bulletin.

These courses, with the approval of the local school authorities, may be used toward the completion of requirements for graduation from high school. The diploma, however, is granted by the local school, not the University.

High school deficiencies for admission to universities and colleges can be rectified by approved correspondence courses. See the high school bulletin for details.

Military Personnel

Most of the courses in this bulletin are offered under special contract with the United States Armed Forces Institute. Under this contract, eligible military personnel can save more than half of the cost of each course. Write to the Correspondence Study Department for special USAFI folder or to USAFI Headquarters, Madison 3, Wisconsin.

Veterans

Courses in this bulletin have been approved under Public Law 550 (Korean Bill). Educational benefits under legislation will terminate on January 31, 1965. Write to the Correspondence Study Department if you have questions.

Teachers' Certificates

With some limitations, correspondence courses may be used to acquire and renew teachers' certificates. Note that the Correspondence Study Department can only provide the courses and *cannot evaluate teaching or educational experience for a certificate.*

Questions concerning the regulations related to teachers' certificates should be directed to the State Department of Education or similar agency. (In Minnesota—Director of Teacher Personnel, 4th Floor, Centennial Building, St. Paul 1.)

Grades

There are four permanent passing grades, A (highest), B, C, and D (lowest), which are acceptable for the completion of a course.

There is a permanent grade of F (failure) indicating unsatisfactory completion of a course.

Official grade reports are sent by the Office of Admissions and Records.

Course Transfers

A student may transfer from one correspondence course to another correspondence course within 6 months from the date of registration. The transfer fee is \$2 per course and the student pays \$1.60 for each of the completed lessons. The balance of the original fee is applied to the tuition for the new course. The second course must be completed within the year from the original registration date, or be reinstated. When a transfer is recommended by this department, there is no charge, except for lessons serviced.

Transfers cannot be made from one individual to another.

Permits

Students, including University of Minnesota students, expecting to earn additional credit through correspondence instruction, should have the permission of their adviser or registrar. Submit approval with correspondence application or write for permit blank.

Tapes and Recordings

Special records and tapes have been prepared to cover basic pronunciation for nearly all of the language courses in this bulletin. The size and content of each record varies. Recording are sold at cost. No refunds are made on tapes or records.

Miscellaneous Information

Postage—The student prepays postage on all mail sent to the University; return mail to the student is prepaid by the Correspondence Study Department by surface mail rates.

Air Mail Service—For airmail service, add to registration fee:

Africa	\$10.00	Central America	\$ 5.00
Near and Far East	10.00	Canada	3.50
Europe	5.00	Mexico	3.50
South America	5.00		

Any balance upon completion of the course will be refunded.

Maximum Registration—It is recommended that a student enroll for no more than two courses at one time. Exceptions will be made on the basis of individual circumstances.

Noncredit Registration—A noncredit registration is made by writing "noncredit" in the credits column on the application blank. Noncredit students need not complete the examinations but must pay the regular fees.

Course Numbers—In general, courses listed for University credit numbered below 50 are completed during freshman and sophomore years (Lower Division), courses numbered 50 or above during the junior and senior years of college (Upper Division).

Tuition Assistance Fund—Through the Correspondence Tuition Assistance Fund a limited amount of money is available to offset the cost of tuition for those confined to institutions. Preference for assistance will be given to residents of Minnesota; but all applications will be considered. The fund is supported by contributions. You are invited to participate in this work, and contributions or inquiries should be sent to the Correspondence Tuition Assistance Fund, Correspondence Study Department, University of Minnesota, Minneapolis, Minnesota 55455.

Working Toward a Degree by Correspondence

It is possible to meet some degree requirements by applying credits earned through correspondence study. The amount of applicable credit will depend upon the degree sought.

There are some limitations on the use of credits from the Correspondence Study Department for degrees from this University. No college of the University will grant a degree without a minimum of 1 year (45 quarter credits) of on-campus study. In some colleges all or nearly all of the credits for the senior year must be earned on

campus. Moreover, many of the required courses for both the junior and senior years are not available by correspondence.

Credits earned by correspondence do not count as resident or on-campus credits, nor do they apply toward a Master's or Doctor's degree.

In the following section are some applications of correspondence work to degree programs at the University. It is understood that a student who wishes to become a candidate for a degree must meet the admission requirements of the University and the entrance and degree requirements of the college in which the degree is sought. Consult the advisers in the department for assistance.

Credits may sometimes be transferred from one college to another, or from one accredited institution to this University, but requests for such transfers are always ruled on individually. Previous records or transcripts should be submitted at the time of inquiry.

College of Liberal Arts

Leading to B.A. degree with a minimum of 180 quarter credits

All of the requirements (except the laboratory in Group D) for the first 2 years (Lower Division) could be accomplished by correspondence study.

A. Freshman English

Engl A-B-C (Freshman Literature and Composition, composition portion, 6 credits) or Engl 1A-2A-3A (Freshman English, composition portion, 6 credits) or Engl 1B-2B-3B (Freshman English, composition portion, 9 credits) or Comm 1-2-3 (Communication) (12 credits) or exemption from the requirement. All students are required to have an English Classification Card before registration for one of these courses. (Only 1B-2B-3B offered by correspondence)

B. Foreign Language. From 0 to 15 credits according to the following schedule:

<i>Amount Presented from High School</i>	<i>Additional Amount Required in College</i>
None	15 credits in one language
1 year	(a) 10 college credits at a higher level in the same language, <i>or</i> (b) 15 college credits in a different language
2 years in one language	(a) 5 college credits at a higher level in the same language, <i>or</i> (b) 10 college credits in a different language
3 or more years in one language	No college requirement if the high school work is validated by the appropriate college department
2 years in each of two languages	No college requirement if one language is validated at the 2-year level by the appropriate college department

C. Social Science

At least 15 credits in two or more of the following departments. At least 5 credits must be offered in any one department to count.

- | | |
|--|--|
| 1. Anthropology | 5. Political Science |
| 2. Economics and Business Administration | 6. Psychology |
| 3. Geography | 7. Sociology |
| 4. History | 8. Social Science (Interdisciplinary Programs) |

D. Natural Science

At least 15 credits (of which a minimum of 8 must be in courses that include laboratory) from two or more of the following four groups. At least 5 credits must be offered in any one department to count.

1. Biological sciences: Botany, psychology, zoology, General Biology (Biol 1-2 or 1A-2A)
2. Physical sciences: Astronomy, chemistry, earth sciences (geology), physics, Physical World (NSci 4-5, or old NSci 4-5-6)

3. Mathematics (except Math 5, 20)
4. Orientation in the Natural Sciences (NSci 1-2-3)
(A student presenting credit in only NSci 1-2 must take his additional work in other than group D2)

E. Humanities

At least 15 credits from two or more of the following categories. At least 5 credits must be offered in any one department to count.

- | | |
|---|--|
| 1. Art | 6. Humanities |
| 2. English literature (including literature portions of freshman English courses) | 7. Mathematics (except Math 5, T, 20) |
| 3. Classics | 8. Music |
| 4. Foreign literature | 9. Philosophy |
| 5. History | 10. Speech and theatre arts (except Spch 6, 6A, 9, and 39) |

F. Health

PubH 2 (Personal and Public Health, 2 credits) or PubH 3 (Personal Health, 2 credits) or PubH 50 (Personal and Community Health, 3 credits) or equivalent.

G. Electives: Additional credits to make a total of 90.

Note—Correspondence courses may be applied toward a degree and may be used in the major with the consent of the major department.

School of Business Administration

Leading to B.S.B. degree with a minimum of 180 quarter credits

Nearly all the requirements in the prebusiness curriculum can be satisfied by correspondence courses.

Prebusiness Course Requirements for the B.S.B. Degree

1. **Business and Economics:** Acct 24-25-26, Principles of Accounting; Econ 1-2, Principles of Economics; QA 5, Elements of Statistics.
2. **Freshman English:** Engl A-B-C; or Engl 1A-2A-3A; or Engl 1B-2B-3B; or Comm 1-2-3; or GC 31A, 31B, and 31C or 31D (with required score); or exemption (only 1B-2B-3B offered by correspondence).
3. **Mathematics:** Math 10 or 15 or equivalent (college algebra).
4. **Social Sciences:** 15 credits in two or more of the following departments (at least 5 credits must be taken in each department used to satisfy this requirement): anthropology, geography, history, political science, psychology, sociology (except Soc 45). SSci 1-2-3 and 5 credits in one of the above departments will satisfy this requirement.
5. **Natural Sciences:** 8-10 credits in a single natural science to be selected from botany, chemistry, geology, physics, zoology, NSci 4-5-6. All courses must include laboratory.
6. **Humanities:** 10 credits in two or more of the following departments (at least 5 credits must be taken in each department used to satisfy this requirement): art, English literature, foreign literature, history, humanities, music, philosophy, speech and theatre arts (except Spch 3, 6, 9, and 39), one foreign language.
7. **Electives:** Sufficient to complete the minimum of 90 credits required for admission.

Students planning to enter the accounting program are required to complete the following courses in addition to those specifically listed above: Comp 27, Advanced Writing; Math 40, Introduction to Calculus, or equivalent.

The School of Business Administration also offers the degree of bachelor of science in economics. Consult the *Bulletin of the School of Business Administration* for more information on all of these programs.

Note—No more than 12 credits of *required* Upper Division courses (numbered 50 and above) may be earned through correspondence study. Since the B.S.B. Regular

Program graduation requirements include 78 required credits of Upper Division course work, no more than 12 of these may be earned through correspondence study.

Institute of Technology

(College of Engineering, School of Architecture, School of Chemistry, School of Mineral and Metallurgical Engineering, School of Physics and Astronomy, School of Earth Sciences, School of Mathematics)

Leads to degrees in aeronautics and engineering mechanics; agricultural, civil, electrical, geological, mechanical, metallurgical, and mining engineering; chemistry, chemical engineering; applied mathematics; architecture; physics.

About 255 quarter credits are needed for a degree in the Institute of Technology.

The first-year curriculum is the same for all students in the College of Engineering, School of Architecture, and some other units within the institute. The common first year of the College of Engineering is listed here to assist in guiding those who must or wish to begin their work through correspondence study. (See the *Bulletin of the Institute of Technology* for more details and the complete curriculum).

IT First-Year Curriculum

(Credits shown in parentheses)

Math (IT) 13A (21), 24A (22), 25A (23)—Calculus I, II, and III: Calculus and Analytic Geometry (5-5-5)
EG 25—Engineering Graphics (4)

Engl A-B-C, or 1A-2A-3A, or 1B-2B-3B—Freshman English (4-4-4)
Phys 11-12-12A-13—General Physics (5-5-5-5)

Note that all of the first-year subjects, except physics, can be completed by correspondence.

Following is a list of the correspondence courses that may be used for full credit in the Institute of Technology.

Engl 1B-2B-3B—Freshman English
EG 25—Engineering Graphics
Math (IT) 13A (21)—Calculus I: Analytic Geometry and Calculus
Math (IT) 24A (22)—Calculus II: Analytic Geometry and Calculus
Math (IT) 25A (23)—Calculus III: Analytic Geometry and Calculus

Math (IT) 26A (31, 32)—Calculus IV: Differential Equations and Calculus
MM 27—Rigid-Body Mechanics I
MM 28—Rigid-Body Mechanics II
CE 146—Concrete and Concrete Materials

Note—Elementary and intermediate algebra and plane and solid geometry and trigonometry (4 high school units) are prerequisites for the college level courses that begin with Math 13A. For specific prerequisites, see course descriptions. Deficiencies in preparatory subjects may be made up by correspondence study.

Most of the required credits in the social-humanistic area (Groups II and III) may be satisfied by selecting correspondence courses in history, economics, psychology, philosophy, humanities, and English. Consult the *Bulletin of the Institute of Technology* or write the Correspondence Study Department.

College of Education

Leading to B.S. degree with a minimum of 186 quarter credits

Because of the variety of programs offered in this college it is not feasible to present a specific curriculum and to indicate appropriate correspondence courses. Here are two general suggestions that may be helpful.

1. If you have had no college experience, the 2-year program listed under the College of Liberal Arts could be used as a guide in completing many of the basic requirements in this college.

Several credits must be earned in academic subjects, and these credits may be transferred to the College of Education.

2. Those with 2 or more years of college work should write to the College of Education or to the Correspondence Study Department for guidance. Some correspondence courses will apply on professional or academic requirements.

College of Agriculture, Forestry, and Home Economics and College of Veterinary Medicine

Leading to B.S. degree or other Bachelor's degrees with a minimum of 192 quarter credits

There are a number of programs within these colleges and no specific curriculum can be listed. Correspondence courses, however, may satisfy several general academic requirements as well as provide elective credits. The English, social science, humanities, personal health, and other requirements can be done through correspondence instruction. For additional information write to the Correspondence Study Department or to the College Office, Coffey Hall, University of Minnesota, St. Paul, Minnesota 55101.

General College

The General College of the University offers a 2-year program of liberal and general studies leading to the associate in arts degree. Credits earned in correspondence study can be used in this college in two important ways:

Admission—The General College is open to any resident of Minnesota who is a graduate of an accredited high school. Consideration is occasionally given to applications for admission submitted by non-high school graduates for whom return to secondary school seems inappropriate. Successful completion of correspondence courses in composition and mathematics will strengthen such applications, because the work will serve as a review, provide a basis for advanced courses, and give evidence of ability to succeed in college classes.

Graduation—The requirements for the associate in arts degree earned through the General College are unusually flexible: 90 credits of passing work, and satisfactory achievement as measured by a comprehensive examination. At least 1 year of study (totaling 45 credits) must be spent in residence. Credits earned in correspondence study courses can be applied toward the associate in arts degree if they are earned in Lower Division courses carrying degree credits which do not duplicate work completed in residence. The number of correspondence study course credits to be applied toward the degree depends upon a student's performance on the comprehensive examination. Information can be obtained from the Office of the Dean, General College, 106 Nicholson Hall.

College of Medical Sciences and College of Pharmacy

No professional courses are offered by correspondence.

Several elective and some required courses in the premedical, pre dental, and prepharmacy curriculums could be done by correspondence instruction. Required courses in the basic sciences are ordinarily not offered by home study. Write to the Correspondence Study Department for additional details.

Law School

It is recommended that students applying for admission to the University of Minnesota Law School obtain a Bachelor's degree from an accredited college or university. In this 4-year program the student may apply a *maximum* of 45 quarter credits that have been earned from accredited correspondence courses.

Students seeking admission to the Law School upon completion of a special 3-year prelaw course, *cannot* use credits earned through correspondence study. The special 3-year program *must be completed in residence*.

Students expecting to attend another law school should contact that school for admission requirements.

No accredited college or university attempts to teach professional law courses by correspondence.

Graduate School

The University of Minnesota will not accept correspondence courses for advanced degrees; that is, Master's or Doctor's degree. Graduate students may, however, use these courses to satisfy undergraduate requirements or for subject matter content, or for German language requirements (see page 37).

School of Nursing

Leading to B.S. degree with a minimum of 255 quarter credits.

1. Those with no college experience and no professional training might use the 2-year curriculum in the College of Liberal Arts as a guide in completing many of the requirements in prenursing. (Some of the required courses in chemistry, zoology, and physical education are not offered by correspondence study.) (See page 9.)

2. Graduate professional nurses seeking a degree can satisfy general requirements with the following correspondence courses:

(Credits shown in parentheses)

Engl 1B-2B-3B—Freshman English (12)
Sociology (6)

Psy 1-2—General Psychology (6)
CPsy 80—Child Psychology (3)

Note—There are a number of nursing programs with a variety of requirements. It is recommended that the student contact the School of Nursing for details.

Certificates

The General Extension Division, of which the Correspondence Study Department is a part, awards certificates for satisfactory completion of approved programs. The work may be done by correspondence courses, evening classes, or both. Day school or Summer Session credits are approved where applicable. A student may also transfer credits from other accredited institutions, including those credits earned by correspondence study, provided the minimum of 25 per cent of the credits required for the certificate is earned at the University of Minnesota.

Certificate programs are organized at the collegiate level and students entering these courses should bring adequate educational preparation or other experience to work effectively with college materials.

The following three sections, designated as Extension Certificates, Section I-II-III, indicate those programs that are most accessible through University of Minnesota correspondence courses. The first section lists those certificates that can be earned *entirely* through completion of courses chosen from this bulletin. The second section indicates programs leading to certificates that can be *partially* accomplished by home study. In most instances, the student would have to earn credits in resident classes or have credits from accredited sources that would be applicable to the requirements. The third section indicates other certificate programs of the General Extension Division. Correspondence study can be used for some of the requirements but is the least helpful in these programs. A list of the requirements will be sent on request.

EXTENSION CERTIFICATES SECTION I

All of the requirements for the following certificates can be met by completing courses selected from this bulletin.

Liberal Arts Certificate

(45 credits)

English Requirement:

Engl 1B-2B-3B; or equivalent

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

Humanities: English composition (beyond Freshman English) or literature, fine arts, foreign languages, humanities, philosophy, speech

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

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

Concentration Requirement: at least 12 credits in one subject, or in approved related liberal arts subjects, in addition to the credits earned in that subject under the spread and English requirements above.*Electives:* additional liberal arts courses approved by the Committee on Student Scholastic Standing to make a minimum of 45 credits for the certificate.

Certificate in Engineering Mathematics and Science

(45 credits)

Core Requirements:

Basic Technical Writing I or Engl 1B

Math (IT) 13A—Calculus I: Analytic Geometry and Calculus

Math (IT) 24A—Calculus II: Analytic Geometry and Calculus

Math (IT) 25A—Calculus III: Analytic Geometry and Calculus

Math (IT) 26A—Calculus IV: Differential Equations and Calculus

Electives: additional credits approved by the Committee on Student Scholastic Standing to make a total of 45 credits, selected from the following areas:

Astronomy
Engineering Graphics
Geology
Physics

Electrical Engineering or Technology
Mechanical Engineering
Mechanics and Materials
Civil Engineering

Management of Administrative Services Certificates

The Management of Administrative Services Certificate Program has been developed by the General Extension Division in co-operation with the School of Business Administration and the National Office Management Association. In addition to the granting of the Junior or Senior Certificate by the General Extension Division on completion of the prescribed program, the student is entitled to the Junior or Senior N.O.M.A. Management of Administrative Services Certificate. (Only the Junior Certificate is available through Correspondence Study Department.)

Junior Certificate

(45 credits)

Students transferring credits from other institutions to this certificate program must take a minimum of 12 credits, including 6 credits in economics or business administration courses, at the University of Minnesota.

Core Requirement (33 credits):

- | | |
|---|---|
| Review of Business English; or Business Correspondence; or Engl 1B; or Comm 1; or exemption | Acct 24-25-26—Principles of Accounting |
| Econ 1-2—Principles of Economics | BLaw 58—Business Law: Contracts |
| QA 5—Elements of Statistics | OMgt 99—Management of Administrative Services |
| | Psy 1-2—General Psychology |

Electives: additional courses to be selected from the following:

- | | |
|--|---|
| IR 52—Modern Industrial Relations: Labor Marketing | BFin 56—Corporation Finance |
| IR 72—Modern Industrial Relations: Manpower Management | Acct 55C—Managerial Costs ‡ |
| Ins 53—Insurance Principles | Acct 55D—Analysis of Financial Statements ‡ |
| | BLaw 88—Business Law |

World Affairs Certificate

(45 credits)

This certificate is offered in co-operation with the University of Minnesota World Affairs Center, and approved by the Interdepartmental Committee on International Relations and Area Studies. Students transferring credits to this certificate program from other accredited institutions must take a minimum of 15 credits from the University of Minnesota, including at least 9 credits in political science.

