

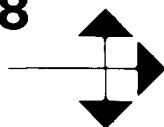


UNIVERSITY OF MINNESOTA BULLETIN

EVENING CLASSES 1967-1968

Twin Cities

General Extension Division



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Bank
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St. Paul General Extension Center, Harry Lindahl, Ninth and Exchange, St. Paul,
Minnesota
Special Courses, Harold Alford, 315 Nolte Center for Continuing Education
State Organization Service, William C. Rogers, 2001 Riverside Avenue, Minneapolis
World Affairs Center, William C. Rogers, 122 Social Sciences Building, West Bank

Calendar of Evening Classes

ACADEMIC YEAR, 1967-68

Registration must be made during the official registration periods. Although classes vary in length of term, all credits are *quarter* credits.

Offices will be closed and classes will not meet on holidays listed in this calendar.

Fall Semester

1967-68

September 6-8			Limited class reservations available. See page 10.
September 11	Monday		<i>Fall Semester registration begins.</i> Special registration hours listed on page 8.
September 20	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 23).
September 21-23			All offices closed.
September 25	Monday		<i>Fall Semester classes begin.</i> All offices resume regular office hours listed on page 7.
October 12	Thursday		Columbus Day, holiday.
November 11	Saturday		Veterans Day, holiday.
November 23	Thursday		Thanksgiving Day, holiday.
November 24	Friday		<i>Last day for official cancellation of classes, without grade.</i>
November 24-25			Classes dismissed.
December 16	Saturday		Christmas recess begins.
December 25	Monday		Christmas Day, holiday.
January 1	Monday		New Year's Day, holiday.
January 3	Wednesday		Classes resume.
January 22-26			Final examination period.
January 27	Saturday		End of Fall Semester.

Spring Semester

January 25-26			Limited class reservations available. See page 10.
January 29	Monday		<i>Spring Semester registration begins.</i> Special registration hours listed on page 8.
February 7	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 23).
February 8-10			All offices closed.

February	12	Monday	Lincoln's Birthday, holiday.
February	13	Tuesday	<i>Spring Semester classes begin.</i> All offices resume regular office hours listed on page 7.
February	22	Thursday	Washington's Birthday, holiday.
March	16	Saturday	Spring Semester recess begins.
March	25	Monday	Spring Semester classes resume.
April	12	Friday	Good Friday, holiday.
April	19	Friday	<i>Last day for official cancellation of classes, without grade.</i>
May	30	Thursday	Memorial Day, holiday.
June	3-7		Final examination period.
June	8	Saturday	End of Spring Semester.

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.

Fall Quarter

September	6-8		Limited class reservations available. See page 10.
September	11	Monday	<i>Fall Quarter registration begins.</i> Special registration hours listed on page 8.
September	20	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 23).
September	21-23		All offices closed.
September	25	Monday	<i>Fall Quarter classes begin.</i> All offices resume regular office hours listed on page 7.
October	12	Thursday	Columbus Day, holiday.
November	3	Friday	<i>Last day for official cancellation of classes, without grade.</i>
November	11	Saturday	Veterans Day, holiday.
November	23	Thursday	Thanksgiving Day, holiday.
November	24-25		Classes dismissed.
December	11-15		Final examination period.
December	16	Saturday	End of Fall Quarter.

Winter Quarter

December	14-15		Limited class reservations available. See page 10.
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December	18	Monday	<i>Winter Quarter registration begins. Regular office hours all offices as listed on page 7.</i>
December	25	Monday	Christmas Day, holiday.
December	28	Thursday	<i>Last day for registration and payment of tuition. Late fee goes into effect at midnight. Mail registrations postmarked after midnight must include late fee (see Mail Registrations, page 23).</i>
December	29-		
January	2		All offices closed.
January	1	Monday	New Year's Day, holiday.
January	3	Wednesday	<i>Winter Quarter classes begin.</i>
February	9	Friday	<i>Last day for official cancellation of classes, without grade.</i>
February	12	Monday	Lincoln's Birthday, holiday.
February	22	Thursday	Washington's Birthday, holiday.
March	11-15		Final examination period.
March	16	Saturday	End of Winter Quarter.

Spring Quarter

March	7-8		Limited class reservations available. See page 10.
March	11	Monday	<i>Spring Quarter registration begins. Regular office hours all offices as listed on page 7.</i>
March	20	Wednesday	<i>Last day for registration and payment of tuition. Late fee goes into effect at midnight. Mail registrations postmarked after midnight must include late fee (see Mail Registrations, page 23).</i>
March	21-23		All offices closed.
March	25	Monday	<i>Spring Quarter classes begin.</i>
April	12	Friday	Good Friday, holiday.
May	3	Friday	<i>Last day for official cancellation of classes, without grade.</i>
May	30	Thursday	Memorial Day, holiday.
June	3-7		Final examination period.
June	8	Saturday	End of Spring Quarter.

Special Classes

Special class term dates usually coincide with dates of semesters or quarters. Where this occurs, *registration should be made during the regular registration periods for the semesters or quarters.* Where the terms do not coincide, registration should be made in the 2-week period before the opening of the class.

Registration in all children's physical education classes is explained on page 225.

Department of Evening Classes Offices

Campus Office (Minneapolis Campus): 57 Nicholson Hall (southeast entrance), University of Minnesota, Minneapolis, Minnesota 55455; telephone 373-3195.

MacPhail Office (downtown Minneapolis)

Our downtown Minneapolis office has been moved from 690 Northwestern Bank Building to 1128 LaSalle Avenue, Minneapolis, Minnesota 55403, and is to be known as the *University of Minnesota MacPhail Center*; telephone 332-4424 (*this is a new number*).

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

Northwest Suburban Extension Center Office (Robbinsdale Senior High School): Central Office, Independent School District 281, 5214 37th Avenue North (lower level, south end), Minneapolis, Minnesota 55422; telephone 373-3195. (Courses offered at Robbinsdale are listed in this bulletin, as well as in a separate brochure.)

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

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

Regular Office Hours

Campus Office:

Monday through Thursday	7:45 a.m. to 12 noon 12:45 p.m. to 8 p.m.
Friday	7:45 a.m. to 12 noon 12:45 p.m. to 4:30 p.m.
Monday through Friday (summer)	7:45 a.m. to 12 noon 12:45 p.m. to 4:30 p.m.
Saturday (including summer)	CLOSED

(May be closed Fridays during summer from 11 a.m. to 12 noon without notice. No telephone service during lunch hour, except during official registration periods.)

MacPhail Office:

Monday through Friday (including summer)	8 a.m. to 1 p.m. 1:45 p.m. to 4:45 p.m.
Saturday (including summer)	CLOSED

(May be closed without notice for short periods of time.)

St. Paul Office:

Monday through Friday	8 a.m. to 12 noon 1 p.m. to 8 p.m.
Monday through Friday (summer)	8 a.m. to 12 noon 1 p.m. to 5 p.m.
Saturday (including summer)	CLOSED

(May be closed without notice for short periods of time during summer.)

Registration Office Hours*

Note: At the Campus office during Fall Quarter and Fall Semester, registration will be held in 211 and 213 (second floor) Nicholson Hall; during Winter and Spring Quarters, registration will be in 57 Nicholson Hall; during Spring Semester, registration will be held in the hallway outside 150 (first floor) Nicholson Hall.

Fall Quarter and Semester (September 11-20, 1967)

Campus Office (211 Nicholson Hall):

Monday through Friday	12 noon to 4 p.m. 5 p.m. to 8 p.m.
Saturday (September 16, 1967)	9 a.m. to 1 p.m.

MacPhail Office:

Monday through Friday	12 noon to 8 p.m.
Saturday (September 16, 1967)	9 a.m. to 1 p.m.

St. Paul Office:

Monday through Friday	12 noon to 8 p.m.
Saturday (September 16, 1967)	9 a.m. to 1 p.m.

Robbinsdale Office:

Monday through Friday	8 a.m. to 4 p.m.
Saturday (September 16, 1967)	9 a.m. to 12 noon

All Offices Closed September 21, 22, and 23.

Winter Quarter (December 18-28, 1967)

Regular office hours for Campus Office, MacPhail Office, and St. Paul Office, as listed on page 7.

During Christmas recess, December 16, 1967 through January 2, 1968, the Campus, MacPhail, and St. Paul Offices will close Monday through Friday at 4:30 p.m. except December 26, 27, and 28 when all offices will be open until 8 p.m., and December 22, 29, and January 2, when all offices will be closed.

* The above hours apply only during the official registration periods and should not be confused with regular office hours which are listed on page 7. Also see instructions for reserving places in limited classes, page 10.

Robbinsdale Office:

Monday through Friday 8 a.m. to 4 p.m.

Spring Semester (January 29-February 7, 1968)

Same as Fall Quarter and Semester registration hours for Campus Office, MacPhail Office, and St. Paul Office.

Saturday (February 3, 1968) 9 a.m. to 1 p.m.

On the campus, registration is in the hallway outside 150 (first floor) Nicholson Hall from 12 noon to 4 p.m. and 5 p.m. to 8 p.m. on weekdays, and 9 a.m. to 1 p.m. on Saturday.

All Offices Closed February 8, 9, and 10.

Spring Quarter (March 11-20, 1968)

Regular office hours for Campus Office, MacPhail Office, and St. Paul Office as listed on page 7.

Robbinsdale Office:

Monday through Friday 8 a.m. to 4 p.m.

* The above hours apply only during the official registration periods and should not be confused with regular office hours which are listed on page 7. Also see instructions for reserving places in limited classes, page 10.

Hours for Picking Up Limited Class Reservation Cards

(*) Enrollment space is limited in each course marked with an asterisk (*).

Students may obtain limited class reservation cards according to the schedule listed below, at registration offices in advance or at registration periods. Reservation cards will be issued on a first-come, first-served basis.

Places for students holding reservation cards will be held through the first week of each registration period. If limited class reservation cards have not been turned in and the tuition and fees paid by that time, the student's place will be released.

Fall Quarter and Semester

Wednesday, September 6		5:00 p.m.-8:00 p.m.
Thursday, September 7	7:45 a.m.-12 noon	12:45 p.m.-8:00 p.m.
Friday, September 8	7:45 a.m.-12 noon	12:45 p.m.-4:30 p.m.

Winter Quarter

Thursday, December 14		5:00 p.m.-8:00 p.m.
Friday, December 15	7:45 a.m.-12 noon	1:00 p.m.-4:30 p.m.

Spring Semester

Thursday, January 25		5:00 p.m.-8:00 p.m.
Friday, January 26	7:45 a.m.-12 noon	1:00 p.m.-4:30 p.m.

Spring Quarter

Thursday, March 7		5:00 p.m.-8:00 p.m.
Friday, March 8	7:45 a.m.-12 noon	1:00 p.m.-4:30 p.m.

During the advance reservation period, it will not be possible to consult with an adviser to discuss a program, or to register.

Only limited class reservation cards for those classes held at Robbinsdale Senior High School will be available at the Northwest Suburban Extension Center (Robbinsdale).

Department of Evening Classes

Twin Cities Area

(An index will be found in the back of this bulletin)

The purpose of the Department of Evening Classes is to supplement the full-time programs of instruction offered students in day residence on University of Minnesota campuses. The department's programs and courses reflect the programs and general educational objectives of the University.

I. INFORMATION

GENERAL INFORMATION

(For Registration Procedures see page 21)

Admission Requirements

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

Registration in specific programs or classes may require prerequisite courses or experience. (See Prerequisites, page 19)

Students wishing to register for graduate credit should refer to page 24.

Advising and Counseling

The Counseling Office of the General Extension Division offers both counseling and program advising services, without fee, to evening class students. Persons who anticipate registering for evening classes are also invited to use these services. The office is located in 153 (first floor) Nicholson; telephone 373-3905.

Counseling—Professional counseling and testing services are available to those evening class students who want to learn more about their own abilities, interests, and personalities, or who wish help in making vocational plans or in choosing a major field of study. Educational, vocational, and personal problems may be brought to the counselor. A fee of \$10 is charged for those persons wishing to take a battery of tests. Appointments must be made in advance.

Advising—Program advising is available to help students select programs of study, determine prerequisites and standing, evaluate transcripts of previous college work, choose the kinds and number of courses to take and decide in

Evening Classes

what order they should be taken, arrange for examinations for credit or advanced standing, and to handle other academic matters.

During the registration periods before the fall and spring semesters, advisers will be available without appointment in the Campus office (373-3905) and the St. Paul Extension Center office (222-7355) during the registration hours (page 8) for each of these locations. In the MacPhail Center office (332-4424) advisers are available without appointment during the registration periods from 5 p.m. to 8 p.m., Monday through Friday, and from 9 a.m. to 1 p.m. on Saturday.

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 and the School of Business Administration. All students who have questions about degree programs in these colleges are urged to attend one of the meetings.

Program advisers from the College of Education, the School of Business Administration, and the Institute of Technology will be available in their offices on the campus during specific evening and Saturday morning hours during the fall and spring semester registration periods. A student wishing to see such an adviser should telephone the Counseling Office, 373-3905, and make an appointment.

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.

Athletic Tickets

Any student enrolled for at least 3 credits (not including audit, television, or correspondence registration) in evening classes which carry credit may purchase one student athletic season ticket at \$15. Married students may purchase a second season ticket, for use by *spouse only*, at \$15. 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. *Paid fee statement is required to purchase ticket.*

When and Where to Purchase Tickets in the Fall:

Hours—9 a.m. to 4 p.m. daily; Saturday, until 12 noon. Tickets will continue to be sold after classes begin (Monday, September 25, 1967).

Location—Williams Arena Lobby on University Avenue across from the Stadium during Welcome Week (Monday, September 18 to Saturday, September 23).

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.

Football tickets must be exchanged for Winter-Spring tickets at the beginning of January as outlined on the back of the football ticket. The exchange will be made with the fall semester fee statement for Extension students. Tickets are void after fall semester unless ticket holder is registered for spring semester. Spring semester fee statements must be presented at the beginning of the spring semester to validate the student ticket.

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 a class card. 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 tuition and fees as other students.