Core Requirement:

- | | |
|---|--|
| Pol 1-2—American Government and Politics | Hist 95—American Diplomatic History |
| Pol 7C—Comparative European Governments | Hist 120E—Russian History III |
| Pol 25—World Politics | Pol 94—The Far East in International Relations |
| Pol 4C—United Nations | |
| Hist 20 or 21 or 22—American History I or II or III | |

Recommended:

Foreign Language—5 credits or equivalent

Electives: selected from the following to make a total of 45 credits:

- | | |
|---|--|
| Anth 1A or 2A—Introduction to Anthropology | Pol 26—American Foreign Policy |
| Anth 12S—Islam in Africa | Hist 118G—The Modern Near East: The Balkans and the Arab World I |
| Econ 1-2—Principles of Economics | Hist 147A—Latin America in the Twentieth Century |
| Engl 4C—Masterpieces of World Literature | Pol 89—Japanese Government and Politics |
| Hist 1 or 2 or 3 or 8C—Civilization in the Modern World (or) Foundations of Modern Civilization | Soc 1—Introduction to Sociology |
| Hist 93—American Diplomatic History I | Soc 120—Social Psychology |
| Pol 55—Government of the Soviet Union | Your Trip to Europe (Preparation for) |

Business Administration Certificates

Junior Certificate

(45 credits)

This certificate, requiring the satisfactory completion of 45 credits of course work, offers a firm grounding in most of the basic fields of business administration. All of the credits received in completing the Junior Certificate are automatically credited toward a Senior Certificate and represent half of its required work load.

‡ Not offered by correspondence.

Students transferring credits from other institutions to this certificate program must take a minimum of 18 credits, including 12 credits in economics or business administration courses, at the University of Minnesota.

Prebusiness Requirement (35 credits):

Engl 1B-2B-3B; or Comm 1-2-3; or exemption	Acct 24-25-26—Principles of Accounting
Econ 1-2—Principles of Economics	Math 10—College Algebra
QA 5—Elements of Statistics	Math (CLA) 15—College Algebra or equivalent

Core Requirement (12 credits): Four courses selected from the following:

Prod 50—Production Management	Mgmt 60—Business Policy and Management Control ‡
QA 51—Business Statistics	Econ 65—Intermediate Economic Analysis I: The Firm and Industry ‡
IR 52—Systems of Industrial Relations: Labor Marketing	Econ 66—Intermediate Economic Analysis II: Income and Employment
Ins 53—Risk Management and Insurance	Econ 67—Money and Banking
Tran 54—Transportation I: Principles ‡	Econ 69—Government Regulation of Business ‡
BFin 56—Corporation Finance	
Mktg 57—Principles of Marketing ‡	
BLaw 58—Business Law: Contracts	

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

Senior Certificate

(90 credits)

Students transferring credit from other institutions to this certificate program must take a minimum of 30 credits, including 18 credits in economics or business administration courses, at the University of Minnesota.

Prebusiness Requirement (35 credits):

Engl 1B-2B-3B; or Comm 1-2-3; or exemption	Acct 24-25-26—Principles of Accounting
Econ 1-2—Principles of Economics	Math (CLA) 10 (or 15)—College Algebra (or equivalent)
QA 5—Elements of Statistics	

Core Requirement (18 credits): six courses selected from the following:

Prod 50—Production Management	Mgmt 60—Business Policy and Management Control ‡
QA 51—Business Statistics	Econ 65—Intermediate Economic Analysis I: The Firm and Industry ‡
IR 52—Systems of Industrial Relations: Labor Marketing	Econ 66—Intermediate Economic Analysis II: Income and Employment
Ins 53—Risk Management and Insurance	Econ 67—Money and Banking
Tran 54—Transportation I: Principles ‡	Econ 68—Elements of Public Finance ‡
BFin 56—Corporation Finance	Econ 69—Government Regulation of Business ‡
Mktg 57—Principles of Marketing ‡	
BLaw 58—Business Law: Contracts	

Electives in the School of Business Administration: At least 12 additional credits in courses in business administration. These may be selected from the core group above or from other courses.

Other Electives:

- A. Satisfactory completion of the prebusiness degree requirements in either social sciences, natural sciences, or humanistic courses (see items 4, 5, and 6 on page 8).

‡ Not offered by correspondence.

B. Additional courses approved by the Committee on Student Scholastic Standing to make a minimum of 90 credits for the certificate.

EXTENSION CERTIFICATES SECTION II

The following certificate programs can be partially completed with appropriate courses from this bulletin. Students would have to present acceptable equivalent credit for some of the required courses or sequence of courses. Each of the sequences marked with the symbol # is NOT listed in this bulletin.

Accounting Certificates

Junior Accounting Certificate

(45 credits)

Students transferring credits to this certificate program from other institutions accredited by the University of Minnesota must take a minimum of 15 credits in accounting courses at the University of Minnesota.

Requirements:

Engl 1B-2B-3B; or Comm 1-2-3; or exemption	Acct 24-25-26—Principles of Accounting
Econ 1-2—Principles of Economics	Acct 105A-B-C—Intermediate Accounting #
BFin 56—Corporation Finance	Acct 115A-B—Cost Accounting #

Senior Accounting Certificate

(91 credits)

Students transferring credits to this certificate program from other institutions accredited by the University of Minnesota must take a minimum of 27 credits in accounting courses at the University of Minnesota.

Requirements:

Math 10 (or 15) and 40 (or 42) or equivalent	Two courses from the following:
Engl 1B-2B-3B; or Comm 1-2-3; or exemption	Prod 50—Production Management
Comp 27—Advanced Writing	IR 52—Systems of Industrial Relations: Labor Marketing
Acct 24-25-26—Principles of Accounting	Ins 53—Risk Management and Insurance
Acct 105A-B-C—Intermediate Accounting #	Tran 54—Transportation I: Principles #
Acct 115A-B—Cost Accounting #	Mktg 57—Principles of Marketing #
Three additional accounting courses numbered 100 or above	Econ 65—Intermediate Economic Analysis I: The Firm and Industry #
BFin 56—Corporation Finance	Econ 66—Intermediate Economic Analysis II: Income and Employment
Econ 1-2—Principles of Economics	Econ 67—Money and Banking
QA 5—Elements of Statistics	Econ 68—Elements of Public Finance #
QA 51—Business Statistics	Econ 69—Government Regulation of Business #
BLaw 58—Business Law: Contracts	
BLaw 78-88—Business Law (or approved substitutions in industrial management or industrial engineering)	

Secretarial Certificate

(45 credits)

The Secretarial Certificate is awarded to those who, in addition to the necessary skills and experience in typewriting and shorthand, have completed a selection of

Not offered by correspondence.

courses appropriate to a background in business administration, such as needed for qualifying for Certified Professional Secretary examinations. Candidates for the certificate must take a test in transcription under the supervision of the secretarial faculty in the School of Business Administration.

Students transferring credits to this certificate program from other institutions accredited by the University of Minnesota must take a minimum of 12 credits at the University of Minnesota.

Core Requirement (36 to 39 credits):

Review of Business English and Business Correspondence; or Comp 58, Business Reports and Letters #	BLaw 58, 88—Business Law
Econ 1-2—Principles of Economics	OMgt 79A—Administrative Secretarial Studies #
Acct 24-25—Principles of Accounting	OMgt 99—Management of Administrative Services
OMgt 36—Office Procedures #	Psy 1-2—General Psychology

Electives: Additional courses selected from the following or other approved courses to make a minimum of 45 credits total for the certificate.

QA 5—Elements of Statistics	Econ 67—Money and Banking
Acct 26—Principles of Accounting	BLaw 78, 98—Business Law
Ins 53—Risk Management and Insurance	OMgt 79B—Administration Secretarial Studies #

Industrial Relations Certificate

(48 credits)

Students transferring credits to this certificate program from other institutions accredited by the University of Minnesota must take a minimum of 15 credits in industrial relations courses at the University of Minnesota.

Core Requirement (42 credits):

Econ 1-2—Principles of Economics	One of:
IR 52—Systems of Industrial Relations: Labor Marketing	Econ 152—Economic History of Labor #
IR 72—Systems of Industrial Relations: Manpower Management	IR 162—Union Government and Policies #
IR 182A—Intermediate Labor Marketing #	One of:
IR 182B—Intermediate Manpower Management #	Econ 192—Economics of Collective Bargaining #
Psy 1-2—General Psychology	IR 142—Conflict and Collective Bargaining #
Psy 122-123—Vocational Development and Personnel Psychology #	One of:
One of:	Econ 172—Labor Market Behavior and Regulation
Psy 70—Principles of Psychological Measurement #	Econ 182—Economic Security
QA 5—Elements of Statistics	

Electives (any two courses from the following):

QA 5—Elements of Statistics	Psy 144-145—Abnormal Psychology
Econ 172—Public Policy: Labor Relations	Soc 120—Social Psychology
Econ 182—Economic Security	IR 30c—Supervision I
Prod 50—Production Management	ME 17c—Industrial Plant Layout
OMgt 99—Management of Administrative Services	ME 18c—Motion and Time Study Engineering

Not offered by correspondence.

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 Department of Industrial Relations.

Public Administration Certificate

(45 credits)

Students transferring credits to this certificate program from other institutions accredited by the University of Minnesota must take a minimum of 12 credits in public administration courses at the University of Minnesota.

Core Requirement (15 credits):

- | | |
|--|--|
| Pol 1-2—American Government and Politics | Pol 62—Public Personnel Administration |
| Pol 60—Organization and Management | Pol 63—Public Financial Administration ‡ |

Spread Requirement: At least 15 credits in the following courses:

- | | |
|--|--|
| Pol 58—Governmental Accounting | Pol 73—City and County Planning ‡ |
| Pol 61—Municipal Law and Administration ‡ | Pol 76—Business and Government ‡ |
| Pol 66—Problems of Public Administration ‡ | Pol 78—Administrative Responsibility ‡ |
| Pol 67—Administrative Analysis ‡ | Jour 78—Public Relations Principles |
| Pol 68—Administrative Communication ‡ | QA 5—Elements of Statistics |

Concentration Requirement: At least 15 credits in one of the following fields or in any approved combination thereof to make a minimum of 45 credits total for the certificate.

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

Basic Engineering Certificate

(52 credits)

Prerequisite: High school graduate or equivalent; 2 years of algebra and 2 years of geometry including solid geometry and trigonometry; and satisfactory completion of the English Placement Test.

The Basic Engineering Science Certificate Program is designed to provide the student with the fundamentals of mathematics, drawing, physics, and English which will enable him to handle basic engineering drafting assignments in any engineering field and will give him the necessary background for more specialized or advanced study either as an engineer or as an engineering technician. All classes in the Basic Engineering Science Certificate Program carry degree credit, representing the first year of required course work for an engineering degree.

Note that college level physics, including laboratory, are required and not usually offered by correspondence study. Ordinarily this requirement can be satisfied only by resident classes in an accredited university or college.

The requirements for the Basic Engineering Science Certificate Program are listed below. No electives or substitutions are permitted in this program, nor will any prerequisite be waived. Credits earned in day school applicable to this program can be

‡ Not offered by correspondence.

transferred. Transcripts of credits earned at other institutions of higher learning will be evaluated by the Advanced Standing Office of the University of Minnesota. Transfer of approved credits will be permitted. Certificates are awarded to students who complete with a minimum C average the prescribed program of study.

Math 13A (21)—Calculus I: Calculus and Analytic Geometry
 Math 24A(22)—Calculus II: Calculus and Analytic Geometry
 Math 25A (23)—Calculus III: Calculus and Analytic Geometry

EG 25—Engineering Graphics
 Phys 11-12-12A-13—General Physics ‡
 Engl 1B-2B-3B—Freshman English

Electives: Courses from nontechnical or biological science electives, †† to make a minimum of 52 credits.

EXTENSION CERTIFICATES SECTION III

Below is listed other certificate programs of the General Extension Division. Correspondence courses are the least helpful in meeting these requirements, but some of the courses are offered through home study. A list of the requirements for these certificates will be sent on request.

- Senior Management of Administrative Services Certificate (90 credits)
- Senior Engineering Science Certificate (102 credits)
- Senior Civil Engineering Technician Certificate (102 credits)
- Senior Electrical Engineering Technician Certificate (102 credits)
- Senior Industrial Engineering Technician Certificate (102 credits)
- Senior Mechanical Engineering Technician Certificate (102 credits)

‡ Not offered by correspondence.

†† Institute of Technology nontechnical or biological science electives may be chosen from the following: Psy 1-2, 155; Biol 1-2; Econ 1-2, 172; IR 52; Pol 1-2, or 5, or A-B, 25; Soc 1-2, 14 or 104; SSci 1-2-3; Hum 51, 52, 53 or 21, 22, 23, or 71, 72, 73; Hist 20, 21, 22 or 79, 80, 81; philosophy; Engl 37, 38, 39; foreign language, except scientific language courses; religion.

College Courses

Note—There is a \$3 per course fee for registrations originating outside of Minnesota, except military personnel. The letter (c) after the number of a course means that there is no parallel campus course or that the correspondence course is a modification of the campus course for extension purposes. Credits are quarter credits unless otherwise listed. Three quarter credits are equivalent to 2 semester credits.

AGRICULTURE

Truman Nodland, Professor of Agricultural Economics

Mykola H. Haydak, Associate Professor of Entomology and Economic Zoology

A4. Beekeeping. Useful to the nonexperienced and experienced beekeeper. Some of the topics considered are: the study of the honey bee colony and of the individual bee, fundamentals of bee behavior, the value of bees in pollination, colony development, apiary management, and preparation of honey and wax for market. (No prerequisite)

Haydak — 3 Extension credits only — \$30 — 16 lessons

AgEc 80. Farm Accounting. Forms and procedure for recording inventories, cash receipts and expenses, crop acreages and yields, feed consumed by livestock, family living secured from the farm, and other information concerning the farm business. Calculation of measures of farm earnings and factors affecting earnings. (No prerequisite)

Nodland — 3 credits — \$30 — 16 lessons

Agricultural Education (Rural Education). See page 28.

Forestry. See page 35.

Home Economics (Textiles). See page 42.

Horticulture. See page 42.

Parliamentary Law. See page 49.

ANTHROPOLOGY (Anth)

Robert F. Spencer, Professor of Anthropology

Elden Johnson, Associate Professor of Anthropology

L. P. Gerlach, Assistant Professor of Anthropology

Marco Bicchieri, Teaching Assistant in Anthropology

Claude Stipe, Teaching Assistant in Anthropology

1A. Introduction to Anthropology: Prehistoric Man and Culture. Origins of man and development of modern races. Growth and differentiation of the cultures of man from the Dawn Stone Age of early glacial times through the Old and New Stone Ages to the dawn of civilization in the Bronze and Iron Ages. (No prerequisite)

Bicchieri — 5 credits — \$50 — 27 lessons

2A. Introduction to Anthropology: Cultural Anthropology. The varieties and range of human behavior as revealed through the study of primitive societies in all parts of the world. A scientific analysis of the ways in which primitive men organize their lives. (No prerequisite)

Bicchieri — 5 credits — \$50 — 27 lessons

- 80. The American Indian.** Description of physical types, languages, prehistory, and cultures of the Americas. (Prerequisite: Anth 2A or equivalent)
Stipe — 3 credits — \$30 — 16 lessons
- 90. Archaeology of North America.** A survey of the prehistoric archaeology of North America, north of Mexico. Emphasis is on analysis of the techniques, methods, and goals of prehistoric archaeology. (Prerequisite: Anth 1A)
Johnson — 3 credits — \$30 — 16 lessons
- 128. Islam in Africa.** Influence of Islam upon African people south of the Sahara. How Islam has spread through East and West Africa; why and how it has changed indigenous African cultures. (Prerequisite: Anth 2A)
Gerlach — 3 credits — \$30 — 16 lessons — Available January 1, 1965
- 165. Culture and Personality.** Role of culture in the formation of personality. Problems of individual adjustments to the demands of culture. (Prerequisite: 2A or consent of instructor)
Spencer — 3 credits — \$30 — 16 lessons — Available January 1, 1965

ART (Art) and ART EDUCATION (ArEd)

Lorenz E. A. Eitner, Professor of Art, Stanford University

Leah Lewis, Professor of Interior Design

Lucile S. Robinson, Instructor in Handcraft (Correspondence Study)

- 1. Introduction to Art.** Offers a survey of the visual arts—architecture, sculpture, painting, the graphic techniques, photography, and film—combining a broad coverage of the main periods of art-history with an exploration of fundamental problems of meaning, form, and style. It attempts to enable students to interpret works of art by relating them to their geographic, historical, and social origins and by explaining the aims which have motivated artists of the past and present. (No prerequisite)
Eitner — 4 credits — \$40 — 21 lessons
- 4(c). Design I.** Fundamental principles of design applied to a series of interesting and practical problems using a variety of techniques; a basic course that is useful in public school teaching and as a foundation for art courses. (No prerequisite)
Lewis — 3 credits — \$30 — 16 lessons
- 43A(c). General Handcrafts I.** A practical course which includes chip carving, leather work, block printing, stenciling, and puppets. Also included are projects and gift suggestions to be made from scraps of material such as paper, tin, yarn, and wire. For teachers, occupational therapists, camp and playground workers, and homemakers. (No prerequisite; may precede or follow General Handcrafts II)
Robinson — 3 credits — \$30 — 16 lessons
- 43A(c). General Handcrafts II.** Similar to General Handcrafts I, but may precede or follow the first course. Lessons cover paper sculpture, stick printing, bead weaving, glass etching, clay craft, braiding, and simple book binding. Course may be taken for 1 or 2 credits. (No prerequisite)
Robinson — 1 credit — \$10 — 6 lessons
Robinson — 2 credits — \$20 — 12 lessons
- 43B(c). Textile Crafts.** A practical course in needlework and other textile crafts such as hooked rug and braided rug making, crocheting, knitting, and simple weaving suitable for use in homes, schools, camps, playgrounds, social service, and for those interested in adult education. (No prerequisite)
Robinson — 3 credits — \$30 — 16 lessons

83(c). Interior Design I. A study of traditional and modern furniture and how to combine various styles successfully. Additional subjects include floor coverings, wall treatment, how to build color schemes, and general trends in home decoration. Of interest to teachers, homemakers, and home furnishings sales people. (No prerequisite)

Lewis — 3 credits — \$30 — 16 lessons

84(c). Interior Design II. Trends in decorative fabrics and floor coverings including a study of the new fibers used in curtain, drapery, and upholstering fabrics. How to estimate. Major accessories such as picture selection, ceramics, and the use of metals in decoration are considered. Another major emphasis in on window treatment and planning room color schemes. (Prerequisite: Art 83[c])

Lewis — 3 credits — \$30 — 16 lessons

ArEd 21. Freehand Lettering. Lessons in construction and spacing of single stroke vertical and inclined letters and numerals used in offices, stores, hospitals, libraries, schools, etc. (No prerequisite)

Palmer — 1 credit — \$10 — 6 lessons

ASTRONOMY (Ast)

Willem J. Luyten, Professor and Chairman, Department of Astronomy

11. Descriptive Astronomy. A descriptive course designed to give accurate general information regarding the solar system and the stellar universe. Emphasizes the basic facts of the physical universe, rather than the technical details of the work of a professional astronomer. A small telescope or even a field glass will be helpful but not essential. (No prerequisite)

Luyten — 5 credits — \$50 — 27 lessons

BUSINESS ADMINISTRATION (BA)

Note—See page 8 for limitation on amount of credit earned by correspondence courses toward B.S.B. degree.

Richard L. Kozelka, Professor of Quantitative Analysis

Reuel I. Lund, Professor of Accounting

C. Arthur Williams, Jr., Professor of Economics and Insurance

Ernestine C. Donaldson, Associate Professor of Office Management

J. Russell Nelson, Assistant Professor of Finance

Keith R. Heller, Lecturer in Accounting

Wayne Sorenson, Research Fellow in Industrial Relations

Jung Sic Chai, Instructor in Quantitative Analysis

Edward J. Moline, Instructor in Accounting (Correspondence Study)

Roberta J. Nelson, Instructor in Industrial Relations (Correspondence Study)

Elvin Peterson, Instructor in Industrial Management (Correspondence Study)

Stephen Pugh, Instructor in Business Law (Correspondence Study)

Steele S. Stanchfield, Instructor in Salesmanship (Correspondence Study)

George W. Ulseth, Instructor in Business Administration (Correspondence Study)

Richard Woods, Instructor in Industrial Relations (Correspondence Study)

Accounting (Acct)

Some of the following courses in accounting carry full credit toward graduation from the University, and others carry only credit toward the junior and senior certificates. In the first group are the following: Acct 24, 25, 26, 125, and 135. In the second group are: Acct 30, 31, 32, 33, 34, and 35. Both the series 24, 25, 26 and the

series 30, 31, 32 cover the basic topics in accounting but the approach is somewhat different. In the first series (24, etc.) the emphasis is on the use of accounting data, while in the other series more attention is given to bookkeeping techniques. If you are ultimately interested in degree credit, you must register for the series 24; if, on the other hand, you wish bookkeeping and accounting knowledge in order to keep your own records or to do such work for others, the second series would be advisable. It is also fair to warn you that the standard of grading is more severe in the 24 series.

24, 25, 26. Principles of Accounting. Recording, reporting, and interpreting business events. Use of accounting as a tool of business management. (Prerequisite: none for Acct 24, Acct 24 for Acct 25, Acct 25 for Acct 26)

Lund — 3 credits — \$30 — 16 lessons

30(c). Accounting I. The form and content of financial statements; ledgers; debit and credit; journals; control accounts; special books; the trial balance; adjusting and closing entries; the work sheet; and the preparation of financial statements. Each lesson will include a reading assignment in a text and a number of problems to work. (No prerequisite)

Lund — 3 Extension credits only — \$30 — 16 lessons

31(c). Accounting II. Deals mainly with corporation accounting. Formation of a corporation; types of stock; opening entries; donated and other treasury stock; surplus; dividends; reserves; surplus statement; valuation of stocks and bonds. The remainder of the lessons will consider peculiarities of accounting for partnership. (Prerequisite: Acct 30 or equivalent)

Lund — 3 Extension credits only — \$30 — 16 lessons

32(c). Accounting III. Accounting for manufacturing inventory methods; the job order method; process costs; departmental accounting; branch accounting; consolidated statements; funds statements; and an analysis and interpretation of financial statements. Each lesson includes problems which are to be worked and submitted by the student. A longer practice set is also assigned near the end of the course. (Prerequisite: Acct 31 or equivalent)

Lund — 3 Extension credits only — \$30 — 16 lessons

33(c). Cost Accounting. The uses of cost information in modern industry; the accounting mechanism for costs; types of cost systems; the definition of cost terms; the use of the factory ledger; the accounting for materials, their purchase, storage, use; the stores ledger, and the calculation of materials costs; the accounting for labor with particular reference to applying labor costs to production; the accumulation and analysis of overhead and its application to product; cost reports and statements for the management. (Prerequisite: Acct 26 or 32(c) or equivalent)

Lund — 3 Extension credits only — \$30 — 16 lessons

34(c). Analysis of Financial Statements. A review of accounting procedures and adjusting, closing, and reversing entries; financial statements; corporation accounting; analysis of financial statements; statement of application of funds. (Prerequisite: Acct 26 or 32 or equivalent)

Lund — 3 Extension credits only — \$30 — 16 lessons

35(c). Simplified Municipal Accounting. An introduction is given to some of the general problems arising in municipal service which are related to the task of accounting for the funds involved. The text suggests fundamental and technical adaptation of governmental accounting procedures. Attempts to give some practical answers, yet remaining understandable to those with limited or no accounting knowledge. (No prerequisite)

Moline — No credit — \$20 — 12 lessons

125. Auditing Principles and Procedures. Instruction in which a set of working papers and an audit report are prepared. The purposes and principles of auditing. The verification and certification of published statements by public accountants. Specific procedures and particular working papers are interrelated by the audit of a

laboratory set calling for actual examination of records and accounts, the preparation of complete working papers, and an audit report. (Prerequisite: intermediate accounting or consent of instructor)

Lund — 4 credits — \$40 — 21 lessons

- 135. Income Tax Accounting.** The more common and important provisions of the Federal Income Tax System as applied to individuals and corporations. Begins with a consideration of what types of income are taxable and which are not. Consideration is then given to gains and losses, dividends, and deductions. (Prerequisite: first-year elementary course in accounting at college level, or equivalent)

Heller — 3 credits — \$30 — 16 lessons

Governmental Accounting. See page 54.

Data Processing. See page 27.

Business Finance (BFin)

- 1(c). Introduction to Investments.** A fundamental course for adult investors who wish a general background of information on the investment field. The course covers the nature of various securities; statistical and investment analysis; vocabulary and practices of the securities business; and investment practices suitable for various investor groups. (No prerequisite)

J. R. Nelson — 3 Extension credits only — \$30 — 16 lessons

- 56. Corporation Finance.** Principles governing the planning, raising, and control of funds by a business enterprise. Topics investigated include cash-flows, valuation, capital structure, investment banking, dividend policy, mergers, and reorganizations. (Prerequisite; Acct 26; not recommended for students who have had Acct 106B)

J. R. Nelson — 3 credits — \$30 — 16 lessons

- 146. Real Estate.** Valuation of urban real estate, problems of real estate financing, rent control, housing, land development, zoning, and other factors affecting real estate values. (Prerequisite: Econ 2 or equivalent; recommended to businessmen to whom it is open without prerequisite on a noncredit basis)

Ulseth — 3 credits — \$30 — 16 lessons

Business Law (BLaw)

- 58. Business Law—Contracts.** Deals with the basic law of contracts, the formation, operation, effect, and discharge of contracts. Inasmuch as a knowledge of the general rules of contract law is fundamental to all work in business law, this course must precede BLaw 78, 88, and 98. (Prerequisite: Econ 2 or equivalent, or consent of instructor)

Pugh — 3 credits — \$30 — 16 lessons

- 78. Business Law—Agency, Partnerships, and Corporations.** The law of agency and a consideration of problems of partnerships and corporations, including business associations. Includes a study of the nature, creation, and terms of relationships, and rights and liabilities of the parties when doing business through agents, partnerships, and corporations. (Prerequisite: BLaw 58)

Pugh — 3 credits — \$30 — 16 lessons

- 88. Business Law—Sales, Bailments, and Negotiable Instruments.** Law of sales of goods under the Uniform Sales Act and law of commercial paper under the Uniform Negotiable Instruments Law. Includes a study of negotiable notes, checks, drafts, etc., and rights of parties thereto. (Prerequisite: BLaw 58)

Pugh — 3 credits — \$30 — 16 lessons

- 98. Business Law—Property Rights and Obligations.** Nature and classification of real and personal property; deeds and conveyances; landlord and tenant; recording and ab-

tracting; Torrens titles; liens and mortgages; wills, probating of estates, and duties of administrators and executors. (Prerequisite: BLaw 58)

Pugh — 3 credits — \$30 — 16 lessons

Economics

(See page 27)

Industrial Relations (IR)

(See also Economics, page 27)

30(c). Supervision I. A general discussion of basic principles of supervision in the office and factory. Survey of principles for the handling of day-to-day problems of supervisors with emphasis upon human relations aspects of such problems. Deals with such problems as selection, induction, and training of new employees, employee appraisal, giving orders, handling grievances, discipline, and employee morale. (No prerequisite)

W. Sorenson — 3 Extension credits only — \$30 — 16 lessons

52. Systems of Industrial Relations: Labor Marketing. Introductory analysis of employment relationships, emphasizing economic analysis. Fundamentals of application and conservation of human resources in employment with consideration of related social and economic problems. Labor marketing, collective bargaining, unions and employer associations, industrial unrest and conflict, employment and unemployment, wage problems. (Prerequisite: Econ 2 or equivalent)

R. Nelson — 3 credits — \$30 — 16 lessons

72. Systems of Industrial Relations: Manpower Management. Introductory analysis of personnel management and labor relations in the development and utilization of effective work-teams within firms and agencies. Overview of policy and practice in major manpower management functions of staffing, training, communications, motivation, compensation, and morale maintenance. (Prerequisite: Econ 2 or equivalent)

Woods — 3 credits — \$30 — 16 lessons

Insurance (Ins)

53. Risk Management and Insurance. Recognition, measurement, and evaluation of insurable property, liability, and personnel risks. Tools of risk management; retention, loss prevention, transfer, and others with emphasis on insurance. Design and implementation of the optimum risk management program. Government regulation of insurance. (Prerequisite: Econ 2 or equivalent)

Williams — 3 credits — \$30 — 16 lessons

73. Life and Health Insurance. Nature and relative importance of insurable personnel risks; analysis of life and health insurance contracts; programming; estate planning; business insurance; pricing, underwriting, and marketing methods. (Prerequisite: Ins 53 or consent of instructor)

Williams — 3 credits — \$30 — 16 lessons

93. Property and Liability Insurance I. Nature and relative importance of property and liability risks; analysis of property and liability insurance contracts; insurance surveys—optimum property and liability insurance programs. (Prerequisite: Ins 53 or consent of instructor)

Williams — 3 credits — \$30 — 16 lessons

Management (Mgmt)

GC 17(c). Operation of a Small Business. The practical problems of operating a small business. Covers all phases of organization and management including advertising,

layout, financing, location, buying, pricing, personnel. Emphasis on retailing. (No prerequisite)

Ulseth — 3 credits in General College — \$30 — 16 lessons

Marketing (Mktg)

30(c). **Salesmanship.** A course in the art and techniques of effective salesmanship. Major emphasis placed on practical aspects with various case histories presented. (No prerequisite)

Stanchfield — 3 Extension credits only — \$30 — 16 lessons

Office Management (OMgt)

99. **Management of Administrative Services.** Problems involving organization, planning, and control of administrative services; role of administrative services in the automated office; communications; records management; equipment analysis and control; forms and supplies; flow of work, layout, and environment; office personnel. (Prerequisite: Econ 2 or equivalent)

Donaldson — 3 credits — \$30 — 16 lessons

Production (Prod)

50. **Production Management.** The techniques, the managerial problems, and the decision-making processes in planning and controlling the production activity. Production as a function of the enterprise rather than as a strictly manufacturing activity. Research and development, the role of standards, physical facilities, systems and procedures analysis, work measurement, materials control, quality control, and production planning and control. (Prerequisite: Econ 2 or equivalent)

Peterson — 3 credits — \$30 — 16 lessons

Quantitative Analysis (QA)

(Formerly Business Statistics)

5. **Elements of Statistics.** Sources and collection of data; tabular and graphic presentation; frequency distribution; probability; sampling; introduction to statistical estimation and decision-making. (Prerequisite: Math 10 or 15 or equivalent)

Chai — 3 credits — \$30 — 16 lessons

51. **Business Statistics.** Basic concepts of regression and correlations; statistical estimation and decision-making, applications to survey sampling, acceptance sampling and statistical quality control; time series analysis and index numbers. (Prerequisite: QA 5 or equivalent or consent of the instructor)

Kozelka — 3 credits — \$30 — 16 lessons — Available November 1, 1964

CHILD PSYCHOLOGY (CPsy)

(See Education, page 28)

William R. Charlesworth, Assistant Professor of Child Psychology

Frank B. W. Harper, Assistant Professor of Child Psychology

John Hill, Assistant Professor of Child Psychology

Nancy Mann, Instructor in Child Psychology

80. **Child Psychology.** Introduction to the science of child behavior. Emphasis is placed upon a critical review of theories and research in child psychology. (Prerequisite: Psy 1 and 2)

Charlesworth — 3 credits — \$30 — 16 lessons

81. **Adolescent Psychology.** Social, physical, mental, emotional, and personality development during adolescence. (Prerequisite: Psy 1 and 2)
Harper — 3 credits — \$30 — 16 lessons
83. **Guidance of Children's Activities.** Techniques of guiding children's interests and activities with emphasis on creative materials and group activities. (Prerequisite: CPsy 80)
Mann — 3 credits — \$30 — 16 lessons
86. **Psychology of the Gifted Child.** Psychology and development of high intellectual ability and of special talents. (Prerequisite: CPsy 80)
Charlesworth — 2 credits — \$20 — 12 lessons
89. **The Psychology of Parent-Child Relationships.** Discussion of parent-child relationships and family situations. Evaluation of relevant research literature. (Prerequisite: CPsy 80)
Hill — 2 credits — \$20 — 12 lessons

CHINESE AND CHINESE CIVILIZATION

Richard B. Mather, Associate Professor and Chairman, Department of Slavic and Oriental Languages

A 12-inch, 78-rpm Chinese pronunciation record, with script, is available for \$4.50. The recording is not required for Chin 1, but is strongly recommended. Order from the Correspondence Study Department.

1. **Beginning Chinese I.** Prepares for the reading and writing of colloquial Chinese (Mandarin), the language of conversation, modern fiction and newspapers. Principles of pronunciation and intonation will be treated; principles of grammar will be implemented with ample exercises. (No prerequisite)
Mather — 5 credits — \$50 — 27 lessons
20. **Asian Civilization: China.** A readings course to introduce student to the best available translations of the major primary documents and some of the secondary studies in the fields of Chinese history, philosophy (including religion), literature, and art. Brief essays on specific problems raised in each field will be required in addition to a longer paper at the conclusion of the course. (No prerequisite)
Mather — 3 credits — \$30 — 16 lessons

CLASSICS

Roy A. Swanson, Associate Professor of Classics

43. **Greek and Roman Mythology.** Classical myths; acquaints the student with the stories of gods, demigods, and heroes which are a basic component of the European cultural heritage, with attention to their artistic, religious, psychological, and anthropological implications.
Swanson — 3 credits — \$30 — 16 lessons — Available October 1, 1964
48. **Technical Terms of Science, Medicine, and the Humanities.** Presentation in English contexts of Greek and Latin prefixes, suffixes, and root words in modern technical vocabularies; special attention to medical terminology. No previous acquaintance with Greek or Latin is required. (No prerequisite)
Swanson — 3 credits — \$30 — 16 lessons

DATA PROCESSING

Leslie Knutson, Instructor (Correspondence Study)

- 1(c). Introduction to Digital Computers and Computer Programming.** Introduction to number systems, Boolean algebra, computer components (input, output, arithmetic storage, and control) and programming—using both binary and decimal systems. Includes machine language, flow charting, problem solving, and common language programs.

Knutson — 5 Extension credits — \$50 — 27 lessons — Available December 1, 1964

ECONOMICS (Econ)

John Turnbull, Professor and Chairman of Economics

James Rosse, Instructor in Economics

Richard Newcomb, Teaching Associate in Economics

- 1. Principles of Economics I.** Analysis of the principles determining the production (supply) and exchange (demand) of goods and services by individual firms and households. Determination of costs and prices under conditions of competition and monopoly. Economic activity of government. Economic significance of taxation and labor organizations; study of wages, rents, interest, and profit. (No prerequisite)

Newcomb — 3 credits — \$30 — 16 lessons

- 2. Principles of Economics II.** Analysis of national income, employment, and price level, with attention to aggregate consumption and investment. Financial organization of society; distribution of wealth and income. Fiscal and monetary policies; economic significance of banking; business cycles; foreign trade. Review of systems of economic organization: capitalism, socialism, fascism, and communism. (Prerequisite: Econ 1)

Rosse — 3 credits — \$30 — 16 lessons

- 66. Intermediate Economic Analysis: Income and Employment.** Determinants of national income, employment, and price level, with particular attention to aggregate consumption and investment. (Prerequisite: Econ 2 or equivalent)

Newcomb — 3 credits — \$30 — 16 lessons

- 67. Money and Banking.** Historical development, present pattern and economic role of financial institutions, with special emphasis upon commercial banks, the money supply, and the Federal Reserve System. (Prerequisite: Econ 2 or equivalent)

Rosse — 3 credits — \$30 — 16 lessons

- 172. Public Policy: Labor Relations.** Employer-employee-union relationships and their social control; legislative, executive, and judicial attempts to deal with these issues; economic and social implications. (Prerequisite: Econ 52 or equivalent)

Turnbull — 3 credits — \$30 — 16 lessons

- 182. Economic Security.** Origins and development of economic and social problems of the individual worker; public and private attempts to deal with these issues; economic and social implications. (Prerequisite: Econ 52 or equivalent)

Turnbull — 3 credits — \$30 — 16 lessons

EDUCATION (Ed)

Donovan Johnson, Professor of Education

Harry C. Johnson, Professor of Elementary Education, UMD

Gordon Swanson, Professor of Agricultural Education

Adrian Dupuis, Associate Professor of Education, Marquette University

Dewey G. Force, Jr., Associate Professor of Educational Psychology

Robert B. Nordberg, Associate Professor of Education, Marquette University

Robert L. Jackson, Instructor in Elementary Education

Note—See Child Psychology, page 25, for courses in Child Training, Child Psychology, Guidance of Children's Activities, Adolescent Psychology, The Gifted Child, etc. These courses are accepted for credit in College of Education. See page 51 for courses in physical education.

HEd 4(c). Introduction to Philosophy of Education. A study of the ideas influencing contemporary education in the United States. An effort will be made to show how these ideas might influence the day-to-day work of the teacher. The central objective of this course is to help teachers clarify their thinking in respect to the many conflicting viewpoints in educational philosophy. (No prerequisite)

Nordberg — 4 credits — \$40 — 21 lessons

AgEd 20. Rural Education and Community Leadership. Appraisal of community educational agencies; process of and responsibilities for community leadership; role of the school in the rural community; co-ordination of the school with nonschool educational agencies. (No prerequisite; no credit if student has taken AgEd 120)

G. Swanson — 3 credits — \$30 — 16 lessons

60. Introduction to Measurement and Statistics. A study of elementary statistical methods and their application to educational problems. The commonly used statistical terms and methods such as mean, median, mode, percentiles, graphs, standard deviation, correlation, standard scores, and test analysis are considered. An attempt is made to give the student some understanding of these terms, practice problems with educational data, and applications and interpretations of statistics. Emphasis is placed on the intelligent interpretation of statistical methods so that the student may interpret educational data correctly. (Prerequisite: 6 credits in psychology)

D. Johnson — 3 credits — \$30 — 16 lessons

EdCI 65. Teaching Science in the Elementary Schools. Designed to acquaint the elementary school teacher with objectives, methods, and materials of importance in the teaching of science to children. Special attention is given to developing understanding of science concepts and scientific method among children. Those phases of science content of importance in elementary education are identified and special attention is given to their explanation. (Prerequisite: Ed 75A; 10 credits in natural science)

Jackson — 3 credits — \$30 — 16 lessons

HEd 141. Critical Issues in Modern Education. The principal aim is to answer the following: What are the outstanding points of view in education today? Such practical questions as discipline, freedom, indoctrination, teacher-pupil relations, progressive methods will be treated as they relate to underlying theory; but the central objective will be to appreciate the crucial agreements and differences among leading thinkers in contemporary education. (Prerequisite: senior; cannot be used for graduate credit at the University of Minnesota)

Nordberg — 3 credits — \$30 — 16 lessons

EdCI 149. Teaching and Supervision of Mathematics in the Elementary School. Present practices and trends in methods, materials, and curriculum development; review of curriculum studies; evaluation and diagnosis; literature on current issues and problems. (Prerequisite: 9 credits in education; cannot be used for graduate credit at the University of Minnesota)

H. C. Johnson — 3 credits — \$30 — 16 lessons — Available January 1, 1965

HEd 180. The School and Society. Readings in social science and philosophy give the student an opportunity to integrate points of view in thinking about the role of the school in present-day society. (Prerequisite: senior; cannot be used for graduate credit at the University of Minnesota)

Dupuis, Nordberg — 3 credits — \$30 — 16 lessons

EPsy 182. Education of Exceptional Children. Provides an overview of the field of special education. The major objective is to develop a beginning understanding of the characteristics and needs of socially maladjusted, gifted, mentally retarded,

crippled, visually and auditorially handicapped children. A number of general problems in special education (such as prevention of handicaps, current trends, research needs, teacher training opportunities, patterns of school organization and administration, etc.) are also given brief consideration. Especially planned for regular classroom teachers, counselors, supervisors, and administrators. Also is a suitable first course for students working for special certificates to teach exceptional children. (Prerequisite: Ed 55B or 75B, or equivalent; cannot be used for graduate credit at the University of Minnesota)

Force — 3 credits — \$30 — 16 lessons

ENGINEERING

Robert Edward Summers, Dean of Admissions and Records and Professor of Mechanical Engineering

Miles Kersten, Professor of Civil Engineering

Paul A. Cartwright, Associate Professor of Electrical Engineering

Immanuel C. Fischer, Associate Professor of Engineering

Theodor W. Thomas, Associate Professor of Civil Engineering

Lewis G. Palmer, Assistant Professor of Mechanical Engineering

Russell S. Nyquist, Instructor in Mechanical Engineering

The Institute of Technology consists of the College of Engineering, the School of Architecture, the School of Chemistry, the School of Mineral and Metallurgical Engineering, the School of Physics and Astronomy, the School of Earth Sciences, and the School of Mathematics. See page 9 for the amount of credit earned by correspondence course for degrees in the Institute of Technology.