Students requesting auditor status after the initial registration must have the request approved by the director of the Department of Evening Classes, 54 Nicholson Hall. Such requests will be approved after the sixth week of a quarter class or the ninth week of a semester class, only if the student is doing passing work at the time of the request.

No student whose tuition and fees are paid in whole or in part by military, Veterans Administration, company, or scholarship funds may register as an auditor.

Bookstores

For the convenience of General Extension Division students in securing text books and supplies, the following evening schedule has been established by University Bookstores.

Nicholson Bookstore

4:30 p.m. to 8:30 p.m., Monday through Thursday, for the first 2 weeks of Fall Quarter and Fall and Spring Semesters.

4:30 p.m. to 8:30 p.m., Monday through Thursday, for the first week of Winter and Spring Quarters.

Main Engineering Bookstore

4:30 p.m. to 8:30 p.m., Monday through Thursday, for the first 2 weeks of Fall Quarter and Fall Semester.

4:30 p.m. to 8:30 p.m., Monday through Thursday, for the first week of Winter and Spring Quarters and Spring Semester.

West Bank Bookstore

4:30 p.m. to 8:30 p.m., Monday through Thursday, throughout the school year.

Evening Classes

St. Paul Extension Center Bookstore

5:30 p.m. to 8 p.m., Monday through Friday, for the first week of Fall, Winter, and Spring Quarters and Fall Semester.

5:30 p.m. to 8 p.m., Monday through Thursday, for the first week of Spring Semester.

MacPhail Center Bookstore

5:30 p.m. to 8 p.m., Monday through Thursday, for the first week of Fall Quarter and Fall Semester.

5:30 p.m. to 8 p.m., Thursday (January 4) only, for Winter Quarter.

5:30 p.m. to 8 p.m., Tuesday (February 13) only, for Spring Semester.

5:30 p.m. to 8 p.m., Tuesday (March 26) only, for Spring Quarter.

Northwest Suburban Extension Center Bookstore (Robbinsdale)

5:30 p.m. to 8 p.m., Monday through Thursday, for the first week of Fall Quarter.

5:30 p.m. to 8 p.m., Wednesday (January 3) only, for Winter Quarter.

5:30 p.m. to 8 p.m., Monday (March 25) only, for Spring Quarter.

Certificate Programs

(See page 32.)

Class Attendance

Evening class students are responsible for attending classes in which they are registered. A student who cannot attend a class session should arrange with his instructor—in advance, if possible—to make up the work. A student who wishes to earn credit for a course without attending should read the information under Examination for Credit, page 16.

Coffman Memorial Union

The facilities of Coffman Memorial Union are open to all students and their guests. Information on building hours and facilities available may be obtained from the Union Information Desk, first floor, or by calling 373-2403.

Committee on Student Scholastic Standing

There is a Scholastic Committee in each college and school of the University and in the General Extension Division. It is a committee of the faculty, chaired by an administrative officer. Its purpose is to interpret and enforce regulations, and to make exceptions 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.

Convocations

University convocations are open to the public. Announcements of convocations, which are held in Northrop Memorial Auditorium, will be made prior to each convocation.

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 the Director, Correspondence Study Department, 254 Nicholson Hall, University of Minnesota, Minneapolis, Minnesota 55455; telephone 373-3256.

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, please refer to the section on Registering for Graduate Credit, page 24.

Note—Graduate students in part I (150 series) of MBA program should read page 161.

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.

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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 a day course, it will satisfy the same requirements met by the day course.

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 56.

Day School Students

Students who are regularly registered in day school classes in any unit of the University who wish to register for evening 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 evening classes.

The Department of Evening 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.

Degree Programs

(See page 56)

English Classes for Foreign Born Students

The Department of Evening Classes is now offering a special English class for foreign students (see page 95 for further information). Beginning, intermediate, and advanced classes in everyday English, oral and written, are also available at the International Institute, 183 W. Kellogg at Exchange, St. Paul, and at the Minneapolis Vocational Evening School, Third Avenue South and Eleventh Street, Minneapolis. Persons seeking further information on these classes should call:

Mr. M. B. Keck, International Institute, St. Paul, 222-1754.

Minneapolis Vocational Evening School, Minneapolis, 332-0381.

Examination for Credit

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.

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. Because only limited funds are available, students who need assistance should inquire as soon as possible during the registration periods.

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.

Fees

(See Tuition and Fees, page 25.)

Financial Aid 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.

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), which in accordance with University Senate action, shall be 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

Evening Classes

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 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 is doing passing work at the time of official cancellation. If he is 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 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.

Grade Reports

(See Transcripts and Grade Reports, page 20.)

Graduate Credit

(See page 24)

Military Deferments

Military deferments are granted by the student's local draft board and not by the Department of Evening Classes. Therefore, students wishing information as to deferment requirements should contact their local board. Students wishing to have their Evening Class registration certified to their local board may do so by coming to 57 Nicholson Hall. Requests for certification must be accompanied by a transcript of previous college work, whether taken at the University of Minnesota or elsewhere. Transcripts for work taken at the University of Minnesota may be secured by calling or writing the Office of Admissions and Records, Window 18, University of Minnesota, Minneapolis, Minnesota 55455; telephone 373-2149.

Military Personnel

(See page 29)

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. For further information, call the Symphony Ticket Office at 373-2331.

Nonresidents

Students who are not residents of the state of Minnesota pay the same fees in evening classes as do residents of the state.

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, your class card properly 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 28). A prerequisite course may not usually be taken for credit after the advanced course has been satisfactorily completed.

Probation

Students taking classes for credit, 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.

Registration

(See Registration Procedures, page 21)

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.
- ° Enrollment space limited. Students may obtain reservation cards at registration offices in advance of the opening of registration periods, and during the registration periods, on a first-come, first-served basis. See instructions on page 10.
- † All courses listed before dagger must be completed before credit may be received.
- § 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.
- △ Consent of department or school offering course is required.

Transcripts and 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.

Extension students can secure transcripts showing all credits earned in evening classes by calling or writing the Office of Admissions and Records, Window 18, University of Minnesota, Minneapolis, Minnesota 55455; telephone 373-2149.

Transferring Credits Earned in Extension

A student wishing to have degree credits earned in Extension put on a day school record should ask the record clerk (in Morrill Hall) of the college in which he is registered to transfer the credits. Requests for such transfer are ruled on individually by the college concerned.

A student wishing to have credits earned in Extension transferred to another institution should forward a transcript to that institution and request an evaluation of credits.

Transfers from Other Institutions

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, 153 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 ad-

viser. He may leave it with the adviser for evaluation. (See Advising and Counseling, page 11.) Obtain transcripts from the registrar of an institution previously attended.

Transfers Within the University

A student who wishes to transfer from day school classes to evening classes may do so during Department of Evening Class registration periods without going through formal transfer procedures. However, if the student plans to complete a degree program through the Department of Evening Classes, he should consult an Extension adviser in 153 Nicholson Hall; telephone 373-3905. Please read the section on Day School Students, page 16, and Degree Programs, page 56.

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 are available at library circulation desks.

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 Theatre office (373-2337), Artists Course office (373-2345), or Department of Concerts and Lectures (373-2345).

Upper Division Eligibility

Generally speaking, a student should have completed approximately 90 credits to take an Upper Division course. However, in individual situations, competent and mature students may be qualified to carry such courses with less than 90 credits.

Veterans

(See page 29.)

REGISTRATION PROCEDURES

The dates for all registration periods are designated in the calendar at the beginning of this bulletin. All registrations should be made and tuition and fees paid during the official registration period for the term involved. Any

Evening Classes

registration, initial or added, made after the official registration period will be considered a late registration and subject to a late fee.

The registration hours for all terms at all offices are listed on page 8.

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 in locating courses and other information.

The first line or two of the listing gives the abbreviated departmental prefix, the course number, if any, the title of the course, 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 15).

The description of the course content follows. Such regulations as prerequisites, class size limitations, number of meetings, etc., will be found in the parenthetical statement following the course descriptions. (See Prerequisites, page 19.)

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.

Registration Forms

Registration forms may be obtained in person at any of the Evening Class offices listed on page 6. Forms may be obtained 2 weeks prior to the official opening of the registration period, except for limited classes (see page 10). Forms may also be obtained by completing and mailing the post card in the back of this bulletin, or by writing the Department of Evening Classes, 57 Nicholson Hall, University of Minnesota, Minneapolis, Minnesota 55455.

Please read the following material carefully before making your request for registration material.

Semester length classes: If you register for classes taught on the semester basis, use the white form marked "semester." Fill in all information requested. You may register for as many as four semester classes on this form. Fill out one class card (blue in color) for each class, and one addressograph and tally card (pink in fall—yellow in winter and spring). Have all forms tallied. Pay the cashier.

Quarter length classes: If you register for classes taught on the quarter basis, use the green form marked "quarter." You may register for as many as four quarter classes on one form. Fill out one class card (blue in color) for each class, and 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, use the salmon form marked "special." You may register for as many as four of these classes on one form. Fill out one class card (blue in color) for each class, and 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, use the blue form marked "special class." You can register for only one "special class" on each special class form. (*All recreation classes are special classes.*) Fill out a class card (blue in color), and one addressograph and tally card (pink in fall—yellow in winter and spring). Have all forms tallied. Pay the cashier.

All forms are multiple forms. *Please use a ball point pen and press hard.*

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. Registration forms may be obtained by completing and mailing the post card in the back of this bulletin.

2. Checks or money orders for late registrations (postmarked after midnight of the last day of registration) must include the late fee specified on page 26.

3. No 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 Classes, 56 Nicholson Hall, Minneapolis Campus; telephone 373-4871. Normally, such registrations must be made in person.

4. Registration for limited classes will not be accepted by mail.

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.

Evening Classes

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

Registering with Financial Assistance

All 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 56 Nicholson Hall on the Minneapolis Campus.

Military personnel should read the Special Information for Veterans and Members of the Armed Forces section starting on page 29.

Students registering under the authority of the Cold War Veterans Bill (Chapter 34, Title 38, U.S. Code), should refer to page 30.

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 the principal clerk, telephone 373-3930.

Registering for Graduate Credit

1. Any student seeking graduate credit for course work taken through the General Extension Division, University of Minnesota, must first be duly and regularly admitted to the Graduate School, unless he intends to use his credits toward a graduate degree in an institution other than the University of Minnesota. Admission procedures and requirements for the Graduate School are listed on pages 3 and 4 of the *Graduate School Bulletin*, which may be secured by writing the Graduate School, 316 Johnston Hall, University of Minnesota, Minneapolis, Minnesota 55455, or by stopping in at any General Extension Division office.

2. All students enrolled in the Graduate School must follow the joint registration procedure between the Graduate School and the General Extension Division to receive graduate credit. Joint registration insures an automatic transfer of grades from the General Extension Division to the Graduate School, and eliminates the necessity of petitioning to transfer credits at a later time. The Graduate School registration materials necessary for joint registration are available in 316 Johnston Hall. Before the Graduate School will accept any registration, the student must first confer with his adviser who must approve the courses selected. The registration is then processed by the Graduate School. Following approval, the student will take the registration forms to the Department of Evening Classes, 57 Nicholson Hall, where he will complete General Extension Division registration forms, and pay his fees.

3. The Graduate School will allow up to 12 credits on any degree program including the Ph.D., to be completed under joint registration. However, a department or adviser may set a maximum for its majors below this level. The student, of course, may elect to register for more than 12 credits, but he will not be able to use more than 12 credits on a program. Information on the

programs which are exceptions to the 12-credit limit may be obtained at the Graduate School office.

4. A student with Adult Special status is not in the Graduate School and cannot, therefore, follow joint registration procedures. If he gains subsequent admission to the Graduate School he may petition to transfer applicable credits earned in Extension classes to his Graduate School record. Such transfer of credits may be restricted to the first term of work.

5. All students wishing graduate credit—whether as a student in Graduate School, as an adult special, or as a visiting graduate student from another institution—must request the tally clerk in 57 Nicholson Hall to mark the appropriate class card(s) with a “graduate credit requested” stamp at the time of registration. In addition, students making a joint registration must have appropriate registration forms from the Graduate School with them at the time of Extension registration.

6. The students should consult the *Evening Class Bulletin* for a listing of courses available for graduate credit. Such classes are designated by the statement, “Qualified students may register for graduate credit,” following the class description. These approved courses are subject to change and modification, and this information will be available in the Graduate School.

7. Before canceling or adding courses read pages 27 and 26 of the *Evening Class Bulletin*. Pick up the Cancel-Add form in the Graduate School Office, 316 Johnston Hall. Complete the form and obtain the approval of the adviser (and instructor, if necessary). Take the form to the Graduate School office for approval. Bring the Cancel-Add form to 57 Nicholson Hall and complete the appropriate General Extension Division forms. Information regarding refunds or additional fees will also be available in 57 Nicholson Hall.

8. The new regulations applying to graduate credit are not retroactive.

Tuition and Fees

The full amount of the tuition and other fees is payable at the time of registration. The amount of tuition for each class is designated in the listing of the class in this bulletin. Special fees may be for use of a laboratory, extra materials, or audio-visual equipment, and may or may not be for the student's personal use. Tuition and fees do not cover books. Checks or money orders must be drawn for the exact amount due and made payable to the University of Minnesota. No arrangements for partial payment can be made. Students in need of financial assistance see Student Loan Fund, page 17.

A student is not registered until his tuition and fees are paid.

Work Load

The average person employed on a full-time basis usually carries one or two classes. However, any person in good standing may carry 12 credits on the semester basis or 9 credits on the quarter basis. To carry more than this number of credits all persons, including students who have been dropped or

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placed on probation by any college of the University of Minnesota or any other institution of higher learning, must have their work load approved by a member of the Committee on Student Scholastic Standing. Such requests must be accompanied by a transcript of previous college work, whether taken at the University of Minnesota or elsewhere. Transcripts for work taken at the University of Minnesota may be secured by calling or writing the Office of Admissions and Records, Window 18, University of Minnesota, Minneapolis, Minnesota 55455; telephone 373-2149. There is *no assurance* that any credits earned by students in a dropped or probation status will be accepted by the college from which they wish to take a degree.