Data Processing—See page 27.

Civil Engineering (CE)

54(c). **Soils Engineering.** Intended for engineers and students who wish to become familiar with the basic principles of soil behavior, the terminology, the tests, and applications to practical problems. Soil development and maps; laboratory tests, constants, and classification. Surveys, frost action, compaction, stabilization, and flexible pavement design. Stress distribution, consolidation, and shear strength. (Prerequisite: 1 year of college mathematics desirable; consult instructor)

Kersten — 3 Extension credits only — \$30 — 16 lessons

146. **Concrete and Concrete Materials.** Includes a study of the materials from which concrete is made, methods of designing a concrete mixture, the principles of air-entrained concrete, methods of measuring and controlling the air content, the chemical constitution of cement, properties of concrete, the practical aspects of proportioning, mixing, placing, and curing concrete and other special related topics. (Prerequisite: knowledge of elementary algebra, physics, and chemistry; if credit is desired, prerequisite is MM 40 or consent of instructor)

Thomas — 3 credits — \$30 — 16 lessons

Electrical Technology (ET)

1(c). **Elements of Electric Circuits.** Fundamental laws of direct-current circuits, the magnetic field and magnetic properties of iron and steel, induced and generated electromotive forces. Fundamental laws of alternating current circuits, complex representation. Series and parallel circuits, polyphase circuits, power measurements in electric circuits. (No prerequisite)

Cartwright — 3 Extension credits only — \$30 — 16 lessons

- 2(c). **Elements of Electronics.** Electronic emission, conduction through vacuums and gases; characteristics of vacuum tubes, of gas and vapor tubes. Amplifier circuits, oscilloscopes, and control circuits; application of electronic devices to industry. (Prerequisite: ET 1[c] or equivalent)

Cartwright — 3 Extension credits only — \$30 — 16 lessons

- 4(c). **Elements of Electric Control Systems and Devices.** Introduction to basic theory of operation of transformers and rotational electromechanical energy conversion devices—volt-ampere and torque-speed characteristics. Control amplifiers and associated equipment, instrumentation, methods of measurement; introduction to feedback control systems, transfer functions and block diagrams—stability considerations. (Prerequisite: open to students who have completed ET 1[c] with a grade of "A" or who have some background in college level work in electric circuits)

Cartwright — 3 Extension credits only — \$30 — 16 lessons

- 5(c). **Elements of Transistor Physics and Circuits I.** Study of semiconductors, crystal structure and properties, crystals with impurities. The physical action of transistors, transistor types. Review of electric circuits. The transistor as a circuit element. Small signal amplifiers. (Prerequisite: ET 1[c] and 2[c] or equivalent in experience)

Cartwright — 2 Extension credits only — \$20 — 12 lessons

- 6(c). **Elements of Transistor Physics and Circuits II.** Continuation of Part I. Power amplifiers—Class A-B-C, graphical analysis. Cascade amplifiers. Bias stability and direct-current amplifiers. Feedback-gain, gain stability, noise—general noise considerations. Transistor oscillators and multivibrators. (Prerequisite: ET 5[c])

Cartwright — 2 Extension credits only — \$20 — 12 lessons

Engineering Graphics (EG)

- EG 1. **The Slide Rule.** Theory and computation practice necessary for those who wish to use the slide rule in ordinary computations. Drills on fundamental processes. (No prerequisite)

Palmer — 1 degree credit (0 credits for students registered in Institute of Technology) — \$10 — 6 lessons — Slide rule \$3.50 and up

- EG 4. **Engineering Graphics.** Engineering representation, orthographic and pictorial. Multiview drawings, auxiliary and sectional views, size description, standard practices and specifications. Axonometric, oblique, and perspective drawing; freehand sketching and shading. (No prerequisite)

Palmer — 3 Extension credits only — \$30 — 16 lessons

- EG 5. **Engineering Graphics.** Engineering representation, graphical analysis and synthesis, co-ordinate systems, auxiliary projection. Solution of space problems and vector applications with mathematical correlation. (Prerequisite: EG 4)

Palmer — 3 Extension credits only — \$30 — 16 lessons — Available November 1, 1964

Note—EG 4 and EG 5 which are Extension credit courses present a slightly different approach to graphics. Students who satisfactorily complete them may upon approval of the Division of Engineering Graphics petition for a comprehensive examination if credit for EG 25 is desired.

- EG 25. **Engineering Graphics.** Engineering representation and analysis of systems of projection; the co-ordinate system, graphical solution of space problems, intersections and developments. Precision in graphics and techniques of sketching; pictorial projection systems, size description, standard and simplified practices applied to graphic communication. (Prerequisite: Math 13A or 21)

Palmer — 4 credits — \$40 — 21 lessons

Mechanical Engineering (ME)

1(c). Steam Power Plants I. For boiler users or operators. Fuels, combustion, furnaces, steam generators, pumps, pipes, and fittings. Boiler room practices. Properties of steam; boiler-water conditioning. (Prerequisite: proficiency in arithmetic)

Summers — 3 Extension credits only — \$30 — 16 lessons

17(c). Industrial Plant Layout. Lessons on the application of industrial engineering principles in simplifying and improving the layout of manufacturing plants, shops, and warehouses, and in planning new layouts. Topics covered include: types of layouts; analysis of flow; safety factors in layout work; determination of equipment and space requirements; service facilities; buildings. (No prerequisite)

Nyquist — 5 Extension credits only — \$50 — 27 lessons

18(c). Motion and Time Study Engineering. One of the most necessary and most used branches of industrial engineering, this work is absolutely essential for efficient plant operation and accurate wage determination. Beginning with the skeletal structure of the subject, which gives the student a firm grasp of the logical development of the subject matter, all phases are explained, first in terms of present practice, and then in terms of the most recently developed techniques. Some of the topics covered are: the importance of motion and time study; the skeletal structure of methods analysis; process analysis; operation analysis; micromotion study; motion study problems; the skeletal structure of time study; breakdown of job into elements; determination of time consumed; job rating; personal, fatigue, and delay allowances; new techniques in the field; timing techniques for typical industrial operations; time study problems. (No prerequisite)

Nyquist — 5 Extension credits only — \$50 — 27 lessons

Mechanics and Materials (MM)

27. Rigid-Body Mechanics I. Vector algebra. Application of the equations of equilibrium to the analysis of simple engineering structures and machines. Nature and influence of friction. Elementary theory of statically determinate framed structures. (Prerequisite: Math 25A [or 23] and Phys 14)

Fischer — 3 credits — \$30 — 16 lessons

28. Rigid-Body Mechanics II. Application of the principles of particle motion. Kinematics. Impulse-momentum and work-energy principles. Potential and potential energy, motion in a central force field. Introduction to forced and free mechanical vibrations. (Prerequisite: MM 27 and Math 26A [or 31 and 32])

Fischer — 3 credits — \$30 — 16 lessons

Note—Additional courses in the MM series (29, Rigid-Body Mechanics III; 40, Deformable-Body Mechanics I; and 41, Deformable-Body Mechanics II) may be developed. Students interested in these courses, or a description of the courses, should write to the Correspondence Study Department.

ENGLISH

(See Humanities, page 42)

Wendell P. Glick, Professor of English and Humanities, UMD

Harold J. Alford, Associate Professor of English

Lewis D. Levang, Associate Professor of English, UMD

Clifford I. Haga, Assistant Professor of English

Helen A. Anderson, Instructor in English (Correspondence Study)

Sumner J. Ferris, Instructor in English (Correspondence Study)

Douglas R. George, Instructor in English

Louise Klohn, Instructor in English (Correspondence Study)

Agnes Macdonald, Instructor in English (Correspondence Study)

Anne G. Munro, Instructor in English
 Justin O'Connell, Instructor in English (Correspondence Study)
 Robert E. Regnier, Instructor in English
 Grace B. Shapiro, Instructor in English

English (Engl)

Guided Reading. See page 55.

Selecting Books for Children. See page 55.

Current Best Sellers in Fiction. See page 56.

1B. Freshman English I. A combined course in composition (3 credits) and literature (1 credit). The entire series (1B-2B-3B) concentrates upon developing the student's skill in writing expository prose; the first (1B) emphasizes clarity and correctness, especially in the sentence and paragraph. The literature consists of assignments in narrative prose. (Prerequisite: Comp X or satisfactory score on English Placement Test)

George — 4 credits — \$40 — 21 lessons

2B. Freshman English II. Continuation of Engl 1B. Emphasis is on effectiveness in composition, how to use printed sources, and how to draw inferences from them. Several plays are studied, and much of the writing of the course concerns them. (Prerequisite: Engl 1B)

Regnier — 4 credits — \$40 — 21 lessons

3B. Freshman English III. Continuation of Engl 2B. Emphasis is on clarity of thought and organization of material, culminating in the preparation of a research paper. English and American poems provide several topics for critical writing. Students who do not have access to libraries may arrange a special writing project with the instructor. (Prerequisite: Engl 2B)

Regnier — 4 credits — \$40 — 21 lessons

4(c). Masterpieces of World Literature. A reading course for those who want to acquaint themselves with the world's great works of fiction. The lessons help the reader to interpret, appreciate, and respond to problems raised by the authors. Of interest to anyone who wants to increase his command of reading and intelligent discussion.

Klohn — 2 Extension credits only — \$20 — 12 lessons

21. Introduction to Literature I.** A chronological study of the leading English writers in poetry and prose and of their historical backgrounds, including an introduction to types of literature and literary ideas. The complete sequence of three terms (21, 22, 23) begins with Chaucer and ends with Arnold. Some knowledge of English history from Edward III to Victoria is required. The first term includes: Chaucer to Milton, Marlowe, Spenser, Shakespeare, Bacon, Browne, and Bunyan. (Prerequisite: Freshman English)

Munro — 5 credits — \$50 — 27 lessons

22. Introduction to Literature II.** Continuation of Engl 21. The Restoration and the 18th century. Pope, Swift, Addison and Steele, Johnson, Boswell, Fielding, and Sheridan. (Prerequisite: Freshman English)

Munro — 5 credits — \$50 — 27 lessons

23. Introduction to Literature III.** Continuation of Engl 22. The Romantic Movement and the Victorians. Wordsworth, Coleridge, Byron, Shelley, Keats, Carlyle, Tennyson, Browning, and Arnold. (Prerequisite: Freshman English)

Munro — 5 credits — \$50 — 27 lessons

** Students may enter any course of 21, 22, 23, but 22 and 23 are required for a teaching minor; all three courses are required for a teacher's certificate.

- 39. Twentieth-Century Literature III.** The novel since Thomas Hardy. Covers at least the following three English novels: Thomas Hardy's *Tess of the D'Urbervilles*, Joseph Conrad's *Lord Jim*, Arnold Bennett's *The Old Wives Tale*; and the following three American novels: Ernest Hemingway's *A Farewell to Arms*, Thomas Wolfe's *Of Time and the River*, John Steinbeck's *The Grapes of Wrath*. (Prerequisite: Freshman English)
H. Anderson — 3 credits — \$30 — 16 lessons
- 52. English Novel I.** A study of the English novel from its 18th-century beginning with the work of Defoe, through its development by Richardson, Fielding, Smollett, and Sterne, to its early 19th-century refinement in the realism of Jane Austen and the romance of Sir Walter Scott. Emphasis will be placed upon the contributions of the successive works to the evolution of the novel as a literary form. (Prerequisite: Freshman English and 5 additional credits in English)
H. Anderson — 3 credits — \$30 — 16 lessons
- 53. English Novel II.** A study of the novel during the age of Victoria, showing the progression from older forms and earlier taste toward the anticipation of the modern naturalistic and psychological novel at the end of the 19th century. Works of Thackeray, Dickens, the Brontë sisters, George Eliot, Trollope, Meredith, and Hardy will be read. (Prerequisite: Freshman English and 5 additional credits in English)
H. Anderson — 3 credits — \$30 — 16 lessons
- 55. Shakespeare I.** The development of Shakespeare's dramatic art is traced chronologically from the earliest plays to two of the mature tragedies. The student becomes familiar with the various types of Shakespeare's drama: comedy, tragedy, and history plays. (Prerequisite: Engl 1B-2B-3B and 5 additional credits in English)
Levang — 3 credits — \$30 — 16 lessons
- 56. Shakespeare II.** Continuation of Engl 55. Is devoted to Shakespeare's later career from 1600 to 1611. It includes tragedies, romantic comedies, romances, and one problem comedy. (Prerequisite: Engl 55 or consent of instructor)
Levang — 3 credits — \$30 — 16 lessons
- 72. American Literature I.** The development of American literature and thought from the beginnings through the early American Renaissance. (Prerequisite: Engl 3A or 3B or Comm 3 and 5 additional credits or 5 credits in 21-22-23)
Click — 3 credits — \$30 — 16 lessons
- 73. American Literature II.** Continuation of Engl 72. American literature from the American Renaissance to the end of the 19th century. (Prerequisite: Engl 72)
Click — 3 credits — \$30 — 16 lessons
- 74. American Literature III.** Continuation of Engl 73. American literature from the end of the 19th century to the present. (Prerequisite: Engl 73)
Click — 3 credits — \$30 — 16 lessons
- 75. Chaucer.** A study of most of *The Canterbury Tales*, the last and most varied work by the founder of the English poetic tradition. The course emphasizes such matters as Chaucer's skill and versatility in narrative, his ability in characterization, his place as a representative (and critic) of medieval Christianity and culture, and his relation to the great authors who preceded and followed him. Opportunity is given for additional reading and for original critical writing. The reading is done in the original early English, but only such emphasis is put on the language as serves to illuminate the quality and meaning of the poetry. (Prerequisite: Freshman English and 5 additional credits in either English or humanities)
Ferris — 4 credits — \$40 — 21 lessons

Composition (Comp)

Vocabulary Building. See page 59.

Grammar Review. A step-by-step explanation of traditional grammar, punctuation, spelling, and vocabulary. Recommended both for those who have little or no knowledge of language fundamentals and for those, such as teachers or secretaries, who wish a systematic and complete review of basic principles. (No prerequisite)

Alford — No credit — \$20 — 12 lessons

Remedial Writing. This course teaches the fundamentals of good English, with emphasis upon grammar, punctuation, and spelling and their application to written composition. Cannot be substituted for Comp X. No textbook required.

Klohn — No credit — \$22 — 12 lessons

Comp X. Preparatory Composition. Intensive drill on grammatical forms, structure, and theme writing. Recommended for those whose primary need is organization and development of themes; any passing grade admits students to Engl 1B. (No prerequisite)

Shapiro — No credit — \$30 — 16 lessons

1(c). Business Correspondence. A practical course for people in business or those preparing to enter it. The ways of developing effective letter-writing habits are analyzed and presented in a study of diction, grammar, and the mechanics of letter forms. (No prerequisite)

Haga — 3 Extension credits only — \$30 — 16 lessons

2(c). Basic Technical Writing I. Review of basic English and introduction to technical writing. Designed for people in the technical industries. Includes sentence design, spelling, and punctuation. Covers basic techniques of definition, description, process, procedure, and analysis writing. Organization and correlation into text of tables, diagrams, and illustrations. Emphasis on accuracy, brevity, simplicity, and layout. (No prerequisite)

O'Connell — 3 Extension credits only — \$30 — 16 lessons — Registrations accepted after November 1, 1964

27. Advanced Writing I—Exposition. Study and writing of essays with emphasis on structure and organization. The student is free to choose his own essay subjects. Intended to aid the student in working out individual problems. (Prerequisite: Freshman English or equivalent)

Alford — 3 credits — \$30 — 16 lessons

28. Advanced Writing II—Narration and Description. Study of principles of description and narration with analysis of specimens and exercises in writing. (Prerequisite: Freshman English or equivalent)

Alford — 3 credits — \$30 — 16 lessons

69. Short Story Writing I. A basic study of short story technique, with emphasis on the student's completion of several original stories. Manuscripts will be carefully read, and suggestions for improvement will be offered. The textbook is the work of a successful author, and the stories studied illustrate a variety of writing methods. (Prerequisite: Comp 27-28)

Macdonald — 3 credits — \$30 — 16 lessons

70. Short Story Writing II. The student should here reap the benefits of what he has learned in Comp 69. He will write four stories, in all approximately 10,000 words, and these stories will be carefully read and criticized. He will read a number of useful stories and consider such things as style, tone, pace, suggestion, and symbols. (Prerequisite: Comp 69)

Macdonald — 3 credits — \$30 — 16 lessons

FAMILY STUDIES (FamS)

Maurine Hansen, Instructor in Family Studies

- 1(c). Building a Better Marriage.** The goals of marriage and of participation in a satisfying family life. Includes self-understanding, changing roles, choice of mate, marriage adjustments, family relationships. Film viewing available. (No prerequisite)
Hansen — 3 credits — \$30 — 16 lessons

FINNISH

Seppo Lahti, Instructor in Scandinavian Languages (Correspondence Study)

- Scan 17. Beginning Finnish.** For beginners with little or no previous knowledge of Finnish. Stresses fundamentals of grammar, the facility to read and to write easy Finnish. Recording available to aid in basic pronunciation. (No prerequisite)
Lahti — 5 credits — \$50 — 27 lessons — Available January 1, 1965

FORESTRY (For)

Donald P. Duncan, Professor of Forestry

- 1A. Conservation of Natural Resources.** Current status, utilization, and sound management of natural resources with emphasis on those which are renewable. Conservation principles and their application to soil, water, forests, grasslands, wildlife, and minerals. (No prerequisite; not open to students who have taken a similar course)
Duncan — 3 credits — \$30 — 16 lessons

FRENCH (Fren)

John Fadell, Instructor in Romance Languages

A 33 $\frac{1}{3}$ -rpm record, "The Sounds of French" has been prepared to accompany the correspondence courses. Sounds are articulated by an authentic voice. As it is difficult to teach French pronunciation by correspondence, the student is strongly urged to purchase the record and to hear it repeatedly, imitating the sounds as accurately as possible. The record is available from the EMC Recordings Corp., 180 East 6th Street, St. Paul 6, Minnesota. The price is \$1.50. Also available on phonotape for \$2.50.

- 1. Beginning French I.** Essentials of the French language; grammar, reading, pronunciation, easy composition. (No prerequisite)
Fadell — 5 credits — \$50 — 27 lessons
- 2. Beginning French II.** Continuation of Fren 1. (Prerequisite: Fren 1, or 1 year of high school French)
Fadell — 5 credits — \$50 — 27 lessons
- 3. Intermediate French I.** Review of grammar; composition; reading of representative authors. (Prerequisite: Fren 2, or 2 years of high school French)
Fadell — 5 credits — \$50 — 27 lessons
- 17A. French for Graduate Students.** Fundamentals of grammar; reading of appropriate prose. Prepares for examinations in French. (No prerequisite)
Fadell — No credit — \$30 — 16 lessons
- 25. Intermediate French II.** Continuation of Fren 3. (Prerequisite: Fren 3, or 3 years of high school French)
Fadell — 5 credits — \$50 — 27 lessons

GEOGRAPHY (Geog)

Leverett P. Hoag, Associate Professor of Geography, Duluth
 Fredric R. Steinhauser, Associate Professor of Geography

Conservation of Natural Resources. See page 35.

7(c). Geography of Minnesota. Provides an opportunity for the study of Minnesota's people and culture, physical resources, and problems in making a living. Emphasis is placed upon the major differences among Minnesota's regions.

Steinhauser — 4 credits — \$40 — 21 lessons

50(c). Geography of South America. The South American continent as a unit, followed by the study of major regions within individual countries. Both natural and cultural elements will be studied in their regional associations.

Hoag — 4 credits — \$40 — 24 lessons

51(c). Geography of the United States and Canada. An introductory treatment of economic development and geographical association in the United States and Canada. Emphasis will be upon the ways of making a living and where the phenomena that produced the living are located. Problems considered on both the national and regional basis.

Steinhauser — 4 credits — \$40 — 24 lessons

GEOLOGY (Geo)

Robert E. Sloan, Associate Professor of Geology

1(c). Physical Geology. A first course in geology for science majors and an introduction to the scientific method and the nature of the earth for others. Survey of the main features of the physical world and of the processes that have evoked them. (No prerequisite; high school chemistry or physics recommended)

Sloan — 5 credits — \$50 — 27 lessons

2(c). Historical Geology. Evolution of the earth from its origin to the present, with special attention to the succession of physical and biological events of the past 600 million years, with emphasis on the geological history of the North American continent. (Prerequisite: Geo 1 or 1[c] or 11)

Sloan — 3 credits — \$30 — 16 lessons

GERMAN (Ger)

Edwin F. Menze, Professor of German and Chairman, Department of German
 Herman Ramras, Professor of German

A 10-inch, 33 $\frac{1}{3}$ -rpm German pronunciation record, with script, is available for \$3.50. A tape recording of the same material is also available for approximately \$4.50. The recording is not required but is strongly recommended. Order from the Correspondence Study Department.

1. Beginning German I. Grammar and easy composition. Aims to give the student a knowledge of the elements of German grammar, the facility to read easy German, and to write simple German sentences. (No prerequisite)

Ramras — 5 credits — \$50 — 27 lessons

2. Beginning German II. Continuation of Ger. 1. (Prerequisite: Ger 1, or 1 year of high school German)

Ramras — 5 credits — \$50 — 27 lessons

3. **Beginning German III.** Grammar and composition continued; selected readings in easy prose. (Prerequisite: Ger 2, or 2 years of high school German)
Menze — 5 credits — \$50 — 27 lessons
- 4-5. **Intermediate German.** The combination of Ger 4 and 5 corresponds to the regular departmental course offerings at the intermediate German level in the College of Liberal Arts: Ger 4, Intermediate German, Selected Readings from Literature, 3 credits; Ger 5, Intermediate German, Elementary Composition, 2 credits. A student must register for both courses in the Correspondence Study Department. (Prerequisite: Ger 1, 2, and 3 or 3 years of high school German)
Menze — 5 credits — \$50 — 27 lessons
- 17A. **German for Graduate Students.** Designed to help the graduate student acquire a reading knowledge of basic German as rapidly as possible. (It is not intended to be preparation for the Graduate German Reading Examination; it is merely the first step toward that objective.) This course assumes no knowledge of German on the part of the student. Grammar is reduced to an essential minimum. The course progresses from intensive reading of simple, graded material to selections of moderate difficulty. Vocabulary building and word formation are emphasized. (No prerequisite)
Menze — No credit — \$30 — 16 lessons
- 17B. **German for Graduate Students.** Designed to give the graduate student the experience in intensive reading of German literary texts necessary to enable him to satisfy the German language requirement for an advanced degree by achieving a grade of "B" or better in the final examination which is part of the course. (Prerequisite: Ger 17A or 2 quarters of beginning German or 2 years of high school German)
Menze — No credit — \$40 — 21 lessons
24. **Introduction to Chemical German.** Selections of simple chemical German prose. Vocabulary and grammatical exercises. (No prerequisite)
Menze — 3 credits — \$30 — 16 lessons
- 25-26. **Chemical German.** Reading of works on chemistry. Vocabulary exercises. (Prerequisite: Ger 24, 1, or 1 year of high school German)
(25) Menze — 3 credits — \$30 — 16 lessons
(26) Menze — 3 credits — \$30 — 16 lessons
33. **Medical German.** Intended primarily for medical students. Articles on anatomy, biology, embryology, comparative anatomy, surgery, and other fields of medicine. (Prerequisite: Ger 3 or equivalent)
Menze — 5 credits — \$50 — 27 lessons
57. **Elementary Composition I.** A review of the fundamentals of German grammar with particular attention to the idioms and characteristics of written German. Practice in writing original compositions. (Prerequisite: Ger 4)
Menze — 2 credits — \$20 — 12 lessons
58. **Elementary Composition II.** A review of the fundamentals of German grammar with particular attention to the idioms and characteristics of written German. Practice in writing original compositions. (Prerequisite: Ger 57)
Menze — 2 credits — \$20 — 12 lessons
59. **Elementary Composition III.** Intensive practice in the use of conversational and written German, and in the writing of original compositions. (Prerequisite: Ger 58)
Menze — 2 credits — \$20 — 12 lessons
73. **Drama: The Classical Period.** Selected plays of Lessing, Schiller, and Goethe; with assigned readings and reports. (Prerequisite: Ger 4 or equivalent)
Menze — 3 credits — \$30 — 16 lessons

74. **Drama: The Nineteenth Century.** Selected plays of Kleist, Grillparzer, and Hebbel; with assigned readings and reports. (Prerequisite: Ger 73 or consent of instructor)
Menze — 3 credits — \$30 — 16 lessons
75. **Drama: The Modern Period.** Selected plays representing the more recent movements in German literature; naturalism, impressionism, expressionism; with assigned readings and reports. (Prerequisite: Ger 74 or consent of instructor)
Menze — 3 credits — \$30 — 16 lessons

GREEK (Grk)

(See Classics, page 26)

James ReVeal, Instructor in Humanities

1. **Beginning Greek I.** Introduction to the classical Greek language: alphabet, vocabulary texts, and idioms. Selected short readings in ancient Greek authors of moderate difficulty. Written translation exercises, Greek to English and English to Greek. (No prerequisite)
ReVeal — 5 credits — \$50 — 27 lessons
2. **Beginning Greek II.** Review of the fundamentals of classical Greek. Readings in authentic selections from the body of ancient Greek literature. Written translation exercises, Greek to English and English to Greek, of greater extent and scope than in Grk I. Successful completion of course should enable student to read classical Greek well, and the New Testament Greek very well, with the aid of a dictionary. (Prerequisite: Grk 1 or equivalent or consent of instructor)
ReVeal — 5 credits — \$50 — 27 lessons

HEALTH (PubH)

Murray Bates, Assistant Professor of Public Health

3. **Personal Health.** Elementary principles of normal body function; predisposing and actual causes of disease; ways in which disease may be avoided. (No prerequisite; not open to students who have taken 10C [Human Biology] in General College or PubH 2, 4, 5, 50 or 51)
Bates — 2 credits — \$20 — 12 lessons
50. **Personal and Community Health.** Causes of diseases and of physical defects; fundamental principles and working methods of health conservation and disease prevention. (No prerequisite; not open to students who have taken 10C in General College or PubH 2, 3, 4, 5 or 51)
Bates — 3 credits — \$30 — 16 lessons

HISTORY (Hist)

(See Asian Civilization: China, page 26)

(See European Travel, page 60)

Maude L. Lindquist, Professor and Head, Department of History, UMD
 Clarke A. Chambers, Professor of History
 Tom B. Jones, Professor of History
 Donald F. Warner, Professor of History, Central Washington State College
 Jeanne C. Lupton, Associate Professor of History
 David W. Noble, Associate Professor of History
 Theofanis G. Stavrou, Assistant Professor of History
 Mary L. White, Instructor in History (Correspondence Study)

1. **Civilization in the Modern World I.** A survey of European history from 1500 to 1763. The emphasis is upon the rise of the state. (No prerequisite)
White — 3 credits — \$30 — 16 lessons
2. **Civilization in the Modern World II.** A survey of European history from 1763 to 1870. Emphasis is placed upon the struggle for control of the state. (No prerequisite)
White — 3 credits — \$30 — 16 lessons
3. **Civilization in the Modern World III.** A survey of European history from 1870 to the present. Emphasis is placed upon impact of industrialism in 19th-century civilization and the development of the problems that have upset world civilization in the 20th century. (No prerequisite)
White — 3 credits — \$30 — 16 lessons
4. **English History I.** Conquest and settlement, the feudal age, foreshadowings of limited monarchy and popular government. (No prerequisite)
White — 3 credits — \$30 — 16 lessons
5. **English History II.** Tudors and Stuarts, parliament versus king, colonization. (No prerequisite)
White — 3 credits — \$30 — 16 lessons
6. **English History III.** The coming of democracy, Britain and Europe, Empire and Commonwealth. (No prerequisite)
White — 3 credits — \$30 — 16 lessons
- 7(c). **Survey of Minnesota History.** The political, social, and economic development of Minnesota from the period of European explorations to the present. Access to W. W. Folwell's *History of Minnesota* and the *Minnesota History* magazine and other publications of the State Historical Society will be required. (No prerequisite; not open to those who have completed Hist 79)
Lindquist — 4 credits — \$40 — 21 lessons
- 8(c). **The Foundations of Modern Civilization.** An insight into the development of human institutions and practices which comprise what is called modern civilization. A study of primitive man, civilizations of the Ancient Near East, Greece, and Rome; the decline of Rome and, with it, ancient civilization in the West; the development of modern civilization which may be said to have been launched by A.D. 1500. Throughout, emphasis is placed on culture traits, such as religion, art, literature, science, economics, political institutions, and whatever else made up a civilization at a given time. (No prerequisite; not open for credit to those who have completed Hist 1, 2, 3)
White — 4 credits — \$40 — 21 lessons
14. **History of Ancient Civilization I.** A survey of the rise of civilization in the Ancient Near East from the earliest times to 500 B.C. Emphasis is placed upon the origin of culture and its development in complexity from the primitive to the civilized stage. Special attention is given to the civilizations of Babylonia, Egypt, Indus Valley, Syria, Palestine, and Crete. (No prerequisite)
Jones — 3 credits — \$30 — 16 lessons
- 14A. **Basic Readings in Ancient Civilization I.** An introduction to ancient history as a discipline: the principles of historical analysis and criticism as well as the methods and techniques used in the reconstruction of the past. Among the topics considered are archaeological excavation; uses of evidence provided by pottery, coins, and other artifacts; type problems posed by literary sources and ancient documents. Some consideration will also be given to ancient Near Eastern literature and the Greek epic and the meaning of the Old Testament as a literary and historical document. (Prerequisite: Hist 14 or concurrent registration)
Jones — 2 credits — \$20 — 12 lessons
15. **History of Ancient Civilization II.** The history of the rise and flowering of Greek civilization from the earliest times to the death of Alexander the Great in 323 B.C. Special emphasis is placed on Greek civilization in the fifth century (Age of Pericles)

with attention to the political, social, literary, artistic, and philosophic achievements of that period. (No prerequisite; Hist 14 helpful in providing a background for the Greek period)

Jones — 3 credits — \$30 — 16 lessons

- 15A. Basic Readings in Ancient Civilization II.** An introduction to the major authors of the classical Greek period. Selections from the poets, the dramatists, Herodotus, Thucydides, Xenophon, the orators, Plato and Aristotle. (Prerequisite: Hist 15 or concurrent registration)

Jones — 2 credits — \$20 — 12 lessons

- 16. History of Ancient Civilization III.** The climax of ancient civilization during the Hellenistic Age (323-133 B.C.) and the Roman Imperial Period followed by the decline of Rome and of ancient civilization (to about A.D. 300). The three main topics to be considered are (a) the civilization of the ancient world at its peak, (b) the rise and flowering of Roman culture, and (c) the reasons for the decline of ancient civilization. Special attention will be paid to political institutions, art, literature, economics and society, philosophy, and ancient science. (No prerequisite; recommended that Hist 16 be preceded by Hist 14 and 15 in order that the student may acquire a background for the history of the Roman period)

Jones — 3 credits — \$30 — 16 lessons

- 16A. Basic Readings in Ancient Civilization III.** An introduction to the literature of the Hellenistic and Roman periods. Selections from poetry, drama, history, biography, science, philosophy, oratory, and letters. The New Testament and early Christian writings will be considered in their relation to pagan literature. (Prerequisite: Hist 16 or concurrent registration)

Jones — 2 credits — \$20 — 12 lessons

- 20. American History I, 1600-1844.** Colonial establishments; social, economic, and political development of the colonies; mercantilism; problems of empire; the Revolution; the Constitution; westward expansion; development of the American party system; foreign relations and the Monroe Doctrine; problems of nationalism and sectionalism. (No prerequisite)

Lupton — 4 credits — \$40 — 21 lessons

- 21. American History II, 1844-1896.** Manifest Destiny and the Mexican War; problems of slavery; politics of sectionalism; roots of the Civil War; the war at home and abroad; Reconstruction; the passing of the frontier; the triumph of industrial capitalism; the problems of labor; immigration; agriculture and the Populist revolt. (No prerequisite)

Noble — 4 credits — \$40 — 21 lessons

- 22. American History III, 1896 to Present.** Resurgence of Manifest Destiny and the Spanish-American War; social problems at the turn of the century; the theory and practice of progressivism; Roosevelt, Taft, and Wilson; World War I; normalcy and reaction; Harding, Coolidge, and Hoover; the Jazz Age; retreat to isolationism; depression and the New Deal; the world crisis and Pearl Harbor; problems of peace; Truman and foreign policy; the Eisenhower administrations. (No prerequisite)

Chambers — 4 credits — \$40 — 21 lessons

- 92. History of the Far West.** A study of the discoveries, exploration, and settlement of the Far West with special emphasis on the frontiers of the cattleman, miner, farmer, and rancher, and the Indian problems; the course of Western economy and its relationship to the national scene. (Prerequisite: a basic course in American history)

Lindquist — 3 credits — \$30 — 16 lessons

- 93. American Diplomatic History I. (1776-1846)** Traces the early history of our foreign policy. Three principal aspects are treated: the origins and basic principles of Ameri-

can foreign policy; the fight for survival and recognition after the Revolution; and the drive for continental expansion. (No prerequisite)

Warner — 3 credits — \$30 — 16 lessons

95. **American Diplomatic History III.** A survey of the history of American foreign policy since 1909. The principal emphasis is placed upon the causes and consequences of our entry into the two world wars and our shift from isolationism to world leadership in foreign affairs. (No prerequisite)

Warner — 3 credits — \$30 — 16 lessons

- 103A. **History of the Ancient Near East I.** The first civilization in the Ancient Near East. Main topics: the sources of our knowledge about the past with special attention to the role of archaeology; the beginnings of agriculture and the advent of civilization in the great river valleys; the Old Kingdom in Egypt and Sumerian period in Mesopotamia; the Egyptian Middle Kingdom; the Age of Hammurabi; characteristics of ancient Near Eastern civilization: literature, art and architecture, law, religion, economics, society, and technology. (Prerequisite: 9 credits in history; open to juniors and seniors without prerequisite)

Jones — 3 credits — \$30 — 16 lessons

- 104A. **History of the Ancient Near East II.** The Age of Empires: 1600-1000 B.C. Main topics: the New Kingdom (Empire) in Egypt; the Hittite Empire; developments in Syria and Palestine with special attention to the Canaanites, Philistines, and Hebrews; the spread of civilization to Asia Minor and Aegean lands. (Prerequisite: same as Hist 103A)

Jones — 3 credits — \$30 — 16 lessons

- 105A. **History of the Ancient Near East III.** A survey of developments in the period 1000-500 B.C. Main topics: Phoenicians; Hebrews; the Assyrian Empire; Assyrian civilization; the Age of Nebuchadnezzar; Saite period in Egypt; the Lydian kingdom; contacts between Greece and the Near East; the Persian Empire. (Prerequisite: same as Hist 103A)

Jones — 3 credits — \$30 — 16 lessons

- 118E. **Russian History I.** A survey of Russian history to the time of Peter the Great, including the origins of the Russian state, Kievan Russia, and the rise of Muscovy. (Prerequisite: Hist 1, 2, and 3 or equivalent)

Stavrou — 3 credits — \$30 — 16 lessons

- 119E. **Russian History II.** Covers the period from Peter the Great through the Crimean War and includes the study of the Europeanization of Russia and the crystallization of the Empire. (Prerequisite: Hist 1, 2, and 3 or equivalent)

Stavrou — 3 credits — \$30 — 16 lessons

- 120E. **Russian History III.** A survey of the last years of the Russian Empire, the background of the revolution, and the establishment and history of the Soviet State. (Prerequisite: Hist 1, 2, and 3 or equivalent)

Stavrou — 3 credits — \$30 — 16 lessons

- 118G. **The Modern Near East: The Balkans and the Arab World I.** Covers the period from the fall of Constantinople (1453) to the Treaty of Jassy (1792).

Stavrou — 3 credits — \$30 — 16 lessons

- 147A. **Latin America in the Twentieth Century.** A survey of the political, social, and economic development of the major nations of Latin America with particular attention to inter-American relations. Although attention is given to political problems and developments, the social problems—health, education, food, etc.—are considered. In addition, pertinent geographic factors which have influenced Latin-American experiences are included. Particular attention is devoted to industrial expansion and the impact of industry on society. (No prerequisite)

Lupton — 3 credits — \$30 — 16 lessons

HOME ECONOMICS (HE)

Gladys Babcock, Associate Professor of Home Economics, Carnegie Institute

- 2(c). **Introduction to Textiles.** For consumers and people in the field of merchandising. A study of textiles commonly used in clothing and home furnishings including fiber identification and properties, yarn and fabric construction, fabric finishing, determination of fabric quality in relation to use, and care of fabrics. (No prerequisite)
 Babcock — 3 credits — \$30 plus \$1.50 for materials — 16 lessons

HORTICULTURAL SCIENCE (Hort)

Robert A. Phillips, Assistant Professor of Horticulture

51. **Garden Flowers and Home Gardening.** A broad general study of the principles and practices of gardening especially prepared for beginners, but also valuable for the advanced or experienced gardener. There will be textbook assignments and practical home projects in propagating plants for the garden. Some of the topics covered will be planting, transplanting, seeds, soils, fertilizers, preparing beds and planting areas, selecting a good garden site, controlling insects and diseases, weeding, watering, cultivating, pruning, tools, and equipment. Lists of recommended varieties of annuals, perennials, bulbs, and roses for northern gardens will be supplied. Similar lists for other areas of the country can be secured from state agricultural colleges and experiment stations and from the U.S. Department of Agriculture. (No prerequisite)
 Phillips — 3 credits — \$30 — 16 lessons
60. **Home Landscape Planning.** Planning the home grounds for greater use and enjoyment, with an introduction to the principles of landscape design, their application and importance in the use and decoration of the home grounds. Uses an artistic approach to the problems and prospects of home landscaping which will also serve as a background for the pursuit of the popular hobby of gardening. There will be an independent student project of planning either a hypothetical home plot or the home place of the student. In this project the student will be guided by the instructor. A practical program of study for nurserymen, teachers, homeowners, and others interested in home landscaping. (No prerequisite)
 Phillips — 3 credits — \$30 — 16 lessons

HUMANITIES (Hum)

(See Asian Civilization: China, page 26)

Albert Milgrom, Teaching Associate in Humanities
 Carolyn Sturges, Teaching Assistant in Humanities
 L. James Armstrong, Instructor in Humanities

1. **Humanities in the Modern World I.** Examination of the mainstream of western European intellectual history from the early 18th century to the first few decades of the 19th century. The Age of Reason and neoclassicism. The old regime, the French Revolution, the rise and fall of Napoleon, the rise of romanticism. Authors: Mandeville; Pope, *An Essay on Man*; Voltaire, *Candide*; Wordsworth; Goethe, *Faust*; Rousseau, *The Social Contract*; Burke, *Reflections on the Revolution in France*; Tolstoy, *War and Peace*. (No prerequisite)
 Armstrong — 3 credits — \$30 — 16 lessons
3. **Humanities in the Modern World III.** The impact of science—especially Darwinism—on philosophy, religion, and the prevailing values of western Europe from about the middle of the 19th century to the opening of World War I. Writings by the influential scientists and philosophers of the age, including essays by Lamarck, Darwin, Wallace, John Dewey, G. B. Shaw, and others. Full-length works by Kierkegaard,

Fear and Trembling; Nietzsche, *Thus Spake Zarathustra*; Tolstoy, *The Death of Ivan Ilych*; Joyce, *The Dead*; Mann, *Death in Venice* and *Magic Mountain*. (No prerequisite)

Sturges — 3 credits — \$30 — 16 lessons

4. **Humanities in the Modern World IV.** Civilization between two wars; the impact of psychoanalysis; a critique of communism; a prediction of the future. Period: from World War I to the present. Authors: Huxley, Bellamy, Freud, O'Neill, Lenin, Malraux, Koestler. (No prerequisite)

Milgrom — 3 credits — \$30 — 16 lessons

INTERIOR DECORATION

(See Art, page 20)

JAPANESE (Jpn)

Edward M. Copeland, Assistant Professor of Japanese

Amy Matsumoto, Instructor in Japanese

A 10-inch, 33 $\frac{1}{3}$ -rpm Basic Japanese Pronunciation record is available from the Correspondence Study Department for \$3.75. A tape recording is also available for approximately \$6.