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 in the front of this bulletin will be considered late registrations and will be subject to the late fee and conditions listed below:

During the first week	\$3
During the second week	\$5 (if accepted)
During or after the third week	\$10 (if accepted)

The following conditions must be met for a student to register *during the second week* of classes:

Quarter and Semester Classes—No registration will be accepted unless the student has attended the first class meeting or registers in time so that he can attend the second class meeting. If the class meets twice a week, the registration must be made at a date that will permit him to attend both class sessions during the second week.

Special Term and Special Class—The rule for quarter and semester classes will apply. The decision will be made on the basis of the length of the special term or special class.

The following conditions must be met for a student to register *during or after the third week*:

No registrations during and after the third week of classes—quarter, semester, special term, or special class—will be approved unless the student has been in class attendance at least during the second week of classes.

Approval for registration must come from the director of the Department of Evening Classes, 54 Nicholson Hall. If the registration is not acceptable to the instructor, a full refund will be made to the student.

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 Law 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.

Transferring Classes

Students who wish to transfer after an initial registration will be subject to the transfer fees and conditions listed below:

- During the first week\$3
- During the second week\$5 (if accepted)
- During or after the third week\$10 (if accepted)

Transfers made after the first week of classes are not encouraged and will not be permitted unless the student has met the following conditions:

Transfer During the Second Week (Quarter, Semester, Special Term, Special Class)—No transfer will be accepted unless the transfer will permit the student to attend class(es) the second week.

Transfer During the Third Week or After (Quarter, Semester, Special Term, Special Class)—No transfer will be approved unless the student has attended the second week of classes of the class into which he wishes to transfer. Such transfers must be approved by the director of the Department of Evening Classes, 54 Nicholson Hall. If the transfer is not acceptable to the instructor, a full refund will be made to the student.

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

There will be no transferring between mathematics class sections without special permission.

The student must present his fee statement at the time the transfer is made.

Cancellations

Any student who drops out or wishes to drop out of classes is urged to make an official cancellation, either in person or by writing to, Department of Evening Classes, 57 Nicholson Hall, University of Minnesota, Minneapolis, Minnesota 55455. (Cancellation letters mailed to other offices may not be processed.) By so doing, he will receive a refund *if eligible* (see Refunds below) and will likewise insure the appropriate grade on his grade report. If a student officially cancels from a class *before or during* the ninth week of any semester, or the sixth week of any quarter or special term, he will be auto-

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matically given a "W" on his grade report. This symbol means "official cancellation 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 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 (this includes final examination week). Official cancellation of registration must be made in person or by writing to the Department of Evening Classes office on the campus—TELEPHONE CANCELLATION 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. It is urgent, therefore, that students officially cancel by filling out the appropriate forms at any Extension office whenever they stop attending a class.

Departmental Cancellation of, or Change in, Scheduled Classes

Classes listed in this bulletin may be canceled because of insufficient enrollment. The Department of Evening Classes reserves the right to cancel, postpone, split, or combine classes, to change instructors and/or locations of classes.

Cancellation of Class Meetings Due to Severe Weather Conditions

Severe weather conditions may result in classes being canceled for an evening. If you are in doubt as to whether or not your class is to be held, listen to your local radio station for the announcement, which will usually be made by 4 p.m. *This is the quickest and easiest method of acquiring the information.*

Refunds

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

1. Full refund of all tuition and special fees will be made: when a class is canceled by the Extension Division; when the hour, or day 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 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.*

It is solely the student's responsibility to obtain and present his class card as designated in a and b above.

2. Full refund of all tuition and special fees will also be made to any student who has been recalled, who has enlisted, or has been drafted into military service upon presentation of military orders, provided the student would not be entitled to an appropriate grade at such time.

3. 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.

4. Late fees and/or transfer fees are not refundable.

5. Refunds for cancellation of classes *after* the opening date of each semester, quarter, or special term (except as indicated in item 3 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

For the student's convenience, this information is also printed on his copy of the registration (pink).

The Department of Evening 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.

SPECIAL INFORMATION FOR VETERANS AND MEMBERS OF THE ARMED FORCES

Military Personnel

All military personnel are urged to familiarize themselves with the General Information and Registration Procedures sections of this bulletin. University regulations and procedures apply to all students unless stated to the contrary.

Evening Classes

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 Classes division. Under these programs, eligible military personnel may be entitled to payment of \$8.25 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 56 Nicholson Hall, Minneapolis Campus; telephone 373-4871.

World War II Veterans

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

Korean War Veterans

Educational benefits under P.L. 550 terminated January 31, 1965.

Cold War Veterans (Chapter 34, Title 38, U.S. Code)

A new G.I. bill providing educational benefits for eligible veterans became effective June 1, 1966. Eligibility is based on active military service on or after February 1, 1955, with veterans receiving 1 month of eligibility for each month or part of a month of active service after that date. Maximum period of training is 36 months, but this period is reduced by training taken under other Veterans Administration programs.

Application for training under this bill may be made by requesting VA Form 21E-1990 from the Veterans Office, 52 Nicholson Hall, University of Minnesota, Minneapolis, Minnesota 55455; telephone 373-5777. The application form must be completed and submitted to the Veterans Administration, Fort Snelling, St. Paul, Minnesota, with other specified materials. Eligible veterans will then receive two copies of a Certificate of Eligibility from the Veterans Administration. Both copies must be presented to the Veterans Office in 52 Nicholson Hall when registering for evening classes. If not available at the time of registration, the certificates must, when received from the Veterans Administration, be promptly forwarded to the Veterans Office, 52 Nicholson Hall, in order to insure veteran benefits. Students must also furnish official transcripts of all previously earned college credits at the time of registration.

The Veterans Administration classifies all credit work loads in terms of semester hours. Evening classes carry quarter hour credit, even though many of

them meet on semester length. For this reason there may be confusion and misunderstanding in determining the credit work load of the veteran registering for evening classes. The following table shows how monthly payments are determined by the Veterans Administration:

	MINIMUM CREDITS		DEPENDENTS		
	Semester length	Quarter length	None	One	Two or more
Full time	21	14	\$100	\$125	\$150
$\frac{3}{4}$ time	15	10	75	95	115
$\frac{1}{2}$ time	10 $\frac{1}{2}$	7	50	65	75

Less than $\frac{1}{2}$ time—reimbursement of tuition and fees only, pro-rated over the length of the course.

Tuition and fees must be paid by the veteran at the time of registration. He will be reimbursed later or paid a monthly allowance, whichever is appropriate. All books, supplies, and equipment required for use in the classroom must be purchased personally by the veteran, since the Veterans Administration will not refund the cost of these materials.

All Twin Cities veterans must register in 52 Nicholson Hall, Minneapolis Campus. No veteran registrations are accepted in the St. Paul, downtown Minneapolis, or Robbinsdale offices. For further information on the Cold War Veterans Bill, call or write the Veterans Office, 52 Nicholson Hall, Minneapolis, Minnesota 55455; telephone 373-5777.

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.

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 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.

Twenty-one intensive certificate programs are conducted by the General Extension Division. The curriculums are described in detail in the following pages.

Certificate programs are organized at the collegiate level; students entering them should have adequate educational preparation or other experience to work effectively with college materials. Certificate programs 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, usually 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.

Certificate requirements may be modified from time to time. Although there is no time limit on the use of credits, no certificate will be granted that represents a certificate program more than 7 years out of date.

A student interested in pursuing a certificate program is urged to secure a copy of *Procedures for Obtaining a General Extension Division Certificate* and to complete an *Application for Admission to Certificate Programs* at the earliest possible time so proper counseling can be given. Both forms are available at any Extension office. Advice and information about the various programs, including transfer of credits, may be secured from the Extension Counseling Office, 153 Nicholson Hall.

A student nearing completion of the required work and 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.

Upon completion of a specified program with at least a C average the student is awarded a certificate. All certificates are dated and awarded as of commencement exercises three times during the academic year. Students receiving senior certificates may participate in the June Commencement exercises.

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):

Comp 1-2-3; or Comm 1-2-3; 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, 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

(46 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. Adviser to this program is Assistant Professor Alice Goacher; telephone 373-3918.

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
Comp I—Freshman English; or equivalent
Business Correspondence

Spread Requirement (18 credits) spread over at least three of the following groups:

1. History of Art
2. Use of Color, Layout for Interior Design II, Drawing and Painting
3. Ceramics, Sculpture, Printmaking
4. French, Humanities, Psychology

Mathematics and Science Certificate

(45 credits)

Core Requirement (23-24 credits):

Basic Technical Writing I or Comp 1

Math 21A—Analysis I: Algebra, Trigonometry, and Analytic Geometry

Math 22A—Analysis II: Analytic Geometry and Calculus

Math 23A—Analysis III: Analytic Geometry and Calculus

Math 31—Calculus IV: Calculus and Analytic Geometry

Electives: Additional credits approved by the Committee on Student Scholastic Standing to make a total of 45 credits, selected from the following areas:

Astronomy
Chemistry
Engineering

Geology
Physics
Mechanics and Materials

Police Administration Certificate

(45 credits)

The Police Administration Certificate program was planned by departments of the General Extension Division in co-operation with the Public Administration Center and police administrators and other municipal officials. Increasing numbers of police officers are being selected from applicants with college experience. The certificate provides an organized program of study, most of which can be transferred to a degree curriculum.

*Some of the courses required in this certificate are available only through the Correspondence Study Department of the University of Minnesota. The courses are marked with a double asterisk **. Although credits may be transferred to this program from other institutions accredited by the University of Minnesota, the courses so marked (**) must be taken at the University of Minnesota.*

English Requirement (12 credits):

Comp 1-2-3; (or) Comm 1-2-3; (or) Comp 1 and 8 additional credits selected from Comp 2, Engl 4c,** Hum 1, Hum 2, Hum 3, Hum 4, Basic Technical Writing I

Core Requirement (15 credits):

Soc 53—Elements of Criminology

PoAd 15(c)**—Methods in Police Supervision

PoAd 16(c)**—Methods of Criminal Procedure

PoAd 17(c)**—Methods of Police Planning, Management, and Organization

PoAd 18(c)**—Methods of Criminal Investigation

Spread Requirement (18 credits):

Pol 1—American Government and Politics: Part I

Psy 1-2—General Psychology

Soc 1—Man in Modern Society

6 additional credits selected from:

Pol 2—American Government and Politics: Part II

Pol 25—World Politics

Soc 3—Social Problems

Soc 52—Juvenile Delinquency and Juvenile Courts

Hist 23, 24—American History

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 from the following):

- | | |
|--|---|
| PA 50—Legal and Political Environment of Public Administration | PA 61—Municipal Law and Administration |
| (or) Pol 1, 2—American Government and Politics | PA 62—Public Personnel Administration |
| PA 60—Organization and Management | (or) PA 62A—Federal Personnel Practices |
| (or) PA 102—Public Management—Concepts and Issues | PA 63—Public Financial Administration |
| | PA 66—Problems of Public Administration |
| | PA 105—Executive Management |
| | PA 178—Administrative Responsibility |

Spread Requirement (15 credits from the following):

- | | |
|--|---|
| PA 55—Human Relations in Administration | PA 124—Government and Welfare |
| PA 58—Governmental Accounting | PA 125—Administration of Services for the Aging |
| PA 67A—Computer-Based Management Systems | PA 126—Social Gerontology |
| PA 68—Administrative Communication | PA 145—Administrative Analysis |
| PA 69—Performance Evaluation | PA 146—The Planning Process |
| PA 70—Employer-Employee Relations in Government | PA 148—Administration of Planning |
| PA 75—Government Purchasing | PA 165—Intergovernmental Relations |
| PA 76—Business and Government | Jour 78—Public Relations Methods |
| PA 106—Presentational Speaking and Conference Leadership | QA 5—Elements of Statistics (or equivalent) |

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
Business Finance
Child Psychology
Economics
Engineering
Industrial Relations
Insurance

Nursing
Political Science
Psychology
Recreation Leadership
Social Work
Sociology
Transportation

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 12 credits from the University of Minnesota, including at least 9 credits in political science.

*Some of the courses in this certificate program are available only through the Correspondence Study Department of the University of Minnesota. The courses are marked with a double asterisk **. Although credits may be transferred to this program from other institutions accredited by the University of Minnesota, the courses so marked (**) may be taken only at the University of Minnesota.*

Core Requirement (25 credits):

- | | |
|---|--|
| Pol 1, 2—American Government and Politics | Hist 95—American Diplomatic History |
| Pol 25—World Politics | Hist 120E—Russian History III |
| Pol 4(c)**—United Nations | Pol 94**—The Far East in International Relations |
| Hist 23 or 24—American History | |

Recommended (5 credits):

Foreign language

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

- | | |
|--|---|
| Anth 1A or 2A—Introduction to Anthropology | Hist 1 or 2 or 3—Civilization of the Modern World |
| Econ 1, 2—Principles of Economics | Hist 93**—American Diplomatic History |
| Engl 4(c)**—Masterpieces of World Literature | Pol 89**—Japanese Government and Politics |
| Pol 55—Government of the Soviet Union | Soc 1—Man in Modern Society |
| Pol 26—American Foreign Policy | Soc 120—Social Psychology |
| Hist 119G—The Modern Near East | Your Trip to Europe (Preparation for)** |
| Hist 147A—Latin America in the Twentieth Century | |

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

(50 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:

Comp 1-2-3; or Comm 1-2-3; or equivalent	BFin 57—Financial Management
Econ 1, 2—Principles of Economics	Acct 24-25-26—Principles of Accounting
Math 10A—Algebra, Analytic Geometry and Elementary Functions (or equivalent)	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:

Comp 1-2-3; or Comm 1-2-3; or equivalent	Two courses from the following:
Comp 27—Advanced Writing	Prod 50—Production Management
Math T, 10A, and 40A (or equivalent)	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—Fundamentals of Transportation
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 57—Financial Management	Econ 66—Intermediate Economic Analysis II: Income and Employment
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 management or industrial engineering)	

Evening Classes

Assessment and Appraisal Administration Certificate

(45 credits)

The Assessment and Appraisal Administration Certificate program was planned by departments of the General Extension Division, the School of Business Administration, and persons professionally employed in assessment and appraisal.

The program, which can be completed in a 3-year period but may take longer, requires that the student spend a 2-week, intensive session of day courses during the early fall of each of 2 succeeding years, for which he receives 15 credits. In the intervening months, the student would be expected to complete at least Econ 1 and Acct 24. The remaining 24 credits must be completed within the next 5 years and may be taken in day or evening classes or by correspondence study. Credits may also be transferred from other accredited institutions.

Core Requirement (15 credits earned in intensive day session):

Basics of Public Finance
Fundamentals of Appraisal
Principles of Taxation

Basics of Valuation
Advanced Appraisal

Spread Requirement (21 credits):

Econ 1, 2—Principles of Economics
Acct 24-25—Principles of Accounting
BLaw 58, 98—Business Law

QA 5—Elements of Statistics
(or) Econ 67—Money and Banking

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

Comm 1-2-3—Communication
PA 58—Governmental Accounting
PA 60—Organization and Management

Math 20—Mathematics of Investment
Psy 1A—Application of Psychology to Living
Psy 1-2—General Psychology

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 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

(47 credits)

This certificate, requiring the satisfactory completion of 47 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 (32 credits):

Comp 1-2-3; or Comm 1-2-3; or equivalent
Econ 1, 2—Principles of Economics
Acct 24-25-26—Principles of Accounting

Math 10A—Algebra, Analytic Geometry,
and Elementary Functions (or equivalent)

Core Requirement (15 credits): Five courses selected from the following:

Prod 50—Production Management
QA 5—Elements of Statistics and QA 51—
Business Statistics
IR 52—Systems of Industrial Relations:
Labor Marketing
Ins 53—Risk Management and Insurance
Tran 54—Fundamentals of Transportation
BFin 56—Finance Fundamentals
Mktg 57—Principles of Marketing
BLaw 58—Business Law: Contracts

Mgmt 60—Business Policy and Management Control
Mgmt 70—Fundamentals of Management
Econ 65—Intermediate Economic Analysis
I: The Firm and Industry
Econ 66—Intermediate Economic Analysis
II: Income and Employment
Math 40A—Introduction to Calculus of
One and Several Variables

Evening Classes

Senior Business Administration Certificate

(90 credits)

The Senior Business Administration Certificate is a continuation of the Junior Certificate, expanding the core and spread requirement 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 credits 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 (32 credits):

Comp 1-2-3; or Comm 1-2-3; or equivalent
Econ 1, 2—Principles of Economics
Acct 24-25-26—Principles of Accounting

Math 10A—Algebra, Analytic Geometry,
and Elementary Functions (or equivalent)

Core Requirement (21 credits): Seven courses selected from the following:

Prod 50—Production Management
QA 5—Elements of Statistics and QA 51—
Business Statistics
IR 52—Systems of Industrial Relations:
Labor Marketing
Ins 53—Risk Management and Insurance
Tran 54—Fundamentals of Transportation
BFin 56—Finance Fundamentals
Mktg 57—Principles of Marketing
BLaw 58—Business Law: Contracts

Mgmt 60—Business Policy and Management Control
Mgmt 70—Fundamentals of Management
Econ 65—Intermediate Economic Analysis
I: The Firm and Industry
Econ 66—Intermediate Economic Analysis
II: Income and Employment
Math 40A—Introduction to Calculus of
One and Several Variables

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 II, III, and IV on pages 63 and 64).
- 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 pages 62 and 64).

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—Settlement of Industrial Relations Disputes
 One of:
 Econ 172—Labor Market Behavior and Regulation
 Econ 182—Economic Security

Electives (any two courses from the following):

Econ 102—Contemporary Labor Issues
 Econ 152—Economic History of Labor
 Econ 172—Labor Market Behavior and Regulation
 Econ 182—Economic Security
 Econ 192—Economics of Collective Bargaining
 IR 62—Human Relations in Industry
 IR 82—Modern Labor Relations
 IR 142—Settlement of Industrial Relations Disputes
 IR 162—Union Government and Policies
 IR 175—Interpersonal Perception: The Employment Interview
 IR 212A—Labor Education
 IR 212B—Employee Development and Training

Mgmt 109—Management of Administrative Services
 Prod 50—Production Management
 PA 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
 Statistical Quality Control

Evening Classes

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

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.

In addition to the certificates granted by the General Extension Division on completion of the prescribed programs, the student may be entitled to certificates of the Administrative Management Society. Persons interested in the latter certificates may telephone or write to Mr. Ralph Dittberner, 201 E. 24th Street, Minneapolis, Minnesota 55404; telephone 339-7661.

Associate in Management of Administrative Services 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 (38-39 credits):

Review of Business English; or Business Correspondence; or Comp 1; or Comm 1; or equivalent	Mgmt 109—Management of Administrative Services
Econ 1, 2—Principles of Economics	Math 10A—Algebra, Analytic Geometry, and Elementary Functions (or equivalent)
QA 5—Elements of Statistics	Psy 1-2—General Psychology
Acct 24-25-26—Principles of Accounting	
BLaw 58—Business Law: Contracts	

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.

Fellow in Management of Administrative Services Certificate

(90 credits)

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 (47-53 credits):

Review of Business English and Business Correspondence; or Comp 1-2-3; or Comm 1-2-3; or equivalent	Econ 1, 2—Principles of Economics
	QA 5—Elements of Statistics
	Acct 24-25-26—Principles of Accounting

Evening Classes

IR 52—Systems of Industrial Relations:
Labor Marketing
BLaw 58—Business Law: Contracts
Mgmt 109—Management of Administrative
Offices
Math 10A—Algebra, Analytic Geometry,
and Elementary Functions (or equivalent)

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—Fundamentals of Transportation

BFin 56—Finance Fundamentals
Mktg 57—Principles of Marketing

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

Acct 55C—Managerial Costs
(or) Acct 115A—Cost Accounting
Acct 55D—Analysis of Financial Statements
BFin 57—Financial Management
IR 62—Human Relations in Industry
IR 72—Systems of Industrial Relations:
Manpower Management
Mgmt 70—Fundamentals of Management

Mgmt 80—Administrative Practices
BLaw 88—Business Law: Sales and Nego-
tiable Instruments
Prod 110—Systems and Procedures Analy-
sis (or equivalent)
Psy 122-123—Vocational and Personnel Psy-
chology

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
Supervision I, II, III
PA 68—Administrative Communication
Psy 156—Psychology of Advertising
Accounting
Business Finance
Economics
Production, Management, and Industrial Re-
lations
Insurance

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

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 (36-39 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
Office Procedures

BLaw 58, 88—Business Law
Administrative Secretarial Studies
Mgmt 109—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
Administrative Secretarial Studies
Common Legal Problems

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 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 engineering 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 in civil engineering, electrical engineering, mechanical engineering, and mathematics are available for evening students. It is unlikely, however, 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 Certificate program blank should be completed by the student when he begins the program so that advisers can give effective counseling. This blank is available at any General Extension Division office.

Basic Engineering Science Certificate

(50 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 courses 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 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 and trigonometry.

Core Requirement (41 credits):

Math 21A—Analysis I: Algebra, Trigonometry, and Analytic Geometry

Math 22A—Analysis II: Analytic Geometry and Calculus

Math 23A—Analysis III: Analytic Geometry and Calculus

EG 25 (or EG 4-5)—Engineering Graphics
Phys 21-21A-22-22A—General Physics and Laboratory

Comp 1-2-3—Freshman English (or equivalent)

Electives: Courses from nontechnical or biological science electives,†† to make a minimum of 50 credits.

†† Institute of Technology nontechnical electives may be chosen from the following fields: anthropology, art, astronomy, botany, classics, economics, geography, geology, history, humanities, languages (except scientific language courses), literature, music theory, philosophy, political science, psychology, religion, social science, sociology, speech, zoology.

Evening Classes

Senior Engineering Science Certificate

(99 credits—includes 50 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.

Students transferring credits from other institutions to this certificate program must take a minimum of 25 credits at the University of Minnesota, including those taken for the Basic Certificate.

Prerequisite: Completion of Basic Engineering Science Certificate.

Core Requirement (30 credits):

Math 31—Calculus IV: Calculus and Analytic Geometry

Math 32—Calculus V: Calculus, Linear Algebra, Differential Equations

Phys 23-23A—General Physics and Laboratory

Phys 50-50A—General Physics and Laboratory

GeCh 4-5—General Principles of Chemistry

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

Math 33—Calculus VI: Calculus, Linear Algebra, Differential Equations

MM 35—Statics

MM 36—Dynamics

MM 37—Deformable Body Mechanics

Phys 51—Intermediate General Physics

EE 30-31—Circuit Analysis

EE 30A-31A—Electrical Engineering Laboratory

CE 101—Fluid Mechanics

CE 104—Fluid Mechanics Laboratory

ME 99—Introduction to Engineering Analysis

Electives: Courses from nontechnical or biological science electives,†† or mathematics, or chemistry, or physics, or Engl 85-86(IT), or additional courses from the spread requirement to make a minimum of 99 credits, including those from the Basic Certificate.

•

†† Institute of Technology nontechnical electives may be chosen from the following fields: anthropology, art, astronomy, botany, classics, economics, geography, geology, history, humanities, languages (except scientific language courses), literature, music theory, philosophy, political science, psychology, religion, social science, sociology, speech, zoology.

Evening Classes

Senior Civil Engineering Technician Certificate

(100 credits—includes 50 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 hydraulics, structural design, highways and pavements, or surveying.

This program is not a short cut to a professional degree in civil engineering. It is designed as a practical program for those students who desire to increase their skill and education in a specific field of civil engineering. Degree credit classes may be transferred to a degree program.

Students transferring credits from other institutions to this certificate program must take a minimum of 25 credits at the University of Minnesota, including those taken for the Basic Certificate.

Prerequisite: Completion of Basic Engineering Science Certificate.

Core Requirement (29 credits): These credits should be selected from the courses required in the second year of the civil engineering curriculum as listed below. The courses selected should be the prerequisites for the courses desired in the concentration area. Up to 9 credits of nontechnical courses can be included in this requirement.

Math 31—Calculus IV: Calculus and Analytic Geometry
Math 32—Calculus V: Calculus, Linear Algebra, Differential Equations
GeCh 4-5—General Principles of Chemistry
MM 35—Statics
MM 36—Dynamics
MM 37—Deformable Body Mechanics

EE 30-30A—Circuit Analysis; Laboratory
Phys 23-23A—General Physics and Laboratory
Phys 50-50A—Intermediate General Physics and Laboratory
CE 101—Fluid Mechanics
CE 104—Fluid Mechanics Laboratory
Nontechnical ††

Concentration Requirement (21 credits): Select courses from the list below in the fields you desire. All 21 credits can be in one area.

CE 51—Highways and Pavements
CE 52—Highways and Pavements
CE 53—Elements of Soil Mechanics
CE 61A—Survey Engineering
CE 63A—Elements of Land Development
CE 64A—Engineering Geometrics
CE 81—Elementary Structural Analysis
CE 82—Intermediate Structural Analysis
CE 83—Elementary Structural Design
CE 111—Land Surveying

CE 112—Aerial Surveying and Photogrammetry
CE 113—Land Planning and Subdivision Design
CE 141—Reinforced and Prestressed Concrete
CE 142A—Advanced Structural Design
CE 143A—Shell Structures
CE 101—Fluid Mechanics
CE 160—Applied Hydraulics
CE 161—Hydrology

†† Institute of Technology nontechnical electives may be chosen from the following fields: anthropology, art, astronomy, botany, classics, economics, geography, geology, history, humanities, languages (except scientific language courses), literature, music theory, philosophy, political science, psychology, religion, social science, sociology, speech, zoology.

Senior Electrical Engineering Technician Certificate

(100 credits—includes 50 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.

Students transferring credits from other institutions to this certificate program must take a minimum of 25 credits at the University of Minnesota, including those taken for the Basic Certificate.

Prerequisite: Completion of Basic Engineering Science Certificate.

Core Requirement (47 credits):

Math 31—Calculus IV: Calculus and Analytic Geometry	Elements of Electric Circuits
Math 32—Calculus V: Calculus, Linear Algebra, Differential Equations	Elements of Electronics I-II-III
Math 33—Calculus VI: Calculus, Linear Algebra, Differential Equations	Engl 85—Advanced Technical Communication
MM 36—Dynamics	Phys 23-23A—General Physics and Laboratory

Electives: Courses from nontechnical or biological science electives†† to make a minimum of 100 credits, including those from the Basic Certificate.

†† Institute of Technology nontechnical electives may be chosen from the following fields: anthropology, art, astronomy, botany, classics, economics, geography, geology, history, humanities, languages (except scientific language courses), literature, music theory, philosophy, political science, psychology, religion, social science, sociology, speech, zoology.

Evening Classes

Senior Industrial Engineering Technician Certificate

(99 credits—includes 50 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.

Students transferring credits from other institutions to this certificate program must take a minimum of 25 credits at the University of Minnesota, including those taken for the Basic Certificate.

Prerequisite: Completion of Basic Engineering Science Certificate.

Core Requirement (29 credits):

Math 31—Calculus IV: Calculus and Analytic Geometry
Math 32—Calculus V: Calculus, Linear Algebra, Differential Equations
MM 35—Statics
MM 37—Deformable Body Mechanics

Engl 85—Advanced Technical Communication
Industrial Engineering and Management
ME 99—Introduction to Engineering Analysis; or Math 90—Elementary Engineering Statistics

Concentration Requirement (20 credits): Select at least four 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

Senior Mechanical Engineering Technician Certificate

(99 credits—includes 50 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 the mechanical engineer 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.

Students transferring credits from other institutions to this certificate program must take a minimum of 25 credits at the University of Minnesota, including those taken for the Basic Certificate.

Prerequisite: Completion of Basic Engineering Science Certificate.