1. **Beginning Japanese I.** As an introduction to reading and writing modern Japanese, the course provides the basic grammar and vocabulary for learning to read modern fiction, newspapers, magazine styles, as well as for conversational Japanese. (No prerequisite)

Copeland, Matsumoto — 5 credits — \$50 — 27 lessons

JOURNALISM (Jour)

John C. Sim, Associate Professor of Journalism

Harold W. Wilson, Associate Professor of Journalism

Robert Lindsay, Instructor in Journalism

13. **Introduction to Reporting.** Study of the newspaper audience; structure and writing of the news story; study of news values; exercises in journalistic style; analysis of newspapers; news gathering and reportorial methods. Numerous writing assignments. (Prerequisite: Freshman English or equivalent)

Sim — 3 credits — \$30 — 16 lessons

14. **Newspaper Reporting I.** Continued study of the news gathering and of writing the "straight" news story; the human interest or feature story; analysis of newspapers; special types of reporting; advanced interviewing. Numerous writing assignments. (Prerequisite: Jour 13 or consent of instructor)

Sim — 3 credits — \$30 — 16 lessons

15. **Newspaper Reporting II.** Study of newspaper law, including libel, rights of the press, study of "privilege," and other legal regulations affecting the press; advanced reporting; the interpretative story; the newspaper feature story. Numerous writing assignments. (Prerequisite: Jour 14 or consent of instructor)

Sim — 3 credits — \$30 — 16 lessons

57. **Typography for Publications and Advertising.** Planning layouts with typography, illustrations, color, print paper and process. Design principles. Students will work in publication format and design or advertising layout in accordance with their interest. (Prerequisite: consent of instructor)

Wilson — 3 credits — \$30 — 16 lessons

- 73. Magazine Articles I.** A study in the writing of factual and opinion articles, interviews and expository articles, both serious and feature, for newspapers and magazines. Main emphasis is laid on the journalistic type of article rather than the essay type. (Prerequisite: Jour 15; not open to those who have completed Jour 69)
Lindsay — 3 credits — \$30 — 16 lessons
- 78. Public Relations Methods.** Publicity, external and internal communication, use of media; techniques and application of institutional promotion and communication, including use of company publications, institutional advertising, and trade journals. Projects and campaigns. (Prerequisite: Jour 69 or 73 or consent of instructor)
Lindsay — 3 credits — \$30 — 16 lessons
- 86. Radio and Television Script Writing.** Introduces the student to the lines of experience in both major fields of broadcasting. Starts with the simplest kind of script writing and progresses by logical steps to more complex radio and television work. Numerous writing assignments are made, and optional exercises are provided for additional experience. (Prerequisite: Freshman English or consent of instructor)
Lindsay — 3 credits — \$30 — 16 lessons
- 150. Institutional Public Relations.** Principles and practices of public relations in the business setting and in education, social work, public health, and other community service fields. Use of the mass media and journalistic implications of the public relations process. (Prerequisite: Jour 78 or consent of instructor)
Lindsay — 3 credits — \$30 — 16 lessons

LATIN (Lat)

(See Classics, page 26)

James ReVeal, Instructor in Humanities
Margaret Twentyman, Teaching Assistant

The following courses represent a graded sequence completing Lower Division requirements, or the equivalent of 4 years of high school Latin. The prerequisite for each course (except Lat 1) is the course immediately preceding, or equivalent credit. Students who have completed the first three courses or the equivalent, however, may register for Lat 4, 5, or 6. Those who wish to increase aural-oral facility may want to supplement their course work by using drill-practice records or tapes. While these are not required for the courses outlined, students will find their individual study made easier, more interesting, and more satisfying if they are able to make use of these audio-aids. There are at least two private sources making recordings in Latin. Names and addresses will be sent on request. Write to the Correspondence Study Department or to the Classics Department, University of Minnesota.

- 1. Beginning Latin I.** Basic grammar and vocabulary; practice in reading and writing Latin; workbook exercises; easy Latin readings and Roman legends. (No prerequisite)
ReVeal — 5 credits — \$50 — 27 lessons
- 2. Beginning Latin II.** Continuation of Lat 1. Similar in content and method, leading to connected reading in *Fabulae Faciles* (Easy Stories). (Prerequisite: Lat 1 or equivalent)
ReVeal — 5 credits — \$50 — 27 lessons
- 3. Intermediate Latin Reading.** A review of the elements of Lat 1 and 2, with a shift of emphasis to longer passages of continuous reading on Roman life. A considerable amount of historical and literary background is presented in English to orient the student to the material. (Prerequisite: Lat 2 or equivalent)
Twentyman — 5 credits — \$50 — 27 lessons

4. **Selections from Latin Prose and Poetry.** The student has an opportunity to read selections from the most famous public addresses of Cicero, and to gain, through the English descriptive passages, an understanding of their importance then and now. Through reading some of the *Tales of Ovid* in the original Latin verse, he may become better acquainted with mythology and its influence upon the literature of our time. Other poets and prose writers are included. These selections have been made from the standpoint of present-day interest. (Prerequisite: Lat 3 or equivalent)
Twentyman — 3 credits — \$30 — 16 lessons
5. **Vergil's Aeneid.** Readings of selections from Books I-II; background reading in Roman life and thought is included in the text. (Prerequisite: Lat 3 or equivalent)
Twentyman — 5 credits — \$50 — 27 lessons
6. **Cicero.** Readings from the most famous humanistic essays. (Prerequisite: Lat 3 or equivalent)
Twentyman — 3 credits — \$30 — 16 lessons

LIBRARY SCIENCE (Lib)

Joyce Davenport, Instructor in Library Science (Correspondence Study)

Selecting Books for Children. See page 55.

Using Books and Libraries. See page 56.

52. **Descriptive Cataloguing.** The forms and principles involved in making a dictionary card catalogue. Based primarily on *Akers Simple Library Cataloging*. Directions for the use of printed cards prepared by the Wilson Company and the Library of Congress. (No prerequisite; recommended that Lib 52 precede 54)
Davenport — 3 credits — \$30, rental and materials \$2.15 — 16 lessons
54. **Elementary Classification and Subject Heading.** Based on the unabridged edition of the *Dewey Decimal Classification* and *Sears List of Subject Headings for Small Libraries*. Aims to give an understanding of methods of classification and the principles of assigning subject headings to books in a library. Attention is given to modifications and adaptations useful in school or small public libraries. Includes use of Cutter-Sanborn author numbers and preparation of a shelf-list. (No prerequisite)
Davenport — 3 credits — \$30, rental \$3.10 — 16 lessons

Note—The courses in library science do not provide credit in the University of Minnesota Library School which is a graduate program leading to a Master's degree. The credits are acceptable in other undergraduate colleges at Minnesota, usually on an elective basis. Most states will accept the credits for teacher certification. If you have questions about the transfer of credits write to your State Department of Education or similar agency.

MATHEMATICS (Math)

(CLA—College of Liberal Arts)

(ITM—Institute of Technology [Engineering courses])

Immanuel C. Fischer, Professor of Engineering

Edward S. Loye, Associate Professor of Mathematics

Margaret O. Marchand, Instructor in Mathematics (Correspondence Study)

Erna M. Yackel, Instructor in Mathematics (Correspondence Study)

High School Mathematics. See page 63.

Note—It is essential that the student have a working knowledge of the prerequisites to each course as well as credit in the preparatory subjects. If there has been a time lapse since the previous course in mathematics, the student should review thoroughly or repeat the prerequisite. It is impossible to make progress in mathematics without a sound knowledge of previous concepts and applications.

1(c). Basic Mathematics Review I. A thorough review of grade school arithmetic; square and cube root. A good foundation in elementary algebra; the fundamental operations involving positive and negative numbers; fractions; the solution of simple equations and fractional equations; exponents; symbols of grouping; special products and factoring; and simplification of fractional expressions. (No prerequisite)

Fischer — No credit — \$30 — 16 lessons

3(c). Basic Mathematics Review II. Covers the material of the second semester of high school algebra and the numerical part (called mensuration) of plane and solid geometry, plus numerical trigonometry and logarithms. *In algebra*: simultaneous linear equations; exponents and radicals; solution of quadratic equations, irrational equations; ratio, proportion, variation; graphical representation of statistical data and of equations; and the use of formulas. *In geometry*: formulas from plane and solid geometry and how to apply them. *In trigonometry*: logarithms and how to use them; the trigonometric functions; and solution of right and oblique triangles. (Prerequisite: equivalent of Math 1[c])

Fischer — No credit — \$30 — 16 lessons

8. Solid Geometry. Standard theorems and exercises. Practice in special proofs and original exercises to develop imagination and initiative. (Prerequisite: Plane Geometry A-B or 1 year of high school plane geometry)

Fischer — $\frac{1}{2}$ entrance unit — \$25 — 20 lessons

11. Intermediate Algebra. Fundamental operations, factoring, fractions, functions and graphs, linear equations, exponents and radicals, quadratic equations, ratio and variation, progressions, binomial theorem, logarithms. (Prerequisite: 1 year of elementary algebra in high school or equivalent)

Loye — 1 entrance unit — \$50 — 27 lessons

12. College Algebra and Trigonometry. Trigonometric functions, right triangles, oblique triangles, radian measure. Trigonometric formulas and identities, trigonometric curves, inverse trigonometric functions, trigonometric equations. Inequalities, exponential and logarithmic functions, complex numbers. (Prerequisite: Math 11 or equivalent)

Loye — 1 entrance unit — \$50 — 27 lessons

Note—Math 8, 11, and 12 meet the present entrance requirements in mathematics for the Institute of Technology (engineering courses).

T (CLA). Trigonometry. Analytic trigonometry emphasizing identities, equations, and properties of the functions; right and oblique triangles without logarithmic computation. (Prerequisite: Plane geometry and either Math Y or 11 or high school higher algebra)

Marchand — 3 credits — \$30 — 16 lessons

13A (IT). Calculus I: Analytic Geometry and Calculus. (Will be replaced by 21 in Fall 1964) Rectangular co-ordinates, locus and equation, straight line, conic sections. Limit, derivative, rules of differentiation, rates, curve tracing, maxima and minima. Elements of integration and applications. (Prerequisite: Math 8, 11 and 12 or equivalent)

Loye — 5 credits — \$50 — 27 lessons

13 (CLA). College Algebra. (May be substituted for Math 10) Quadratic equations, simultaneous quadratic equations, progressions, the binomial theorem, mathematical induction, inequalities, complex numbers, theory of equations, permutations and combinations, probability, and determinants. (Prerequisite: Math Y or 11 or high school algebra)

Yackel — 5 credits — \$50 — 27 lessons

- 20 (CLA). Mathematics of Investment.** The mathematical theory of simple interest, simple discount, compound interest, and annuities certain. The applications deal with promissory notes, banking practice in the lending of money, the discharge of debts by periodic payments, depreciation funds, perpetuities, capitalization problems, and bonds. (Prerequisite: Math 10 or 15)
Yackel — 5 credits — \$50 — 27 lessons
- 21 (IT). Calculus I: Calculus and Analytic Geometry.** (Replaces Math 13A Fall 1964) Review of algebra, inequalities, relations and functions, graphs, line, linear inequalities, preview of calculus, limits, continuity, differentiation of algebraic functions, applications, differential. (Prerequisite: Math 12 or 4 years of high school mathematics divided approximately into 2 years of algebra and 2 years of geometry including solid geometry and trigonometry)
Loye — 5 credits — \$50 — 27 lessons
- 22 (IT). Calculus II: Calculus and Analytic Geometry.** (Replaces Math 24A Winter 1965) Trigonometric review, definite integral, lines and circles, conics, calculus of trigonometric, exponential, logarithmic and hyperbolic functions. (Prerequisite: Math 21 or 13A)
Loye — 5 credits — \$50 — 27 lessons
- 23 (IT). Calculus III: Calculus and Analytic Geometry.** (Replaces Math 25A Spring 1965) Review of theory of equations, complex numbers, parametric equations, arc length, polar co-ordinates, vectors in a plane, formulas and methods of integration, applications. (Prerequisite: Math 22 or 24A)
Loye — 5 credits — \$50 — 27 lessons
- 24A (IT). Calculus II: Analytic Geometry and Calculus.** (Will be replaced by Math 22 Winter 1965) Differentiation and integration of elementary functions, polar co-ordinates. Applications of integration: plane areas, length of curve, area of curved surfaces, volumes, moments, centroids, moments of inertia, hydrostatic pressure, work. (Prerequisite: Math 13A or equivalent)
Fischer — 5 credits — \$50 — 27 lessons
- 25A (IT). Calculus III: Analytic Geometry and Calculus.** (Will be replaced by Math 23 Spring 1965) Parametric equations, vector algebra, and vector calculus. Solid analytic geometry treated by vector methods, partial differentiation, geometry of surfaces, differentials, directional derivative, maxima, and minima. Multiple integrals, volume, surface area, physical applications. (Prerequisite: Math 24A or equivalent)
Fischer — 5 credits — \$50 — 27 lessons
- 26A (IT). Calculus IV: Differential Equations and Calculus.** (Will be replaced by Math 31, 32 Winter 1966) Infinite series; convergence tests, Taylor's formula and expansion of functions. Differential equations; equations of first order; standard methods of solutions; linear equations with constant coefficients, applications; simultaneous equations, integration by series, numerical methods. (Prerequisite: Math 25A or equivalent)
Loye — 5 credits — \$50 — 27 lessons
- 31 (IT). Calculus IV: Calculus and Analytic Geometry.** Solid analytic geometry, vectors in three dimensions, elements of infinite series, partial differentiation, Taylor's theorem, maxima and minima, exact differentials, line integrals. (Prerequisite: Math 23 or 25A or 25B)
Fischer — 5 credits — \$50 — 27 lessons
- 32 (IT). Calculus V: Calculus, Linear Algebra, Differential Equations.** Multiple integration, determinants and matrices, general linear systems. Differential equations, separable, homogeneous, exact, general linear first order, linear equations with constant coefficients. (Prerequisite: Math 31 or 26B)
Fischer — 5 credits — \$50 — 27 lessons

Note—Math 31 and 32 replace Math 26A beginning Winter 1966.

- 33 (IT). **Calculus VI: Calculus, Linear Algebra, Differential Equations.** (Offered Spring 1966) Functions defined by integrals, vector field theory, Green's and Stokes's theorems. Matrix methods for systems of differential equations, series solution of differential equations. (Prerequisite: Math 32 or 26A or 27)
Fischer — 5 credits — \$50 — 27 lessons
- 42 (CLA). **Analytic Geometry and Calculus I.** Introduction to differential calculus with study of topics in analytic geometry. Major items for consideration include: study of the straight line, simple conics, curve tracing, derivations of elementary functions, velocity, acceleration, related rates, maxima and minima, and differentials. (Prerequisite: Math 10 or 15 and either T or high school trigonometry)
Marchand — 5 credits — \$50 — 27 lessons
- 43 (CLA). **Analytic Geometry and Calculus II.** Introduction to integration with applications to area, volume, and work; topics in analytic geometry; differentiation and integration of transcendental functions; study of limits; polar co-ordinates; and integration by standard forms and special methods. (Prerequisite: Math 42 or 49)
Marchand — 5 credits — \$50 — 27 lessons
- 44 (CLA). **Analytic Geometry and Calculus III.** Continuation of Math 53. Improper integrals; infinite series; Taylor's theorem; multiple integrals in two and three dimensions. (Prerequisite: Math 43 or 53)
Marchand — 5 credits — \$50 — 27 lessons
- 50 (CLA). **Calculus I.** Differential calculus. Limits, continuity, differentiation, maxima and minima, applications to geometry and physics, differentials, law of the mean, indeterminate forms, convergence of series, series expansion and partial differentiation. (Prerequisite: Math 30; University of Minnesota students should enroll in Math 42)
Yackel — 5 credits — \$50 — 27 lessons
- 51 (CLA). **Calculus II.** Integral calculus. Indefinite integrals, definite integrals, convergence of improper integrals, the definite integral as the limit of a sum, multiple integrals and applications to geometry and mechanics. (Prerequisite: Math 50; University of Minnesota students should enroll in Math 43)
Yackel — 5 credits — \$50 — 27 lessons
- 55 (CLA). **Intermediate Calculus.** Advanced topics in partial differentiation, total differentials, directional derivatives, maxima and minima of functions of several variables, applications of multiple integrals, Taylor's theorem for functions of several variables, elements of differential equations. (Prerequisite: Math 44 or 54)
Marchand — 3 credits — \$30 — 16 lessons
- 62 (CLA). **Theory of Equations I.** Complex numbers, solution of algebraic equations, properties of polynomials, isolation of the real zeros of a real polynomial, determinants and linear equations. (Prerequisite: Math 43 or 50 or 53)
Yackel — 3 credits — \$30 — 16 lessons
- 106 (CLA). **Differential Equations.** Equations of first order, singular solutions; linear equations with constant coefficients, simultaneous equations, integration in series. (Prerequisite: Math 31 or 25A or 26B or 44 or 51)
Loye — 3 credits — \$30 — 16 lessons

MUSIC (Mus)

Paul Fetler, Professor of Music

Mary E. Malcolm, Professor of Music

4. **Harmony I.** Intervals, triads, major and minor scales, the structure and progression of four-part chords based upon the triad and its inversions, part-writing, melody harmonization, modulation, analysis. (No prerequisite)
Malcolm — 3 credits — \$30 — 16 lessons

5. **Harmony II.** Continuation of Mus 4, with the addition of nonharmonic tones and diatonic seventh chords. (Prerequisite: Mus 4)

Malcolm — 3 credits — \$30 — 16 lessons

6. **Harmony III.** Continuation of Mus 5, with the addition of chromatically altered nonharmonic tones, chromatically altered chords, and modes. (Prerequisite: Mus 5)

Malcolm — 3 credits — \$30 — 16 lessons

Note—Mus 4, 5, 6 correspond to the written portion of Music Theory for resident students in the Department of Music, University of Minnesota.

- 9(c). **Counterpoint.** Counterpoint is the creative study of writing one or more independent melodies against each other in a strict style. Such a study is of great value in particular to the student of composition. Course is based directly on the 16th-century polyphony. Works of Lassus and Palestrina are examined and the rules for writing formulated accordingly. An elementary course. The student learns the writing of good melodic lines and gradually continues with two-voice counterpoint. The writing of canon is an important part of this course. (Prerequisite: general knowledge of music theory)

Fetler — 3 credits — \$30 — 16 lessons

NORWEGIAN (Scan)

Marion J. Nelson, Assistant Professor of Scandinavian

1. **Beginning Norwegian I.** A complete survey of Norwegian grammar. Composition. Reading of easy prose. (No prerequisite)

Nelson — 5 credits — \$50 — 27 lessons

2. **Beginning Norwegian II.** Study of folk tales and short stories. Reading and composition. (Prerequisite: Scan I or equivalent)

Nelson — 5 credits — \$50 — 27 lessons

PARLIAMENTARY PROCEDURE

Ralph E. Miller, Associate Professor, College of Agriculture, Forestry, and Home Economics

25. **Parliamentary Procedure.** Fundamental principles and practices of parliamentary law essential for conducting meetings and participating in community organizations. Particular emphasis is given to discussion of problems relative to federated clubs, P.T.A., Legion Auxiliary, extension organizations, farm organizations, such as: Grange, Farm Bureau, Farmers Union, 4-H clubs, and Future Farmers of America. Topics to be considered will include formation of organizations, drafting of constitutions, duties of officers, motions, amendments, nominations, and elections. (No prerequisite)

R. Miller — 1 credit — \$20 — 12 lessons

PERSONAL ORIENTATION (PO)

David Wark, Assistant Professor, Student Counseling Bureau

1. **How to Study.** Practical assistance in developing efficient methods of study and concentration, organizing material, preparing for examinations, and improving reading ability and vocabulary. Attention to the orientation of students in their attitudes and motivation, and the relation of these to satisfactory performance. (No prerequisite; credit must be added to degree requirements at the University of Minnesota)

Wark — 2 credits — \$20 — 12 lessons

PHILOSOPHY (Phil)

A. Carl Ahlen, Professor of Philosophy, Northwestern Lutheran Theological Seminary
 Charles Kielkopf, Assistant Professor of Philosophy, Ohio State University
 Daniel D. Merrill, Assistant Professor of Philosophy, Oberlin College

1. **Problems of Philosophy.** Is there any principle or set of principles in terms of which we can understand man, experience, and the world? Does life have a meaning? What, if anything, can we know? What are good and evil? Is the nature of reality discoverable? Is political organization a purely natural development, or is it an artificial human invention? Is there any *ideal* form of social organization? How, if at all, are religion, science, art, and politics interrelated? Attempts to answer these questions are considered. Proposed solutions by the world's great minds, ancient and modern, are examined. The student is encouraged to do critically reflective thinking of his own concerning these basic issues. (No prerequisite)
 Ahlen — 3 credits — \$30 — 16 lessons
2. **Logic.** There is a difference between "straight" and "crooked" thinking. Logic is the study of these differences. What is a fallacy? How many pitfalls beset the attempt to think straight? When is a term properly defined? Why are sound definitions important? What is meant by a "syllogism"? What is meant by a "dilemma"? What do you understand by proof? When is proof of a statement called for? When is it complete? What is a hypothesis? How many of these do you use in an average conversation? What is meant by "scientific thinking"? Logic is the systematic analysis of these and other related questions. The study of logic will show you what is involved in straight thinking. (No prerequisite)
 Ahlen — 3 credits — \$30 — 16 lessons
3. **Ethics.** A study of the principles and problems of right and wrong in human relationships. The course will include such topics as the following: The history of moral development, the ethical theories of classical philosophy, the problems of free-will, the nature of man, the ethical problem involved in international relations and in other social problems, the relationship of religion to ethics. (No prerequisite)
 Ahlen — 3 credits — \$30 — 16 lessons
10. **Science and Religion.** A historical and philosophical inquiry into the conflict between modern science and religion, attempting to find grounds of conflict and/or reconciliation. (No prerequisite)
 Merrill — 2 credits — \$20 — 12 lessons
50. **History of Ancient Philosophy.** The first of three courses surveying major developments in Western philosophic thought from its beginning among the Greeks to the end of the 19th century. This course is concerned with the origins of philosophy, the culture of ancient Athens, Socrates, Plato, Aristotle, the early Roman philosophies, the philosophies of Alexandria, and the differences introduced by Judaism and Christianity to philosophic thought. Philosophy from 600 B.C. to A.D. 100. (No prerequisite)
 Kielkopf — 5 credits — \$50 — 27 lessons

PHYSICAL EDUCATION (PE)

Richard J. Donnelly, Professor and Director of Physical Education
 Fred Chapman, Associate Professor of Recreation
 H. Robert Giles, Associate Professor of Physical Education
 Helen M. Slocum, Associate Professor of Physical Education
 Marjorie U. Wilson, Associate Professor of Physical Education
 Gordon L. Starr, Assistant Professor of Physical Education
 Jeralyn Plack, Instructor in Physical Education
 John M. Schultz, Instructor in Recreation Leadership

- 11. Survey of Recreational Activities.** Serves the student as an introduction to many areas of and kinds of recreational activities. It is designed to acquaint the student with many recreational activities that surround him every day, and enable him to better understand the world in terms of leisure and recreation. The beginning student should find the course and course material a good orientation for his professional choice, and other students should be encouraged to seek additional information and training. (No prerequisite)
Starr — 3 credits — \$30 — 16 lessons
- 31. Industrial Recreation.** Serves as an introduction to industrial recreation, one of the specialized phases of recreation. Designed to acquaint the full- or part-time recreational leader with the broad aspects of recreation, as well as to point out specific problems related to industry and recreation. Arranged to challenge the student to think of the responsibilities of business and industries of both the employee and the community. (No prerequisite)
Starr — 3 credits — \$30 — 16 lessons
- 48. Methods in Supervision of Recreation.** The various in-service training devices and supervisory techniques common to recreation programs in communities and hospitals are considered. Necessary qualities, traits, and characteristics of the supervisor are reviewed along with the purposes and advantages of good supervision. This course should be of value to those in formal and informal settings who find it necessary to deal effectively with personnel in working relationships. (No prerequisite)
Chapman — 3 credits — \$30 — 16 lessons
- 49. Social Aspects of Leisure.** Designed to acquaint the student with leisure and recreation as basic forces in the social and economic structure of our society. It stresses the nature of leisure and recreation with particular reference to their relationships. Attention is focused upon leisure and recreation as parts of daily living in our society and as products of our social progress. (No prerequisite)
Schultz — 3 credits — \$30 — 16 lessons
- 50. Orientation to Recreation in Hospitals.** Introductory principles of hospital recreation are examined. A general description of types of hospitals and their patients' activities programs are studied. The philosophy and purposes of hospital recreation as well as the program content is highlighted. Beginning methods in the leadership and supervision of recreation programs for patients in hospitals are featured. (No prerequisite)
Chapman — 3 credits — \$30 — 16 lessons
- 56. Nature and Function of Play and Recreation.** A fundamental background course for either recreation or physical education. Proceeds from an understanding of the biological play drive, theories and philosophies of play, to the place of play in the modern world and its function in building an integrated personality. (No prerequisite)
Giles — 3 credits — \$30 — 16 lessons
- 61. History of Physical Education.** The influence of social, economic, political, and religious factors in the development of physical education from primitive times to the present. Origin and development of games and sports. (No prerequisite)
Donnelly — 3 credits — \$30 — 16 lessons
- 82. Principles of Physical Education.** Principles of philosophy, curriculum, method, and evaluation are studied in the light of their psychological, biological, and social significance. (Prerequisite: minimum of 5 credits in skills courses and 3 credits in methods courses in physical education; open to men and women)
Wilson — 3 credits — \$30 — 16 lessons
- 83. School Health Education: Method and Content.** Study of scope of field, principles underlying the development of a program, curricular suggestions on elementary and secondary level, methods and materials for teaching, steps in unit planning, and evaluation of the instructional program. (No prerequisite)
Slocum — 3 credits — \$30 — 16 lessons

84B. The Physical Education Program in the Elementary School. Designed to help the elementary classroom teacher assume responsibility in teaching physical education. Planning, methods, selection of appropriate activities and organization are emphasized. (Prerequisite: open to elementary classroom teachers only; minimum of 5 credits in skills and methods courses in physical education)

Plack — 3 credits — \$30 — 16 lessons

PHYSICS (Phys)

Fritjof E. Christensen, Professor of Physics, St. Olaf College
Joseph Valasek, Professor of Physics

1. Introduction to Physical Science I. A study of the basic physical laws and principles relative to mechanics and molecular physics. The use of mathematics usually enhances the understanding of these laws and, to this extent, it is the purpose of the course that a certain amount of problem solving be done. (Prerequisite: high school elementary algebra and plane geometry)

Christensen — 3 credits — \$30 — 16 lessons

2. Introduction to Physical Science II. A sequential course to Phys 1. Topics: heat, wave motion, sound, and light. (Prerequisite: Phys 1)

Christensen — 3 credits — \$30 — 16 lessons

3. Introduction to Physical Science III. A sequential course to Phys 1 and 2. Topics: electricity, magnetism, and modern physics. Topics in modern physics include: radioactivity, X-rays, gaseous conduction, Bohr atom, etc. (Prerequisite: Phys 1)

Christensen — 3 credits — \$30 — 16 lessons

4(c). Modern Physics. A study of important discoveries, theories, phenomena, and experiments that have taken place during the last century, such as: discovery of electron, atomic structure, mass spectroscopy, radioactivity, atomic accelerators, cosmic rays, photoelectricity, and semi-conductors. (Prerequisite: Phys 1)

Christensen — 3 credits — \$30 — 16 lessons

16(c). Elements of Mechanics. Basic principles of mechanics such as Newton's laws of motion, conservation of energy, and momentum. The solution of numerous problems will be required. Prepares the student to continue with other courses in physics or engineering. (Prerequisite: trigonometry and higher algebra, preferably college algebra)

Christensen — 3 credits — \$30 — 16 lessons

29. Introduction to Meteorology. Fundamental physical principles and first elements underlying meteorological study, weather map analysis and construction; also local meteorological observation. (Prerequisite: algebra and high school physics)

Valasek — 3 credits — \$30 — 16 lessons

35. Photography. An elementary course on the science and technique of photographic reproduction in monochrome and in color. Emphasis will be on the physical principles which are the basis for the operation or use of cameras, lenses, shutters, enlargers, filters, exposure meters, and sensitive materials used in black-and-white and in color photography. It is expected that those registered for the course possess and use some kind of photographic equipment. However, there will not be any assigned laboratory projects, but some will be recommended for those who wish to improve their photographic skill or learn new procedures. Essentially a course in physics on the college freshman level dealing with selected topics which have important applications in the science and practice of photography. (Prerequisite: high school algebra and geometry)

Valasek — 3 credits — \$30 — 16 lessons

POLICE SUPERVISION (PS)

(See Sociology, page 57)

POLISH (Plsh)

Kristina Trendota, Associate Professor, Utah State University

A 12-inch, 33 $\frac{1}{3}$ -rpm Polish pronunciation record is available from the Correspondence Study Department for \$5.50. A tape recording is available for about half of the price.

- 1. Beginning Polish I.** An introduction to the Polish language. Students will acquire a working knowledge of the structure of the language and facility in reading selected works of Polish prose. (No prerequisite)

Trendota — 5 credits — \$50 — 27 lessons

- 2. Beginning Polish II.** Continuation of Plsh I. Stress is on vocabulary building and comprehension. The reading material consists mainly of easy short stories. A contemporary play is studied to promote conversational abilities. Review and continuation of grammar. (Prerequisite: Plsh I or equivalent and consent of instructor)

Trendota — 5 credits — \$50 — 27 lessons

POLITICAL SCIENCE (Pol)

John A. Dettmann, Professor of Business and Economics, UMD
 Dorothy Dodge, Professor of Political Science, Macalester College
 William C. Rogers, Professor and Director, World Affairs Center
 John E. Turner, Professor of Political Science
 George Warp, Professor of Political Science
 Thomas Scott, Assistant Professor of Political Science
 Paul Godwin, Research Fellow

- 1. American Government and Politics I.** Designed to provide an intelligent understanding of certain fundamental features of our national government: the nature of the constitution, the protection of individual rights and liberties, political parties, public opinion, nominations, and elections. (No prerequisite)

Scott — 3 credits — \$30 — 16 lessons

- 2. American Government and Politics II.** Gives the student knowledge of the formal legal structure and operation of the legislative, executive, and judicial departments of the government and the informal and extra-legal practices that determine its vital character. Problems related to all branches of the government will be considered. (No prerequisite)

Scott — 3 credits — \$30 — 16 lessons

- 4(c). The United Nations.** For students, community leaders, teachers, and others interested in learning more about the functions and activities of the United Nations. The 16 lessons give a comprehensive survey of the economic, political, and social programs of the UN—their successes and failures. The course is useful also for discussion or study groups. (No prerequisite)

Dodge — 3 credits — \$30 — 16 lessons

- 7(c). Comparative European Governments.** Deals with the governmental systems and politics of Great Britain, France, Soviet Russia, Germany, and Sweden. Emphasis is placed on the institutional structures, political customs, ideologies, problems of administration, and crisis government. (No prerequisite)

Turner — 3 credits — \$30 — 16 lessons

- 25. World Politics.** An introduction to world affairs. The development of the state system. The facts of power in international relations. The causes of war and the

forces which make for peace. Introduction to the foreign policies of the United States, our Western allies, and of the Soviet Union and China. (No prerequisite)

Rogers — 3 credits — \$30 — 16 lessons

26. **American Foreign Policy.** Goals and values in American foreign policy; traditional and post-World War II policies. The formulation and administration of foreign policy and the role of public opinion. (No prerequisite)

Rogers — 3 credits — \$30 — 16 lessons

54. **Chinese Government and Politics.** A survey of political development in China from imperial times to the present day. Major attention is given to recent and contemporary systems of government. Aspects treated include political ideas, parties, personalities, and social, economic, and foreign policies. (No prerequisite)

Godwin — 3 credits — \$30 — 16 lessons

55. **Government of the Soviet Union.** 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 and its institutional character; the organization of power; the role of the party; foreign, economic, and cultural policies; significance for Western civilization. (No prerequisite)

Turner — 3 credits — \$30 — 16 lessons

58. **Governmental Accounting.** 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. (Prerequisite: elementary accounting or equivalent)

Dettmann — 3 credits — \$30 — 16 lessons

60. **Introduction to Public Administration.** Study of administrative organization and management, emphasizing formal and informal organization structure, intergovernmental administrative relations, current reorganization theory, and administrative powers and responsibilities. (No prerequisite)

Warp — 3 credits — \$30 — 16 lessons

62. **Public Personnel Administration.** Survey of personnel administration on all levels of government. Organization, position classification, pay standardization, recruitment, training, employee relations, employee conduct, working conditions, efficiency ratings, separation, and retirement. (No prerequisite)

Warp — 3 credits — \$30 — 16 lessons

89. **Japanese Government and Politics.** A survey of political development in Japan, with emphasis upon the postwar period. Topics included are the emperor, cabinet and civil service, the parliament, the courts, political parties and elections, and local government. Deals with the transition from feudalism to constitutional government, the struggle between democratic elements and militarism, the reforms of the postwar occupation, and recent changes. (No prerequisite)

Godwin — 3 credits — \$30 — 16 lessons

94. **The Far East in International Relations.** World War II expanded our conception of the "Far East," adding to China, Japan, and Korea, Thailand and the new states which were regarded formerly as parts of colonial Southeast Asia. This course, therefore, includes the postwar position and foreign policies of Japan, the two "Chinas," Korea, the Philippines, Vietnam, Malaya, Burma, Thailand, and Indonesia. (No prerequisite)

Godwin — 3 credits — \$30 — 16 lessons

148. **African Government and Politics.** A survey of the governments and politics of the newly emerging African states; patterns of political organization, one-party and multi-party states, internal and international problems. Emphasis is on Africa south of the Sahara. (No prerequisite)

Dodge — 3 credits — \$30 — 16 lessons

PSYCHOLOGY (Psy)

Dorothy M. Bird, Instructor in Psychology (Correspondence Study)

Harold Gilberstadt, Instructor in Psychology (Correspondence Study)

1. **General Psychology I.** An introduction to the study of human behavior with emphasis on its development. Includes motivation, emotion, learning, memory, and the neural basis of behavior. (No prerequisite)
Bird — 3 credits — \$30 — 16 lessons
2. **General Psychology II.** Continuative study of human behavior. Factors which determine individual differences in personality. Measurement of personality traits. Consideration of behavior disorders and determinants of social adjustment. (Prerequisite: Psy 1)
Bird — 3 credits — \$30 — 16 lessons
119. **Psychology of Personality.** Personality growth, dynamics, and variations viewed from an eclectic approach to developmental theories of intra-individual and interpersonal factors influencing character and personality from conception to maturity. (Prerequisite: Psy 2)
Gilberstadt — 3 credits — \$30 — 16 lessons
144. **Abnormal Psychology I.** A comparison of normal and abnormal behavior. The nature of personality maladjustments with emphasis on the dynamics and social determinants of behavioral disorders. Study of the functional psychoses. (Prerequisite: 9 credits in psychology, or 6 credits in psychology with consent of instructor)
Gilberstadt, Bird — 3 credits — \$30 — 16 lessons
145. **Abnormal Psychology II.** Continuation of Psy 144. Emphasis on the psychoneuroses, organic psychoses, and associated personality disorders. Consideration of therapeutic methods. (Prerequisite: Psy 144 or consent of instructor)
Gilberstadt, Bird — 3 credits — \$30 — 16 lessons

Child Psychology. See page 25.

Psychology of Adolescence. See page 26.

Social Psychology. See page 58.

PUBLIC HEALTH

(See page 38)

READING

Ada Carson, Instructor in English (Correspondence Study)

Louise Klohn, Instructor in English (Correspondence Study)

- 1(c). **Guided Reading.** Offers a systematic plan of reading to help the average reader become better informed on subjects of current interest, such as science, art, history, biography, etc. Instructions on how to get the most from reading and how to discuss with others what one has read are provided. Books may be borrowed from the University Library.
Klohn — No credit — \$20 or \$1.75 per lesson — 12 lessons
- 2(e). **Selecting Books for Children.** An introductory course for parents, teachers, and those interested in guiding children's reading. It surveys the field of children's literature from preschool age through the teens.
Klohn — 2 Extension credits — \$20 — 12 lessons

- 3(c). **Current Best Sellers in Fiction.** Offers an opportunity to discuss current and popular novels or collections of short stories. The student selects four books from a list of recent best sellers and writes an essay about each of the books selected.

Carson — No credit — \$20 — 12 lessons

- 4(c). **Using Books and Libraries.** For anyone interested in books and libraries, this course increases efficiency in finding information, broadens knowledge of library resources, and suggests methods for personal enrichment through books and library materials.

Klohn — No credit — \$20 — 12 lessons

RECREATION

(See page 51)

ROMANCE LANGUAGES

(See pages 35, 58)

RUSSIAN (Russ)

Adele K. Donchenko, Instructor in Slavic and Oriental Languages
Phillip E. Nice, Instructor in Slavic and Oriental Languages

An 11-minute, 33 $\frac{1}{3}$ -rpm vinylite record, "The Sounds of Russian," has been prepared. Sounds are articulated by a native Russian. The record is accompanied by three pages of text, with English meanings supplied. As it is almost impossible to teach Russian pronunciation by correspondence, the student is strongly urged to purchase this record and to hear it repeatedly, imitating the sounds as accurately as possible. May be purchased from the EMC Recordings Corp., 180 East 6th Street, St. Paul 6, Minnesota. Also available on phono-tape (3.75 ips).