Core Requirement (42 credits):

Math 31—Calculus IV: Calculus and Analytic Geometry	ME 30A-31A—Thermodynamics
Math 32—Calculus V: Calculus, Linear Algebra, Differential Equations	MM 35—Statics
ME 22—Analysis of Mechanism Systems	MM 37—Deformable Body Mechanics
ME 23—Mechanical Engineering Systems Analysis	Engl 85—Advanced Technical Communication
	Phys 23-23A—General Physics and Laboratory

Electives: Additional courses may be selected from the following suggested areas or courses to make a minimum of 99 credits, including those from the Basic Certificate.

Industrial Engineering	Supervision I, II, III
Mechanical Engineering	Econ 1, 2—Principles of Economics
Electrical Engineering	Met 56—Physical Metallurgy
Mathematics	MM 36—Dynamics
Psy 1-2	

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.) in certain major fields, and the bachelor of science in business (B.S.B.).

In addition to courses for 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 his 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 interested in a degree program *must* consult a member of the Scholastic Committee early in considering 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 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 because the A.L.A. is a half-way point to many of the Bachelors' 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 either the old or the new course requirements for Admission to the Upper Division of the Arts College (see pages 58 and 60). Eligibility for qualifying for the A.L.A. under the old requirements is the same as for qualifying for the B.A. under the old set of requirements (page 58).

From the "Old Requirements" 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).

A student under the "New Requirements" plans his program in terms of the outline stated on page 60. He must meet the Freshman English requirement and complete one of the following two plans: (1) a foreign language through course number 3, and 9 credits from each of the groups A, B, C, and D, including work in two areas of group C; (2) 15 credits from each of the groups A, B, C, and D, including work in two areas of group C. (The three "Notes" on page 61 apply.) He must present an over-all C average.

Under either set of requirements 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 candidate student. In addition, a copy of *Procedures for Obtaining the Associate in Liberal Arts Degree Through Extension* should be obtained from the Extension office.

†† The Associate in Liberal Arts (A.L.A.) program is under study and is subject to change

Bachelor of Arts (B.A.)

The bachelor of arts degree from the College of Liberal Arts may be earned in certain major fields 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.

A candidate for the B.A. degree completes a minimum of 180 acceptable credits. The first 90 credits are taken in the Arts College Lower Division; the final 90 in the Upper Division (60-75 credits must be Upper Division courses.) The following set of requirements outlines the program to be followed while the 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 his studies become somewhat more concentrated. 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 candidate. In addition, a copy of *Procedures for Obtaining the Bachelor of Arts Degree Through Extension* should be obtained from the Extension office.

The College of Liberal Arts has recently changed its graduation requirements. One set of requirements, termed "Old Requirements" below, applies to any student with 39 or more credits who is admitted to the College of Liberal Arts before June 15, 1969. Any student who is admitted after June 15, 1969, or any student with fewer than 39 credits who is admitted after June 13, 1967, must follow the "New Requirements," page 60. Students admitted before June 13, 1967, may graduate under the "Old Requirements."

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

OLD REQUIREMENTS

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

B. Foreign Language: From 0-15 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 credits in same language <i>or</i> (b) 15 credits in different language
2 years in one language	(a) 5 credits in same language <i>or</i> (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 Sciences: 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.

†† 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, 13-13A, 21-21A, 22-22A; 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; Psy 1-2.

Evening Classes

NEW REQUIREMENTS

Freshman English

Engl A-B-C (Freshman Composition and Literature, 15 cr [composition portion, 9 cr]) or Comp 1-2-3, (12 cr) or Comm 1-2-3 (Communication, 12 cr) or exemption from requirement. All students are required to have an English placement classification (see page 91) before registration for one of these courses.

Foreign Language

Complete the sixth quarter of a foreign language (approximately 25 cr) or pass a validation examination at that level. Background from high school relates to this requirement as follows:

<i>High School Study</i>	<i>Additional in College</i>
4 years	5 credits in same language
3 years	10 credits in same language
2 years	15 credits in same language
1 year	20 credits in same language
None	25 credits in one language

Above table shows the usual relationship between high school and college study; placement in the college course usually is determined by examination.

Students with 2 or more years of Latin in high school may satisfy this requirement by continuing in Latin on the above schedule or by taking 15 credits in another language.

Distribution

Complete 9 credits in each of six of the following areas, including work from at least one area from each of groups A, B, and D and from two areas from group C.

Group A: Communication, Language, Symbolic Systems

- Area 1 Linguistics, rhetoric, logic, and philosophic analysis
- Area 2 Mathematics, statistics

Group B: Physical and Biological Sciences

- Area 1 Physical universe (with lab)
 - Area 2 Biological universe (with lab)
- (If both of these areas are elected, only one need be with laboratory.)

Group C: Man and Society

- Area 1 Analysis of human behavior
- Area 2 Analysis of social, economic, and political institutions
- Area 3 Development of civilization: historical and philosophical studies

Group D: Artistic Expression

- Area 1 Literature
- Area 2 The Arts

Notes:

1. Courses normally used to satisfy these requirements are designated by the faculty. More advanced courses may be used only with appropriate approval.
2. At least 3 credits must be offered from a department to count. No more than two departments may be used in each area. No more than 12 credits may be used from one department for all groups (even though courses from some departments may be used in more than one group).
3. Courses used for freshman English and foreign language requirements may not be used for distribution requirements.

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

The bachelor of science in business degree from the School of Business Administration may be earned through evening classes. A limited portion may also be met through correspondence courses, if desired. A student wishing to complete the B.S.B. degree through Extension should talk with a member of the Extension Committee on Student Scholastic Standing as soon as he has made this decision.

The bachelor of science in economics (B.S.E.) degree has been discontinued. Students officially admitted to the B.S.E. program prior to the fall quarter, 1966, will be permitted to complete the requirements for the degree.

A candidate for either degree completes 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.

During the year 1967-68, QA 5 and QA 51 will be offered for the last time in the General Extension Division. Starting in the fall of 1968, a new Upper Division QA sequence (QA 52-53-54) will be offered to evening students in the School of Business Administration (see the *Bulletin of the School of Business Administration* for course descriptions). The prerequisite for QA 52 will be Math 40A, which in turn has a prerequisite of Math 10A.

Therefore, any student wishing to meet the old Math 10-QA 5-QA 51 requirement must have completed this by the end of spring semester 1968. Otherwise the student must plan to take Math 10A and 40A as prebusiness requirements and take QA 52-53-54 in Upper Division.

These are the only two options available to the student. There are no other alternatives.

Prebusiness Requirements for Students Who Enter the School of Business Administration Fall Semester of 1967, and Spring Semester of 1968

I. Communication, Language, Symbolic Systems

A. *Freshman English*—9-15 credits (satisfaction of University Freshman English requirement)

Engl A-B-C—Freshman Composition and Literature (15)

Comp 1-2-3—Freshman Composition (12)

Comm 1-2-3—Communication (12)

Exemption from the requirement

B. Mathematics—10 or more credits

Math 10A (or Math 15)—College Algebra (5)

Math 40A—Calculus (5)

(Math Z, Preparatory Mathematics, may be prerequisite for Math 15. Students who plan to take course work in mathematics beyond the level of elementary calculus should take Math 42 rather than Math 40A.)

II. Physical and Biological Sciences—8-10 credits

In a single natural science to be selected from botany, chemistry, geology, physics, zoology, or NSci 4-5. All courses must include laboratory. This requirement can be met currently in the Arts College only with the following courses:

Biol 1-2†—General Biology (10)

GeCh 4-5†—General Principles of Chemistry (10) (or higher numbered courses)

Geo 1-2—Physical Geology, Historical Geology (9)

Phys 1 with 1A and either 2 with 2A or 3 with 3A—Physical Science (8)

NSci 4-5†—Physical World (8)

III. Social Science—21 credits

Econ 1-2† (6)

Psy 1-2† (6)

Soc I (3)

Six additional credits from the following departments: anthropology, geography, history, †† political science, psychology, and sociology (except Soc 45, Social Statistics, which is not acceptable in fulfillment of this requirement).

IV. Humanities—10 credits

From at least two of the following categories (at least 5 credits** must be taken in each category used to satisfy this requirement): art, English literature (which may include 6 credits of literature from Engl A-B-C), foreign language or foreign literature, history, †† humanities, music, philosophy, speech and theatre arts. This entire requirement may be met with 10 credits of foreign language.

V. Business Courses—9 credits

Acct 24-25-26—Principles of Accounting (9)

VI. Students planning to enter the B.S.B. accounting program are required to complete Comp 27, Advanced Writing (3 credits) in addition to the above.

VII. Electives to complete the approximately 90 credits required for admission.

† All courses listed before dagger must be completed before credit may be received.

** 4½ transfer credits will satisfy the 5-credit requirement.

†† History may be used to satisfy the requirement in only one area.

Prebusiness Requirements for Students Who Enter the School of Business Administration Fall Semester of 1968 or Later

I. Communication, Language, Symbolic Systems

A. *Freshman English*—9-15 credits (satisfaction of Arts College Freshman English requirement)

Engl A-B-C—Freshman Composition and Literature (15)

Comp 1-2-3—Freshman Composition (12)

Comm 1-2-3—Communication (12)

Exemption from the requirement

B. *Mathematics*—10 or more credits

Math 10A (or Math 15)—College Algebra (5)

Math 40A—Calculus (5)

(Math Z, Preparatory Mathematics, may be prerequisite for Math 10A or 15;

Math T may be a prerequisite for Math 15. Students who plan to take course work in mathematics beyond the level of elementary calculus should take

Math 42 rather than Math 40A.)

II. Physical and Biological Sciences—9 credits

In a single natural science to be selected from botany, chemistry, geology, physics, zoology, or NSci 4-5-6 (Physical World). All courses must include laboratory. This requirement can be met only with the following courses (or higher numbered courses):

Biol 1-2—General Biology (10)

GeCh 4-5—General Principles of Chemistry (10)

Phys 1-2-3 and 1A-2A-3A—Introduction to Physical Science (12)

NSci 4-5-6—The Physical World (12)

Geo 1-2—Physical Geology, Historical Geology (9)

III. Man and Society—21 credits

Econ 1-2 (6)

Psy 1-2 (6)

Soc 1 (3)

Six additional credits from the following departments: anthropology, geography, history, political science, psychology, and sociology (except Soc 45, Social Statistics, which is not acceptable in fulfillment of this requirement).

IV. Artistic Expression—9 credits

Students must fulfill the University requirement of 9 credits in Artistic Expression before entering the School of Business Administration. Courses in the following departments, colleges, and schools within the University can be used for this purpose:

Humanities, Rhetoric, Classics, English Literature, Foreign Literature, Journalism, Speech and Theatre Arts, Anthropology, Architecture, Art, and Music

However, not *all* courses in these departments, colleges, and schools can be used. Students should consult a special publication prepared for use in selecting courses to meet this requirement. This publication is available in the Office of the Dean, School of Business Administration, and the College of Liberal Arts Lower Division offices.

V. Business Courses—9 credits

Acct 24-25-26—Principles of Accounting (9)

- VI. In addition to the requirements listed in areas I, II, and IV above, students must take an additional 5 credits distributed in any way over these three areas (I, II, and IV). Additional work taken in area II need not be with laboratory. For acceptable courses to meet this requirement see the publication referred to under group IV, above.
- VII. Students planning to enter the B.S.B. accounting program are required to complete Comp 27, Advanced Writing (3 credits) in addition to the above.
- VIII. Electives to complete the approximately 90 credits required for admission.

Degree Requirements

A copy of *Procedures for Obtaining the Bachelor of Science in Business Degree Through Extension* should be obtained from the Extension office.

Specific degree requirements are listed in the *Bulletin of the School of Business Administration*.

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

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 Associate Dean, Programs and Administration, School of Business Administration, University of Minnesota, Minneapolis, Minnesota 55455; telephone 373-5505. (See page 161.)

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. See Graduate Credit, page 24.

IV. COURSE OFFERINGS

AGRICULTURE, HOME ECONOMICS, AND VETERINARY MEDICINE

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 10-minute intervals until 6:35 p.m., and at 20-minute intervals thereafter until 7:35 p.m.

HORTICULTURAL SCIENCE

Robert A. Phillips, Assistant Professor of Horticultural Science

Hort 10. Home Floriculture and Gardening. 3 degree credits. \$33 plus \$1 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 51. Garden Flowers and Home Gardening. 3 degree credits. \$33 plus \$1 materials fee.

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 13 to April 30

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

Symbols explained on page 20.

Course Offerings—Agriculture, Home Economics, Veterinary Medicine

Hort 60. Home Landscaping Planning. 3 degree credits. \$33 plus \$1 materials fee.

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. 3 degree credits. \$33 plus \$1 materials fee.

More or less a continuation of the course in Home Landscaping 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 developing artistic landscape compositions for home grounds. 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 15 to April 25

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

HOME ECONOMICS

Margaret D. Doyle, Associate Professor of Home Economics

HE 172. Current Developments in Nutrition. 3 degree credits. \$33.

Fundamental facts and techniques for solving current nutrition problems. (Prerequisite: HE 31, 40, BioC 1A, Phsl 51 or #)

Spring Semester

W 6:20-8:00, McNeal 201, St. Paul Campus,
Doyle

VETERINARY MEDICINE

George W. Mather, Coordinator for Veterinary Medicine Classes and Staff

VMC 1. Care, Management, Showing, and Diseases of Horses. 3 degree credits. \$33.

This course will consist of lectures and demonstrations by faculty members of the College of Veterinary Medicine and qualified well-known authorities on horses and horsemanship from the Metropolitan area. (No prerequisite)

Special Term—January 4 to April 25

Th 7:30-9:30, Veterinary Clinic Building
125, St. Paul Campus, Mather (co-ordinator)

Symbols explained on page 20.

ARTS AND SCIENCES

ANTHROPOLOGY

Joyce Aschenbrenner, Lecturer in Anthropology

Evelyn P. Hatcher, Lecturer in Anthropology

Jennette Jones, Lecturer in Anthropology

Dwight Rokala, Instructor in Anthropology

Claude Stipe, Lecturer in Anthropology

Anth 1A. Introduction to Anthropology: Prehistoric Man and Culture. 3 degree credits. \$33.