1. **Beginning Russian I.** Prepares for the reading and writing knowledge of the Russian language. Acquaints the student with the Russian script; pronunciation; the essentials of grammar; translations from Russian and into Russian; interpretation of easy Russian short stories. (No prerequisite)

Donchenko — 5 credits — \$50 — 27 lessons

2. **Beginning Russian II.** Continuation of Russ I. (Prerequisite: Russ I)

Donchenko — 5 credits — \$50 — 27 lessons

- 24(c). **Scientific Russian I.** An introduction to the basic grammar and structure of the Russian language, using a vocabulary common to various sciences. Prepares for the development of ability to read Russian scientific texts. (No prerequisite)

Nice — 2 credits — \$20 — 12 lessons

- 25(c). **Scientific Russian II.** Directed reading and translation of Russian scientific texts in a field of the student's choice. (Prerequisite: Russ 24c)

Nice — No credit — \$20 — 12 lessons

- 26(c). **Scientific Russian III.** Continuation of Russ 25c. (Prerequisite: Russ 25c)

Nice — No credit — \$20 — 12 lessons

SCANDINAVIAN LANGUAGES

(See pages 35, 49, 60)

SLAVIC (Slav)

Thomas F. Magner, Professor of Slavic Languages, Penn State University

A pronunciation record (33 $\frac{1}{3}$ -rpm) covering basic Serbo-Croatian is available by special order for approximately \$9. Each side will run for about 13 minutes. A tape recording of the same material is also available from the Correspondence Study Department. The recording is not required but is strongly recommended.

- 1. Beginning Serbo-Croatian.** An introduction to the Serbo-Croatian language. Objectives of the course will be the mastery of the essentials of grammar, facility in reading easy texts in both the Cyrillic and the Latin alphabet, and the ability to write simple themes in Serbo-Croatian. (No prerequisite)

Magner — 5 credits — \$50 — 27 lessons

SOCIOLOGY (Soc)

Arnold M. Rose, Professor of Sociology

Wayne W. Bennett, Instructor in Sociology (Correspondence Study) (Director of Public Safety, Edina)

John K. Donohue, Instructor in Sociology (Correspondence Study)

Eleanor S. Otterness, Instructor in Sociology (Correspondence Study)

- 1. Man in Modern Society.** (Introduction to Sociology) A study of the characteristics of human group life. An analysis of the factors associated with the development of human group life and man's social environment; the structure of the social environment and its influence upon the individual's behavior; the processes involved in social change and the social problems that accompany social change. A survey of the fundamental social institutions such as the family and the church; the development and decline of social institutions; change in the institutional functions and social disorganization. Intended to introduce the student to the fundamental concepts of sociology and to give him a better understanding of the contemporary social order. (No prerequisite)

Rose — 3 credits — \$30 — 16 lessons

- 3. Social Problems.** A study of the structure of modern society and the on-going changes in it that create problems. The approach is two-fold: (a) a study of the sociological and social psychological theories that explain social problems; and (b) an attempt to find practical solutions of modern social problems within a carefully defined framework of values. (No prerequisite)

Rose — 3 credits — \$30 — 16 lessons

- 15(c). Methods in Police Supervision.** A study of the basic principles of supervision and leadership. Survey of the problems of supervisory positions with emphasis on human relations. Each supervisory position is considered. The problems of delegating supervisory functions are emphasized. The course is designed to assist police officers at all levels of supervisory positions in the police department personnel arrangement. (No prerequisite)

Bennett — 3 Extension credits only — \$30 — 16 lessons

- 50. American Social Welfare.** Survey of social service with consideration of areas of social needs, social agencies, their purpose and function, and methodology and philosophy of social work practice. (Prerequisite: Soc 3 or consent of instructor)

Otterness — 3 credits — \$30 — 16 lessons

- 52. Juvenile Delinquency and Juvenile Courts.** An interpretation of the broad social and cultural aspects of delinquency as they relate to the developmental process of individual juvenile delinquent behavior. The role of the juvenile court in meeting the

problems of delinquency prevention and treatment will be studied. (Prerequisite: Soc 1 and 53 or consent of instructor)

Donohue — 3 credits — \$30 — 16 lessons

- 53. Elements of Criminology.** A general survey of the field of criminology that analyzes the factors associated with the development of criminal behavior and reviews the methods of treating the adult offender. Affiliated problems of crime control and prevention are also considered. (Prerequisite: Soc 1 or consent of instructor)

Donohue — 3 credits — \$30 — 16 lessons

- 120. Social Psychology.** Consideration of the leading social psychology theories with special attention to the development of the self, the process of socialization, social roles, reference groups, and the processes of social interaction. Attention will be paid to prejudice, public opinion, propaganda, leadership, fads, fashion, and other forms of collective behavior. (Prerequisite: Soc 1 or consent of instructor)

Rose — 3 credits — \$30 — 16 lessons

- 123. Racial and Cultural Minorities.** A consideration of the historical and sociological factors in prejudice and discrimination with special emphasis on the United States. Includes study of racial and religious minorities and the problems of immigration. Analysis of the social values involved and of social changes now occurring. (Prerequisite: Soc 1 or consent of instructor)

Rose — 3 credits — \$30 — 16 lessons

- 141. The Family.** Origin of family life; variability and change of family institutions and mating customs; contemporary parent-child relationships; adolescence; mate finding; marital adjustments; divorce and other family problems; prediction of marital success; theories of family reform. (Prerequisite: Soc 1 or consent of instructor)

Rose — 3 credits — \$30 — 16 lessons

SPANISH (Span)

Herbert Willging, Professor of Foreign Language, St. Thomas College

Santiago A. Cuneo, Associate Professor of Romance Languages

Robert Estelle, Instructor in Romance Languages

A 10-inch, 33 $\frac{1}{3}$ -rpm basic pronunciation record is available, with script, for \$2.50. Order from the Correspondence Study Department. Tape recording is also available.

- IA(c). Spanish in Slow Motion.** Oral and written drills based on 16 tape programs (each 15 minutes in length) give the equivalent of a classroom course conducted in Spanish. The sounds of Spanish are presented through a series of words, phrases, and sentences each pronounced slowly (twice) by authoritative voices. The grammar is presented in the form of simple drills, with a conversational approach. True-false type tests give the student regular opportunities for self-testing of aural comprehension. Tapes, costing \$20.85 and including Sounds and Sentence booklet, are available from Bookstore, College of St. Thomas, St. Paul 1, Minnesota. (No prerequisite)

Willging — 3 credits — \$30

- 1. Beginning Spanish I.** To learn the fundamentals of Spanish grammar, to develop good ear training by means of records or tapes, to read and write simple Spanish. The question and answer method is used in connection with the reader. The emphasis is on a cultural approach and a practical knowledge of Spanish. (No prerequisite)

Cuneo — 5 credits — \$50 — 27 lessons

- 2. Beginning Spanish II.** Continues the conversational and cultural training begun in Span 1 and starts the review of the grammar principles in a more detailed manner. (Prerequisite: Span 1 or equivalent)

Cuneo — 5 credits — \$50 — 27 lessons

- 3. Beginning Spanish III.** Continues with the review of the grammar. More emphasis on composition. Reading of short plays. Study of the Spanish-speaking nations. (Prerequisite: Span 2 or equivalent)
Cuneo — 5 credits — \$50 — 27 lessons
- 17A. Spanish for Graduate Students.** Prepares student primarily for reading and especially for reading of general and technical non-literary prose. Prepares for graduate reading examinations in Spanish.
Estelle — No credit — \$30 — 16 lessons
- 20. Intermediate Spanish.** Study of the Spanish grammar in Spanish. Starts the student thinking in Spanish. Wide cultural vocabulary or educated-man vocabulary: geography, history, customs, art, literature, music, etc. Questions and answers in Spanish. (Prerequisite: Span 3 or equivalent)
Cuneo — 5 credits — \$50 — 27 lessons
- 53. Elementary Spanish Composition.** Connected prose composition. Reading and grammar. The aim is the ability to write Spanish. (Prerequisite: Span 20 or equivalent)
Cuneo — 3 credits — \$30 — 16 lessons
- 57. Spanish Commercial Correspondence.** Specialized material in Spanish commercial correspondence. Main parts of a Spanish letter; various kinds of commercial letters; commercial documents; Spanish abbreviations used in Spanish correspondence; business vocabulary. Spanish composition. (Prerequisite: Span 20 or equivalent)
Cuneo — 5 credits — \$50 — 27 lessons
- 60. Advanced Spanish Composition.** Continuation of Span 53. (Prerequisite: Span 53)
Cuneo — 3 credits — \$30 — 16 lessons
- 70. Latin-American Culture (In English).** Offers a panoramic view of Latin-American culture. It attempts to interpret the land, the people, and their history; the political, social, and economic organization; the cultural and literary traditions in such a way as to give the North American a unified picture of the 20 countries of Latin America. Readings in English; Spanish not necessary. (No prerequisite)
Cuneo — 3 credits — \$30 — 16 lessons

SPEECH AND THEATRE ARTS (Spch)

Herbert L. Carson, Assistant Professor of Humanities, Ferris Institute
Louise Klohn, Instructor in English (Correspondence Study)

- 1(c). Vocabulary Building.** A practical course for those who want to increase their speaking and reading vocabulary. The lessons and exercises stimulate interest and afford practice in the proper use of words, provoke word collecting, and suggest substitutes for overworked words.
Klohn — 3 Extension credits — \$30 — 16 lessons
- 115. Playwriting.** Reading assignments as an introduction to dramatic form and content. Practice in writing dramatic plots, characters, themes, and dialogue. The writing exercises will include scenario, rough draft, and final revision of a one-act play (approximately 15 typed pages or 30 minutes in playing time). (Prerequisite: typed manuscript and Spch 31 or consent of the instructor)
H. Carson — 3 credits — \$30 — 16 lessons
- 180(c). Independent Playwriting.** Specifically designed for advanced students. The student is given complete freedom. Plays in any stage of development will receive detailed criticism. (Prerequisite: typed manuscript and Spch 115 and consent of the instructor)
H. Carson — 3 Extension credits only — \$30 — 16 lessons (two full-length plays or approximately the same amount of writing made up of shorter dramatic forms)

SWEDISH (Swed)

Alrik Gustafson, Professor and Chairman, Department of Scandinavian

John Trentman, Assistant Professor of Philosophy, Huron College, University of Western Ontario

7. **Beginning Swedish I.** Grammar and composition; selected readings in easy prose and verse. (No prerequisite)

Trentman — 5 credits — \$50 — 27 lessons

8. **Beginning Swedish II.** Continuation of Swed 7. (Prerequisite: Swed 7)

Gustafson — 5 credits — \$50 — 27 lessons

TRAVEL

Vernie Wolfsberg

Your Trip to Europe. Offers information on sightseeing, shopping, and travel techniques—in addition to a broad coverage of the cultural aspects, economy, government, and life today in the various countries; and the relations of these countries with the United States. The students of the course—"would-be" travelers—will acquire not only practical information, but such knowledge as will add to their enjoyment, understanding, and appreciation of their travel in Europe. Only by completing and sending in all lessons is it possible to be sure that you are informed on all current requirements of countries to be visited. Countries change such requirements from time to time. Events also vary from season to season.

Wolfsberg — No credit — \$30 — 16 lessons

Special Courses

CITIZENSHIP

John M. Huebner, Instructor in Citizenship (Correspondence Study)

Citizenship. Given by the Extension Division of the University of Minnesota in co-operation with the public schools and the Immigration and Naturalization Service. Course is intended to assist the foreign-born applicant for citizenship in acquiring a better understanding of the American Constitution and Government, and is primarily designed for the rural alien to whom a class in such citizenship instruction is not available. Enrollment is limited to applicants for naturalization. All persons wishing to enroll should write to the Correspondence Study Department, University of Minnesota.

Huebner — No credit — \$4 — 21 lessons

High School Courses

These courses are more completely described in a special high school bulletin. Write for a copy. Each $\frac{1}{2}$ unit has 20 lessons and is equivalent to 1 semester of resident high school work.

BIOLOGY

1. **Biology, Part A**
Coulter — $\frac{1}{2}$ unit — \$25 — 20 lessons
2. **Biology, Part B**
Coulter — $\frac{1}{2}$ unit — \$25 — 20 lessons

BOOKKEEPING

1. **Bookkeeping, Part A**
Harrigan — $\frac{1}{2}$ unit — \$25 — 20 lessons
2. **Bookkeeping, Part B**
Harrigan — $\frac{1}{2}$ unit — \$25 — 20 lessons

BUSINESS

1. **General Business, Part A**
Clark — $\frac{1}{2}$ unit — \$25 — 20 lessons
2. **General Business, Part B**
Clark — $\frac{1}{2}$ unit — \$25 — 20 lessons

ENGLISH

1. **Ninth Grade English, Part A**
Bacig — $\frac{1}{2}$ unit — \$25 — 20 lessons
2. **Ninth Grade English, Part B**
Bacig — $\frac{1}{2}$ unit — \$25 — 20 lessons
3. **Tenth Grade English, Part A**
Kemp — $\frac{1}{2}$ unit — \$25 — 20 lessons
4. **Tenth Grade English, Part B**
Kemp — $\frac{1}{2}$ unit — \$25 — 20 lessons
5. **Eleventh Grade English, Part A**
Robb — $\frac{1}{2}$ unit — \$25 — 20 lessons
6. **Eleventh Grade English, Part B**
Robb — $\frac{1}{2}$ unit — \$25 — 20 lessons
7. **Twelfth Grade English, Part A**
Robb — $\frac{1}{2}$ unit — \$25 — 20 lessons
8. **Twelfth Grade English, Part B**
Bacig — $\frac{1}{2}$ unit — \$25 — 20 lessons

- 9. Preparatory English.** (Prerequisite: consent of counselor and Correspondence Study Department)
Klohn — No credit — \$20 — 12 lessons
- 11. Vocabulary Building.** (Prerequisite: consent of instructor)
Klohn — $\frac{1}{2}$ unit — \$30 — 16 lessons

MATHEMATICS

- 1. Elementary Algebra, Part A**
Becklund — $\frac{1}{2}$ unit — \$25 — 20 lessons
- 2. Elementary Algebra, Part B**
Becklund — $\frac{1}{2}$ unit — \$25 — 20 lessons
- 3. Plane Geometry, Part A.** (Prerequisite: Math 1 and 2)
Hatfield — $\frac{1}{2}$ unit — \$25 — 20 lessons
- 4. Plane Geometry, Part B.** (Prerequisite: Math 3)
Hatfield — $\frac{1}{2}$ unit — \$25 — 20 lessons
- 5. Trigonometry.** (Prerequisite: Math 2 and 4)
Becklund — $\frac{1}{2}$ unit — \$25 — 20 lessons
- 6. SMSG First Course in Algebra**
Keith — Part I: $\frac{1}{2}$ unit — \$25 — 17 lessons
Part II: $\frac{1}{2}$ unit — \$25 — 17 lessons
- 7. SMSG Geometry**
Jackson — Part I: $\frac{1}{2}$ unit — \$25 — 17 lessons
Part II: $\frac{1}{2}$ unit — \$25 — 17 lessons
- 8. Solid Geometry.** (Prerequisite: 1 year of plane geometry or equivalent)
Fischer — $\frac{1}{2}$ unit — \$25 — 20 lessons
- 11. Intermediate Algebra** (Prerequisite: 1 year of elementary algebra or equivalent)
Loye — 1 unit — \$50 — 27 lessons

PHYSICS

- 1. Physical Science.** (No prerequisite)
Coulter — $\frac{1}{2}$ unit — \$25 — 20 lessons

LANGUAGES*

French

Beginning French I and II

Fadell — 1 unit each — \$50 per unit — 27 lessons each

German

Beginning German I, II, and III

Ramras — 1 unit each — \$50 per unit — 27 lessons each

* See College section of this bulletin for pronunciation records and tapes that are available.

Latin

1. **Elementary Latin 1, Part A.** (No prerequisite)
ReVeal — ½ unit — \$25 — 20 lessons
2. **Elementary Latin 1, Part B.** (Prerequisite: 1A or 1 semester of HS Latin)
ReVeal — ½ unit — \$25 — 20 lessons
3. **Elementary Latin 2, Part A.** (Prerequisite: 1B or 1 year HS Latin)
ReVeal — ½ unit — \$25 — 20 lessons
4. **Elementary Latin 2, Part B.** (Prerequisite: 2A)
ReVeal — ½ unit — \$25 — 20 lessons

For additional courses, see page 44.

Norwegian

Beginning Norwegian I and II

Nelson — 1 unit each — \$50 per unit — 27 lessons each

Russian

Beginning Russian I and II

Niemi — 1 unit each — \$50 per unit — 27 lessons each

Spanish

Elementary Spanish A and B

Cuneo — ½ unit each — \$25 per half unit — 20 lessons each

Swedish

Beginning Swedish I and II

Trentman, Gustafson — 1 unit each — \$50 per unit — 27 lessons each

SOCIAL STUDIES

1. **Problems of American Democracy, Part A**
F. Johnson — ½ entrance unit — \$25 — 20 lessons
2. **Problems of American Democracy, Part B**
F. Johnson — ½ entrance unit — \$25 — 20 lessons
3. **World History, Part A**
F. Johnson — ½ entrance unit — \$25 — 20 lessons
4. **World History, Part B**
F. Johnson — ½ entrance unit — \$25 — 20 lessons
5. **American History, Part A**
McCullen — ½ entrance unit — \$25 — 20 lessons
6. **American History, Part B**
F. Johnson — ½ entrance unit — \$25 — 20 lessons

(To be filled out with pen and ink by the student. Do not print.)

Signature _____ Occupation _____

Mailing Address _____
Street Address City State Zip Code

Title of courses for which you are registering (no more than two at one time)

CHECK YOUR OBJECTIVE: Credit for Degree; Teacher's Certificate; High School;
 Extension Certificate; Prerequisite for College Entrance; Non-Credit (self-interest)

Your Educational Experience	Name of Institution	Dates Attended	Date Graduated
High School			
College			

If enrolling under Korean Bill (P.L. 550) check here

List the courses you have previously taken which are related to the courses for which you are now registering:

MONEY ENCLOSED: Tuition fee \$ _____; Out-of-State fee \$ _____ (at \$3.00 per course);

Total money enclosed \$ _____ (Make checks or money orders payable to the "University of Minnesota")

NOTICE—Twenty per cent of the cost of each course and \$1.60 for each lesson serviced are nonrefundable. No fees refunded after 6 months from date of registration. No money will be returned after one-half of the course is completed regardless of date of registration.

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Cut along this line

(Please complete both parts of this blank. See reverse side).

UNIVERSITY OF MINNESOTA
GENERAL EXTENSION DIVISION
CORRESPONDENCE STUDY DEPARTMENT
Minneapolis, Minnesota 55455

Application for Registration

Date _____

Please print _____
(Mr., Mrs., Miss) First Name Middle or Maiden Name Last Name

Mailing Address _____
Street Address

City State Zip Code

Permanent Address _____
(To which mail may be sent at any time with certainty of delivery)

Date of Birth _____ Place of Birth _____

Department	Course No.	Descriptive Title of Course	Credits

Have you attended any division of the University of Minnesota before? Yes No .

If you have previously attended the University of Minnesota indicate all divisions and date of last attendance in each:

Correspondence, year _____; Evening Classes, year _____;

Day Classes, College _____ year _____

(To be filled out with pen and ink by the student. Do not print.)

Signature _____ Occupation _____

Mailing Address _____
Street Address City State Zip Code

Title of courses for which you are registering (no more than two at one time)

CHECK YOUR OBJECTIVE: Credit for Degree; Teacher's Certificate; High School;
 Extension Certificate; Prerequisite for College Entrance; Non-Credit (self-interest)

Your Educational Experience	Name of Institution	Dates Attended	Date Graduated
High School			
College			

If enrolling under Korean Bill (P.L. 550) check here

List the courses you have previously taken which are related to the courses for which you are now registering:

MONEY ENCLOSED: Tuition fee \$ _____; Out-of-State fee \$ _____ (at \$3.00 per course);

Total money enclosed \$ _____. (Make checks or money orders payable to the "University of Minnesota")

NOTICE—Twenty per cent of the cost of each course and \$1.60 for each lesson serviced are nonrefundable. No fees refunded after 6 months from date of registration. No money will be returned after one-half of the course is completed regardless of date of registration.

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