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. Repeated spring semester)

Fall Semester

Th 6:20-8:00, Ford 155, Rokala

Spring Semester

W 6:20-8:00, Ford 155, Rokala

Anth 2A. Introduction to Anthropology: Cultural Anthropology. 3 degree credits. \$33.

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. Repeated spring semester)

Fall Semester

W 6:20-8:00, Ford 155, Hatcher

Spring Semester

T 8:15-9:55, Ford 155, Jones

Anth 80. The American Indian. 3 degree credits. \$33.

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

Fall Semester

W 8:15-9:55, Ford 285, Jones

Anth 100. Principles of Cultural Anthropology. 3 degree credits, \$2A. \$33.

Intensive introduction to the elements of cultural anthropology. Analysis of primitive societies with respect to range and variability of human behavior. Principles of culture dynamics. (No prerequisite. May not be taken for graduate credit)

Spring Semester

T 8:15-9:55, Ford 285, Hatcher

Symbols explained on page 20.

Course Offerings—Arts and Sciences

Anth 125. Peoples and Cultures of India. 3 degree credits. \$33.

Survey of tribes, Hindu caste society, and modern communities of India. (Prerequisite: 2A or 100 or Δ . May not be taken for graduate credit)

Fall Semester

W 6:20-8:00, Ford 349, Aschenbrenner

Anth 150. The Contact of Cultures. 3 degree credits. \$33.

The processes of acculturation. Impact of civilization on native cultures. (Prerequisite: 2A or 100. May not be taken for graduate credit)

Spring Semester

Th 8:15-9:55, Ford 261, Hatcher

Anth 161. Primitive Religion. 3 degree credits. \$33.

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

Spring Semester

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

Anth 164. Social Anthropology. 3 degree credits. \$33.

Structure of nonliterate and folk societies; special attention to systems of kinship and marriage and their relationship to economic, religious, and political institutions; functional and structural approaches in cultural anthropology. (Prerequisite: 2A or 100. May not be taken for graduate credit)

Spring Semester

W 6:20-8:00, Ford 349, Aschenbrenner

Anth 165. Culture and Personality. 3 degree credits. \$33.

Role of culture in the formation of personality. Problems of individual adjustments to the demands of culture. Psychological approach to culture. (Prerequisite: 2A or 100 or Δ [waived for majors in public health, nursing, psychology, sociology, and social work]. May not be taken for graduate credit)

Fall Semester

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

Anth 166. Primitive Art. 3 degree credits. \$33.

Technique, style, and symbolism in the arts of primitive peoples. Art and the artist in relation to primitive culture and society. (No prerequisite. May not be taken for graduate credit)

Fall Semester

T 8:15-9:55, Ford 285, Hatcher

Symbols explained on page 20.

Evening Classes

ART

Art Education

(See page 191)

General Arts

(See page 99)

History of Art

Norman W. Canedy, Associate Professor of Art History

Sheila McNally, Assistant Professor of Art History

Robert Poor, Assistant Professor of Art History

Herbert Scherer, Lecturer in Art History

Donald R. Torbert, Professor of Art History

Melvin Waldfogel, Associate Professor of Art History

Art 1. Introduction to Art. 3 degree credits. \$33 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. For Upper Division credit, register in Art 50)

Fall Quarter		Winter Quarter		Spring Quarter	
T	6:20-8:50, Architecture 25, Torbert	M	6:20-8:50, MacPhail Center Annex 3, Scherer	M	6:20-8:50, MacPhail Center Annex 3, Scherer
		T	6:20-8:50, Architecture 25, Torbert	T	6:20-8:50, Architecture 25, Torbert

Art 2. Survey of the History of Art. 3 degree credits. \$33 plus \$2 laboratory fee.

A study of the expression of Western civilization in architecture, sculpture, and painting; including Egypt, Mesopotamia, Crete, Iran, Greece, Rome; and the Middle Ages, to the mid-12th century. (No prerequisite. For Upper Division credit, register in Art 56)

Fall Quarter

M 6:20-8:50, Jones 207B, Waldfogel

Symbols explained on page 20.

Course Offerings—Arts and Sciences

Art 5. Survey of the History of Modern Art. 3 degree credits. \$33 plus \$2 laboratory fee.

Modern architecture, sculpture and painting, 19th and 20th centuries. (No prerequisite. For Upper Division credit, register in Art 60)

Spring Quarter

M 6:20-8:50, Architecture 25, Waldfogel

Art 47. Introduction to Far Eastern Art. 3 degree credits. \$33 plus \$2 laboratory fee.

An examination of selected major themes within the broad context of Indian and Far Eastern Art. The course provides an introduction to the arts of the Eastern world but it is not an inclusive historical survey. (No prerequisite. Repeated spring quarter)

Fall Quarter

W 6:20-8:50, Jones 207B, Poor

Spring Quarter

W 6:20-8:50, Jones 207B, Poor

Art 50. Introduction to Art. 3 degree credits. \$33 plus \$2 laboratory fee.

See course description as listed under Art I. (Prerequisite: Limited to those students eligible for Upper Division credit)

Fall Quarter

T 6:20-8:50, Architecture 25, Torbert

Winter Quarter

M 6:20-8:50, MacPhail Center Annex 3, Scherer

T 6:20-8:50, Architecture 25, Torbert

Spring Quarter

M 6:20-8:50, MacPhail Center Annex 3, Scherer

T 6:20-8:50, Architecture 25, Torbert

Art 56. Survey of the History of Art. 3 degree credits. \$33 plus \$2 laboratory fee.

See course description as listed under Art 2. (Prerequisite: Limited to those students eligible for Upper Division credit)

Fall Quarter

M 6:20-8:50, Jones 207B, Waldfogel

Art 60. Survey of the History of Art. 3 degree credits. \$33 plus \$2 laboratory fee.

See course description as listed under Art 5. (Prerequisite: Limited to those students eligible for Upper Division credit)

Spring Quarter

M 6:20-8:50, Architecture 25, Waldfogel

Art 111. Art of China. 3 degree credits. \$33 plus \$2 laboratory fee.

Development of painting, sculpture, and the minor arts in China from earliest times to the present. (No prerequisite. Qualified students may register for graduate credit)

Winter Quarter

W 6:20-8:50, Jones 207B, Poor

Symbols explained on page 20.

Evening Classes

Art 113. High Renaissance Painting in Italy and Northern Europe. 3 degree credits. \$33 plus \$2 laboratory fee.

Leonardo, Raphael, Michelangelo, Giorgione, and Titian. Grünewald, Holbein, and Dürer. (No prerequisite. Qualified students may register for graduate credit)

Fall Quarter

T 6:20-8:50, Jones 207A, Canedy

Art 114. Sixteenth-Century Sculpture and Architecture. 3 degree credits. \$33 plus \$2 laboratory fee.

High Renaissance, mannerism, and other trends in Italy and Northern Europe. (No prerequisite. Qualified students may register for graduate credit)

Winter Quarter

T 6:20-8:50, Jones 207A, Canedy

Art 115. Later Sixteenth-Century Painting. 3 degree credits. \$33 plus \$2 laboratory fee.

Mannerism and other trends in Italy and Northern Europe. (No prerequisite. Qualified students may register for graduate credit)

Spring Quarter

T 6:20-8:50, Jones 207A, Canedy

Art 157. Nineteenth-Century French Painting, 1860-1900. 3 degree credits. \$33 plus \$2 laboratory fee.

The realism of Manet and Degas, the impressionist idea and its evolution, the multiple styles of the postimpressionists, and aestheticism, symbolism, and mysticism of the 1890's. (No prerequisite. Qualified students may register for graduate credit)

Winter Quarter

M 6:20-8:50, Jones 207A, Waldfoel

Art 59. Summer Travel Course in European Art. (Summer 1968.) 6 degree credits. Fee (to be announced) includes travel.

Course conducted by Department of Art History under auspices of Summer Session. Covers main phases of ancient, medieval, Renaissance, baroque, and modern art. Lectures, guided visits, and discussions at important cultural centers, museums, and cathedrals. Among important places usually visited are Athens, the Greek Islands, Delphi, Corinth, Mycenae, Rome, Assisi, Siena, Florence, Ravenna, Venice, Salzburg, Innsbruck, Munich, Amsterdam, London, Cambridge, Paris, Chartres, Versailles. (Itinerary is established the autumn prior to course and is subject to change. Approximate dates, June 28 to August 11, 1968, encompass 6 weeks. Registration should be made early and is done through Summer Session. Qualified students may register for graduate credit with \$.) For information, write Donald R. Torbert, Department of Art History, University of Minnesota, Minneapolis, Minnesota 55455.

Symbols explained on page 20.

Studio Art

Karl Bethke, *Instructor in Art*
 Peter Busa, *Associate Professor of Art*
 F. H. Chaffey, *Visiting Lecturer in Art*
 Benjamin A. Gingold, Jr., *Lecturer in Art*
 Alice Goacher, *Assistant Professor of Interior Design*
 Michael J. Hopkins, *Color Consultant*
 Milton Howard, *Instructor in Art*
 Leah M. Lewis, *Professor of Interior Design*
 Jerome Lieblich, *Professor of Art*
 Malcolm Myers, *Professor of Art*
 Zigmunds Priede, *Assistant Professor of Art*
 David Routon, *Assistant Professor of Art*
 Herman Rowan, *Associate Professor of Art*
 Ann Vadnais, *Instructor in Art*
 Mario Volpe, *Instructor in Art*
 Robert Wilcox, *Instructor in 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. \$33 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, West Bank Art Building,
 Lieblich
 T 6:20-8:50, West Bank Art Building,
 Wilcox

Spring Semester

M 6:20-8:50, West Bank Art Building
 T 6:20-8:50, West Bank Art Building,
 Wilcox

*Art 11. Basic Photography II. 3 degree credits. \$33 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.

Symbols explained on page 20.

• Enrollment space limited; instructions on page 10.

Evening Classes

(Prerequisite: Art 10 or equivalent with #. Limited to 20 students. Students must furnish own cameras)

Spring Semester

W 6:20-8:50, West Bank Art Building,
Liebling

Phot. Color Photography I. (See page 130)

Phot. Color Photography II. (See page 130)

*Art 20. Basic Drawing. 3 degree credits. \$33 plus \$3 laboratory fee.

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

Fall Semester

M 6:20-8:50, West Bank Art Building,
Volpe
T 6:20-8:50, West Bank Art Building,
Howard
W 6:20-8:50, West Bank Art Building,
Routon
Th 6:20-8:50, West Bank Art Building

Spring Semester

M 6:20-8:50, West Bank Art Building,
Volpe
T 6:20-8:50, West Bank Art Building,
Howard
W 6:20-8:50, West Bank Art Building,
Routon
Th 6:20-8:50, West Bank Art Building

*Art 23. Drawing and Painting. 3 degree credits. \$33 plus \$3 laboratory fee.

Work from life and nature, introduction to color and pictorial structure. (Prerequisite: 20. Limited to 25 students. Repeated spring semester)

Fall Semester

T 7:00-9:30, West Bank Art Building,
Priede
Th 6:20-8:50, West Bank Art Building,
Chaffey

Spring Semester

T 7:00-9:30, West Bank Art Building,
Priede
Th 6:20-8:50, West Bank Art Building,
Chaffey

*Art 25. Drawing and Color. 3 degree credits. \$33 plus \$5 laboratory fee.

Introduction to color and pictorial organization. This will permit students to have more adequate training (Art 20, 23, 25) in basic techniques preparatory to Upper Division painting and printmaking. (Prerequisite: 23. Limited to 25 students. Repeated spring semester)

Fall Semester

W 6:20-8:50, West Bank Art Building

Spring Semester

W 6:20-8:50, West Bank Art Building

*Art 32. Elements of Printmaking. 3 degree credits. \$33 plus \$3 laboratory fee.

Foundation course designed to familiarize the student with the mediums 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. (Pre-

Symbols explained on page 20.

* Enrollment space limited; instructions on page 10.

Course Offerings—Arts and Sciences

requisite: 23 or #. Meets concurrently with 33 and 90. Limited to 25 students. Repeated spring semester)

Fall Semester

T 6:20-8:50, West Bank Art Building,
Myers

Spring Semester

T 6:20-8:50, West Bank Art Building,
Myers

*Art 33. Printmaking. 3 degree credits. \$33 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. Repeated spring semester)

Fall Semester

T 6:20-8:50, West Bank Art Building,
Myers

Spring Semester

T 6:20-8:50, West Bank Art Building,
Myers

*Art 40. Basic Sculpture I. 3 degree credits. \$33 plus \$7 laboratory fee.

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

Fall Semester

W 6:20-8:50, Holman 154

Spring Semester

W 6:20-8:50, West Bank Art Building

*Art 41. Basic Sculpture II. 3 degree credits. \$33 plus \$7 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

W 6:20-8:50, West Bank Art Building

*Art 45. Ceramic Processes. 3 degree credits. \$33 plus \$5 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. Thursday section meets concurrently with 94. Limited to 22 students)

Spring Semester

T 6:20-8:50, West Bank Art Building

*Art 51-54-55. Life Drawing. 3 degree credits. \$33 plus \$6 laboratory fee.

Portraiture and life drawing from the model, still life, and nature. Principles of anatomy. (Prerequisite: 23 or # for 51; 51 or # for 54; 54 or # for 55. Limited to 25 students. Repeated spring semester)

Fall Semester

W 6:20-8:50, West Bank Art Building,
Busa

Spring Semester

W 6:20-8:50, West Bank Art Building,
Busa

Symbols explained on page 20.

* Enrollment space limited; instructions on page 10.

Evening Classes

***Art 60B-61B-62B. Water Color.** 3 degree credits. \$33 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 mediums. 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, West Bank Art Building,
Myers

Spring Semester

M 6:20-8:50, West Bank Art Building
Myers

***Art 65-66-67. Commercial Design.** 3 degree credits. \$33 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. Limited to 25 students. Repeated spring semester)

Fall Semester

Th 6:20-8:50, West Bank Art Building,
Bethke

Spring Semester

Th 6:20-8:50, West Bank Art Building,
Bethke

***Art 70-71-72. Oil Painting.** 3 degree credits. \$33 plus \$5 laboratory fee.

Introduction to medium of oil; individual projects and instruction. (Prerequisite: 54 or # for 70; 70 or # for 71; 71 or # for 72. Meets concurrently with 70B. Limited to 25 students. Repeated spring semester)

Fall Semester

M 6:20-8:50, West Bank Art Building,
Busa

Spring Semester

M 6:20-8:50, West Bank Art Building,
Busa
W 6:20-8:50, West Bank Art Building,
Rowan

***Art 70B-71B-72B. Oil Painting.** 3 degree credits. \$33 plus \$5 laboratory fee.

Oil painting for general students. (Prerequisite: 20 or 23 for 70B; 70B for 71B; 71B for 72B. Meets concurrently with 70. Limited to 25 students. Repeated spring semester)

Fall Semester

M 6:20-8:50, West Bank Art Building,
Busa

Spring Semester

M 6:20-8:50, West Bank Art Building,
Busa

***Art 73-74-75. Presentation Techniques.** 3 degree credits. \$33 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. Limited to 25 students. Repeated spring semester)

Fall Semester

Th 6:20-8:50, West Bank Art Building,
Howard

Spring Semester

Th 6:20-8:50, West Bank Art Building,
Howard

Symbols explained on page 20.

* Enrollment space limited; instructions on page 10.

Course Offerings—Arts and Sciences

*Art 83-84-85. Photography II. 3 degree credits. \$33 plus \$10 laboratory fee.

Advanced students carry out creative problems in color development and printing. Experiments in photographic controls to illustrate limitations and capacities. Use of photography to interpret the visual environment, and photographer's responsibilities in this use. (Prerequisite: 11 or Jour 6 or 7. Limited to 25 students. Repeated spring semester)

Fall Semester

Th 6:20-8:50, West Bank Art Building

Spring Semester

Th 6:20-8:50, West Bank Art Building

Your attention is called to the Interior Design Certificate Program, page 34.

*Art 83A. Interior Design I. 3 degree credits. \$33 plus \$1 laboratory fee.

Trends in resources for both residential and commercial use are studied. Basic design principles are applied to projects done by students. Traditional styles of furniture are studied, along with contemporary. The subject matter includes floors and floor coverings, walls and wall coverings, cabinet woods and their finishes, furniture selection and arrangement, and the creation of a focal point in a room lacking a logical architectural reason. In six of the meetings part of the class time is used to evaluate and assist students in the preliminary presentation of their projects. Displays of actual materials are arranged for the subject matter under consideration. Slides are used to advantage. There are demonstrations on how to build a color scheme, enabling the student to see the importance of texture as well as color harmony. (No prerequisite. Each section limited to 50 students, accepted in order of registration. Repeated spring semester)

Fall Semester

M 6:20-8:00, Johnston 113, Lewis
T 6:20-8:00, Johnston 113, Coacher
Th 6:20-8:00, Johnston 113, Coacher

Spring Semester

W 6:20-8:00, Johnston 113, Coacher
Th 6:20-8:00, Johnston 113, Coacher

Art 84A. Interior Design II. 3 degree credits. \$33 plus \$1 laboratory fee.

The emphasis is on the study of decorative fabrics. Texture, design, and fiber content as well as historical background are considered. This study must be kept updated. Displays of current fabrics and new wall coverings supplement the subject matter. Students continue to learn more of the leading resources, also to recognize the work of designers. Major accessories including the use of fine arts are considered. The best selection of lamps and hardware, and how to display collections and add touches without which the interior lacks personality. Window treatment and how to estimate yardage are practical aspects of the course. More about color schemes develops as a natural part of the above studies. In a time of rapid expansion in the population size it is necessary to all working in interior design and supporting fields to meet a challenging responsibility. One field trip and talks from practicing interior designers add interest. (Prerequisite: 83A)

Spring Semester

M 6:20-8:00, Johnston 113, Lewis
T 6:20-8:00, Johnston 113, Coacher

*Art 90-91-92. Advanced Printmaking. 3 degree credits. \$33 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

Symbols explained on page 20.

* Enrollment space limited; instructions on page 10.

Evening Classes

of etching, lithography, and woodcuts. (Prerequisite: 32 or 33. Meets concurrently with 32 and 33. Limited to 25 students. Repeated spring semester)

<i>Fall Semester</i>		<i>Spring Semester</i>	
T	6:20-8:50, West Bank Art Building, Myers	T	6:20-8:50, West Bank Art Building, Myers

***Art 103A-104A. Seminar in Interior Design. 3 degree credits each semester. \$33 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. Qualified students may register for graduate credit)

<i>Fall Semester</i>		<i>Spring Semester</i>	
103A	W 8:15-9:55, Johnston 106, Lewis	104A	W 8:15-9:55, Johnston 106, Lewis

Art. Layout for Interior Design I. 3 certificate credits. \$33.

Organization and content of layouts for interior design. Experience in handling tools and materials of drafting, and the use of design principles. Plan view, simple perspective, elevation, etc., as helps in presenting ideas used in interior design. (No prerequisite. Repeated spring semester)

<i>Fall Semester</i>		<i>Spring Semester</i>	
W	6:20-8:00, Wulling 210, Hopkins	W	8:15-9:55, Wulling 210, Hopkins

Art. Layout for Interior Design II. (To be offered 1968-69)

***Art. Use of Color. 3 certificate credits. \$33.**

Basic theory and practical application of color in interior design and architecture. Analysis of color as a creative force in relation to residential and contract design. Problems in color harmony as well as relationship of color to space, form, texture, and light. Emphasis of color use by both the amateur home decorator and the professional. (No prerequisite. Limited to 25 students. Repeated spring semester)

<i>Fall Semester</i>		<i>Spring Semester</i>	
W	8:15-9:55, Wulling 210, Hopkins	W	6:20-8:00, Wulling 210, Hopkins

***Art. Contract Design Seminar I-II. 3 certificate credits each semester. \$33 each semester.**

Problems in designing of contract and institutional interiors, planning the arrangements, materials, furniture, and colors. The study of planning requirements and an analysis of approach to this type of design. (Prerequisite: 84A, and Layout I or II for I; I for II. Limited to 25 students)

<i>Fall Semester</i>		<i>Spring Semester</i>	
I	M 6:20-8:00, Wulling 210, Hopkins	II	M 6:20-8:00, Wulling 210, Hopkins

Symbols explained on page 20.

* Enrollment space limited; instructions on page 10.

Art. Home Design and Planning. 3 certificate credits. \$33 plus \$1 laboratory fee.

Basic principles and elements of residential environment design and planning. Design criteria, values, and methods. Techniques of programming, plan drawing, architectural criticism. Discussion of site and interior design, concepts of family living, building materials and methods, climate control, building restrictions, financing, and the relationship of these factors to planning technique. Relationship of the professions of architecture, building contracting, and real estate to the functional, aesthetic, and technological components of residential environment. (No prerequisite)

Fall Quarter

Th 6:20-8:50, MacPhail Center Auditorium,
Gingold

ASTRONOMY

(See page 200)

BIOLOGY

Norman S. Kerr, Associate Professor of Zoology

Magnus Olson, Professor of Zoology

Douglas C. Pratt, Associate Professor of Botany

Murray D. Rosenberg, Professor of Zoology

Biol 1-2.† General Biology. 5 degree credits each semester. \$55 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. Lectures will be conducted over closed circuit TV)

Fall Semester

1 MW 6:20-9:20, Owre 111, Pratt,
Rosenberg

Spring Semester

2 MW 6:20-9:20, Owre 111, Kerr,
Olson

NatH. Birds of Minnesota. (See page 126)

NatS. GC 11B. Utilization of Natural Resources: Science in Context. (See page 126)

CHEMISTRY

(See page 200)

Symbols explained on page 20.

CHILD PSYCHOLOGY

(See page 193)

CLASSICS

R. Joseph Schork, Associate Professor of Classics

Robert P. Sonkowsky, Professor of Classics

Soterios Stavrou, Teaching Assistant in Classics

Theofanis Stavrou, Associate Professor of History

John Wheatley, Teaching Assistant in Classics

Clas 45. Greek and Roman Mythology. 3 degree credits, §145. \$33.

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. Repeated spring semester. For graduate credit, register in Clas 145)

Fall Semester

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

Spring Semester

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

Clas 80. Classical Epic in Translation. 3 degree credits, §180. \$33.

Reading of Homer's *Iliad*, *Odyssey*, Virgil's *Aeneid*, with attention to the cultural context of epic, the heroic character, epic formulas, and poetic techniques. (No prerequisite. For graduate credit, register in Clas 180)

Fall Quarter

M 5:30-8:00, Folwell 102, Schork

Clas 81. Greek Tragedy in Translation (Aeschylus, Sophocles, Euripides). 3 degree credits, §181. \$33.

Introductory lectures on origin of European drama as a distinct literary form, on characteristics of Greek tragedy, and ancient theatres and theatrical conventions. Careful discussion of selected tragedies. Major emphasis on understanding the problems posed in relation to cultural patterns of the time. (No prerequisite. For graduate credit, register in Clas 181)

Winter Quarter

M 5:30-8:00, Folwell 102

Clas 82. Aristophanes and Roman Drama in Translation (Aristophanes, Menander, Plautus, Terence, Seneca). 3 degree credits, §182. \$33.

Introductory material organized as in Clas 81, but with emphasis on the tradition of comedy. Reading of about a dozen comedies and three Senecan tragedies. (No prerequisite. For graduate credit, register in Clas 182)

Spring Quarter

M 5:30-8:00, Folwell 102

Symbols explained on page 20.

Clas 145. Greek and Roman Mythology. 3 degree credits, §45. \$33.

See course description as listed under Clas 45. Same class work as 45, but with special independent reading and research assignments. May not be taken for graduate credit.

Fall Semester

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

Spring Semester

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

Clas 180. Classical Epic in Translation. 3 degree credits, §80. \$33.

See course description as listed under Clas 80. Same class work as 80, but with special independent reading and research assignments. Qualified students may register for graduate credit.

Fall Quarter

M 5:30-8:00, Folwell 102, Schork

Clas 181. Greek Tragedy in Translation. 3 degree credits, §81. \$33.

See course description as listed under Clas 81. Same class work as 81, but with special independent reading and research assignments. Qualified students may register for graduate credit.

Winter Quarter

M 5:30-8:00, Folwell 102

Clas 182. Aristophanes and Roman Drama in Translation. 3 degree credits, §82. \$33.

See course description as listed under Clas 82. Same class work as 82, but with special independent reading and research assignments. Qualified students may register for graduate credit.

Spring Quarter

M 5:30-8:00, Folwell 102

Lat 1-2. Beginning Latin. 5 degree credits each semester. \$55 each semester.

Gradual mastery of structure of Latin, for attaining a reading knowledge. (No prerequisite for 1; 1 for 2)

Fall Semester

1 W 5:30-8:30, Haecker 2, St. Paul
Campus, Sonkowsky

Spring Semester

2 W 5:30-8:30, Haecker 2, St. Paul
Campus, Sonkowsky

Lat 61-62. Survey of Latin Literature. 3 degree credits each semester, §161-162. \$33 each semester.

61: Literature of the Roman Republic. Preview lessons. Readings from Plautus, Terence, Lucretius, and others. 62: Latin Lyric Poetry. Readings from Horace and/or Catullus and others. (Prerequisite: 2 years high school Latin or equivalent or § for 61; 61 or § for 62)

Fall Semester

61 W 8:35-10:15, Haecker 2, St. Paul
Campus, Sonkowsky

Spring Semester

62 W 8:35-10:15, Haecker 2, St. Paul
Campus, Sonkowsky

Symbols explained on page 20.

Evening Classes

Lat 161-162. Survey of Latin Literature. 3 degree credits each semester, \$61-62. \$33 each semester.

See class description as listed under Lat 61-62. Same class work as 61-62, but with special independent reading and research assignments. Qualified students may register for graduate credit.

<i>Fall Semester</i>			<i>Spring Semester</i>		
161	W	8:35-10:15, Haecker 2, St Paul Campus, Sonkowsky	162	W	8:35-10:15, Haecker 2, St. Paul Campus, Sonkowsky

MdGk 1-2-3. Beginning Modern Greek. 5 degree credits each quarter. \$55 each quarter.

The emphasis of this course will be on aural comprehension, pronunciation, basic grammar, and reading. During the later part of the course the students will be required to do a maximum of written exercises with the aim of developing writing skill. (No prerequisite for 1; 1 or # for 2; 2 or # for 3)

<i>Fall Quarter</i>		<i>Winter Quarter</i>		<i>Spring Quarter</i>	
1	S 9:00 a.m.-1:00 p.m., West Bank CB 225, S. Stavrou	2	S 9:00 a.m.-1:00 p.m., West Bank CB 225, S. Stavrou	3	S 9:00 a.m.-1:00 p.m., West Bank CB 225, S. Stavrou

MdGk 4-5-6. Intermediate Modern Greek. 3 degree credits each quarter. \$33 each quarter.

Intensive review of grammatical forms through conversation, readings from representative Greek authors (such as Solomos, Xenopoulos, Palamas, Porphyras, Vanezis, Myrivilis, Kazantzakis, Seferis, Psathas) and composition. Analysis and discussion of texts will be principally in Greek. (Prerequisite: 3 or equivalent)

<i>Fall Quarter</i>		<i>Winter Quarter</i>		<i>Spring Quarter</i>	
4	Day and time to be arranged, T. Stavrou	5	Day and time to be arranged, T. Stavrou	6	Day and time to be arranged, T. Stavrou

EAST AND SOUTH ASIAN LANGUAGES

Amy Matsumoto, Instructor in East and South Asian Languages

Catherine Chen, Instructor in East and South Asian Languages

The laboratory fee for beginning East and South Asian courses entitles students to use of the Language Laboratory.

Chinese

Chin 1-2. Beginning Modern Chinese (Mandarin). 3 degree credits each semester. \$33 plus \$3 laboratory fee 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)

<i>Fall Semester</i>			<i>Spring Semester</i>		
1	T 6:20-8:00, Folwell 305½, Chen		2	M 6:20-8:00, Nicholson 201, Chen	

Symbols explained on page 20.

Japanese

Jpn 5-6. Beginning Spoken Japanese. 3 degree credits each semester. \$33 plus \$3 laboratory fee each semester.

An introduction to modern spoken Japanese intended to provide the basic sentence patterns and vocabulary in Romanization, necessary for development of conversational ability. (No prerequisite for 5; 5 or # for 6)

Fall Semester

5 M 6:20-8:00, Folwell 302, Matsu-
moto

Spring Semester

6 M 6:20-8:00, Folwell 302, Matsu-
moto

ECONOMICS

Marcel K. Richter, Associate Professor of Economics

Norman J. Simler, Professor of Economics

Harlan M. Smith, Associate Professor of Economics

John G. Turnbull, Professor of Economics

Additional staff to be assigned

Note—Beginning with the fall semester, 1966, the order of material in the two halves of the Principles of Economics course is the reverse of what it had been hitherto in evening classes. This brings the course into line with present daytime classes. If you have taken either Econ 1 or Econ 2 but not both, it is necessary in completing the 2 semesters of Principles of Economics to ascertain whether you have taken the micro half or the macro half and then sign up for the half you lack, whether or not that requires registering for the same number twice. (Where the number is thus used twice, credit will be given by petition showing dates each time and whether day or evening classes.)

Econ 1, 2.† Principles of Economics. 3 degree credits each term, §1T-2T or §1H-2H or §C or §50A-B. \$33 each term.

Principles underlying economic activity and the way these principles work out through our economic institutions. Econ 1, 2 or equivalent are prerequisite for most other courses in economics and business administration. 1: Macro: national income, money and banking, business cycles, and international trade. 2: Micro: demand and supply, competition and monopoly, and distribution of income. (No prerequisite. Need not be taken in sequence)

Fall Semester

1 M 6:20-8:00, West Bank CB 130
M 6:20-8:00, MacPhail Center 416
(Limited to 35 students*)
M 8:15-9:55, MacPhail Center 416
(Limited to 35 students*)
M 8:15-9:55, West Bank CB 130
T 6:20-8:00, West Bank CB 130
T 8:15-9:55, West Bank CB 130
W 6:00-7:40, StP Ext Center
W 6:20-8:00, West Bank CB 130
W 7:50-9:30, StP Ext Center

Spring Semester

1 M 7:50-9:30, StP Ext Center
T 6:20-8:00, West Bank CB 130
T 8:15-9:55, West Bank CB 130
Th 6:20-8:00, West Bank CB 130
Th 8:15-9:55, West Bank CB 130
2 M 6:20-8:00, West Bank CB 130
M 6:20-8:00, MacPhail Center 103
(Limited to 35 students*)
M 8:15-9:55, MacPhail Center 103
(Limited to 35 students*)
M 8:15-9:55, West Bank CB 130

Symbols explained on page 20.

* Enrollment space limited; instructions on page 10.

Evening Classes

<i>Fall Semester</i>		<i>Spring Semester</i>	
W	8:15-9:55, West Bank CB 130	T	6:20-8:00, West Bank CB 120
Th	6:20-8:00, West Bank CB 130	W	6:00-7:40, StP Ext Center
Th	8:15-9:55, West Bank CB 130	W	6:20-8:00, West Bank CB 130
2 M	7:50-9:30, StP Ext Center	W	7:50-9:30, StP Ext Center
Th	6:20-8:00, West Bank CB 145	W	8:15-9:55, West Bank CB 130
Th	8:15-9:55, West Bank CB 145		
<i>Fall Quarter</i>		<i>Winter Quarter</i>	
1 T	6:30-9:00, Robbinsdale HS 217	2 T	6:30-9:00, Robbinsdale HS 217

Note—Students majoring in economics are encouraged to follow Principles of Economics with Econ 65 and 66 (which may, however, be taken in either order) before taking their other economics courses. It is likely to be advantageous to any students whose programs of study include Econ 65 and 66 to do likewise. Other students should note, however, that a number of courses are available without formal prerequisite of both and in some cases without prerequisite other than Econ 1, 2.

Econ 62. Labor Economics. 3 degree credits, §1R 52. \$33.

An introductory course dealing with the role of labor in the economy: labor as a factor of production; population and the labor force; economics of labor markets; labor market institutions; theories of wages and employment; unions and collective bargaining; current wage and employment practices; public policy. (Prerequisite: 6 credits in Principles of Economics or #)

Fall Semester

T 6:20-8:00, West Bank CB 140, Simler

Econ 65. Intermediate Economic Analysis I: The Firm and Industry. 3 degree credits, §65T or §165. \$33.

Behavior of firms and industries under competitive and monopolistic conditions; factors influencing production, price, and advertising conditions. (Prerequisite: 6 credits in Principles of Economics or #. Repeated spring semester)

Fall Semester

M 6:20-8:00, West Bank CB 240
W 8:15-9:55, West Bank CB 240

Spring Semester

W 8:15-9:55, West Bank CB 125

Econ 66. Intermediate Economic Analysis II: Income and Employment. 3 degree credits, §66T or §166. \$33.

Determinants of national income, employment, and price level; attention given to aggregate consumption and investment. (Prerequisite: 6 credits in Principles of Economics or #. Repeated spring semester and spring quarter)

Fall Semester

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

Spring Semester

W 8:15-9:55, West Bank CB 240

Spring Quarter

T 6:30-9:00, Robbinsdale HS 223
(Limited to 35 students*)

Symbols explained on page 20.

* Enrollment space limited; instructions on page 10.

Course Offerings—Arts and Sciences

Econ 67. Money and Banking. 3 degree credits. \$33.

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: 66 or #)

Spring Semester

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

Econ 68. Elements of Public Finance. 3 degree credits, §178A. \$33.

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: 66 or #)

Fall Semester

Th 6:20-8:00, West Bank CB 250

Econ 69. Government Regulation of Business. 3 degree credits. \$33.

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 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 240

*Econ 75. Intermediate Economic Analysis III. 3 degree credits. \$33.

Introduction to household and welfare theory. Applications of evaluative techniques to various market phenomena and government policies. (Prerequisite: Econ 65 or equivalent. The course is required for economics majors. Limited to 35 students)

Spring Semester

Th 6:30-8:10, Agricultural Engineering
101, St Paul Campus, Richter

Econ 80. Survey of Economic Ideas. 3 degree credits. \$33.

A historical and analytical treatment of the development of some of the most important ideas and viewpoints in economics, and their relationship to changing economic conditions and politics. (Prerequisite: 6 credits in Principles of Economics or #)

Fall Semester

Th 8:15-9:55, West Bank CB 250, Smith

Note—All economics courses numbered above 100 are available to qualified students wishing graduate credit, unless otherwise indicated. See page 24 for how to register for graduate credit.

Symbols explained on page 20.

* Enrollment space limited; instructions on page 10.

Evening Classes

Econ 102. Contemporary Labor Issues. 3 degree credits. \$33.

Analysis of important labor problem areas. Current issues will be examined in light of their broader economic, legal, political, and social implications. (Prerequisite: Econ 62 or equivalent or #)

Fall Semester

T 8:15-9:55, West Bank CB 140, Simler

Econ 103. Economic Development. 3 degree credits. \$33.

Conditions necessary for increasing income; capital formation, measurement of economic growth, and problems of "underdeveloped" areas. (Prerequisite: 6 credits in Principles of Economics or #. May not be taken for graduate credit)

Fall Semester

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

Econ 104. International Economics. (To be offered 1968-69)

Econ 157. Business Cycles. (To be offered 1968-69)

Econ 160. Comparative Economic Systems. 3 degree credits. \$33.

Functions of all economic systems; theories of alternative economic systems, the market economy, liberal socialism, economic planning and the centrally planned economy. Analysis of American, Soviet, and other economies. (Prerequisite: 6 credits in Principles of Economics or #)

Spring Semester

Th 8:15-9:55, West Bank CB 225, Smith

Econ 172. Labor Market Behavior and Regulation. (To be offered 1968-69)

Econ 192. Economics of Collective Bargaining. 3 degree credits. \$33.

The nature of labor markets and their operation. The parties to collective bargaining and their roles. Negotiating the collective agreement and operating under it. The consequences of collective bargaining: jurisprudential and economic. This course seeks to combine the institutional processes of collective bargaining with economic investigation of causes and consequences, including such topics as wage-price stability, income and employment growth, and resource allocation. (Prerequisite: 62, 65, 66, or equivalent)

Spring Semester

M 8:15-9:55, West Bank CB 140,
Turnbull

ENGLISH

Literature

Eberhard Alsen, Assistant Professor of English

George Bowen, Lecturer in English

Richard Foster, Professor of English

Symbols explained on page 20.

Course Offerings—Arts and Sciences

John D. Hurrell, Professor of English
 Archibald I. Leyasmeyer, Assistant Professor of English
 Raymond McClure, Assistant Professor of English
 Gordon W. O'Brien, Professor of English
 Jack Patnode, Lecturer in English
 Arthur W. Plumstead, Assistant Professor of English
 Robert C. Rathburn, Associate Professor of Literature and Writing
 James L. Scoggins, Associate Professor of English
 Martin A. Steinmann, Jr., Professor of English
 Margery W. Stricker, Assistant Professor of English

Engl 1B-2B-3B. Freshman English. (See page 92, Comp 1-2-3, Freshman Composition)

Engl 21, 22. Introduction to Literature. 5 degree credits each semester. \$55 each semester.

A chronological study of English literature with historical background. An introduction to types of literature and literary ideas. 21: Chaucer to Milton. Marlowe, Spenser, Bacon, Browne, and Bunyan. 22: The Restoration and the 18th century. Pope, Swift, Addison and Steele, Johnson, Boswell, Fielding, and Sheridan. (Prerequisite: completion of freshman English requirement. Need not be taken in sequence)

Fall Semester

21 M 6:20-9:20, Vincent 306, Scoggins
 W 6:30-9:30, Robbinsdale HS 217

Spring Semester

22 M 6:20-9:20, Vincent 306, Scoggins
 W 6:30-9:30, Robbinsdale HS 217

Engl 37, 38, 39. Modern Literature. 3 degree credits each quarter. \$33 each quarter.

Intended for students in all departments and colleges, not particularly for English majors. Readings in 20th-century British and American fiction, drama, and poetry. Selected, arranged, and discussed—not to give a full historical survey, but to enhance the student's pleasure in, and understanding of, imaginative literature generally. Short critical papers are required and count in determining grades. 37: Poetry. 38: Prose fiction. 39: Drama. (No prerequisite. Need not be taken in sequence)

Fall Quarter

37 M 6:20-8:50, Vincent 1, Bowen
 T 6:30-9:00,
 Robbinsdale HS 212
 (Limited to 35 students*)
 F 6:00-8:30, StP
 Ext Center

Winter Quarter

38 M 6:20-8:50,
 Vincent 1, Bowen
 T 6:30-9:00,
 Robbinsdale HS 212
 (Limited to 35 students*)
 F 6:00-8:30, StP
 Ext Center

Spring Quarter

39 M 6:20-8:50,
 Vincent 1, Bowen
 T 6:30-9:00,
 Robbinsdale HS 212
 (Limited to 35 students*)
 F 6:00-8:30, StP
 Ext Center

Engl 52, 53, 54. The English Novel. 3 degree credits each quarter. \$33 each quarter.

52: Reading of novels by such writers as Defoe, Fielding, Sterne, Smollett, and Richardson. 53: Reading of novels by such writers as Jane Austen, Scott, the Brontës, Thackeray, and Dickens. 54: Reading of novels by such writers as Trollope, George Eliot,

Symbols explained on page 20.

* Enrollment space limited; instructions on page 10.

Evening Classes

Meredith, Hardy, Conrad, and Butler. (Prerequisite: 5 credits in literature, exclusive of freshman English. Need not be taken in sequence)

	Fall Quarter	Winter Quarter	Spring Quarter
52	M 6:20-8:50, Nicholson 216, Rathburn	M 6:20-8:50, Nicholson 216, Rathburn	M 6:20-8:50, Nicholson 216, Rathburn

Engl 55, 56. Shakespeare. 3 degree credits each quarter. \$33 each quarter.

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: 5 credits in literature, exclusive of freshman English. Need not be taken in sequence but students are strongly urged to take 55 before 56)

	Fall Quarter	Winter Quarter
55	T 6:20-8:50, Vincent 306, O'Brien W 6:30-9:00, Robbinsdale HS 212 Th 6:00-8:30, Mac- Phail Center 102	T 6:20-8:50, Vincent 306, O'Brien W 6:30-9:00, Robbinsdale HS 212 Th 6:00-8:30, Mac- Phail Center 102

Engl 72-73-74. American Literature. 3 degree credits each quarter. \$33 each quarter.

72: The beginnings through Melville. 73: Whitman through Stephen Crane. 74: Dreiser to the present. (Prerequisite: 5 credits in literature, exclusive of freshman English for 72; 72 or # for 73; 73 or # for 74)

	Fall Quarter	Winter Quarter	Spring Quarter
72	W 6:20-8:50, Vincent 309, Patnode M 6:30-9:00, Robbinsdale HS 219, Patnode	W 6:20-8:50, Vincent 309, Patnode M 6:30-9:00, Robbinsdale HS 219, Patnode	W 6:20-8:50, Vincent 309, Patnode M 6:30-9:00, Robbinsdale HS 219, Patnode

Engl 75. Chaucer. 4 degree credits. \$44.

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

	Fall Semester	Spring Semester
M	6:20-8:50, Vincent 205, McClure	6:20-8:50, Vincent 113, McClure

Engl 104. Emerson and Thoreau. 3 degree credits. \$33.

Emerson and Thoreau: A study of the classic statements of American transcendentalism. (Prerequisite: 5 credits in literature, English or American, exclusive of freshman English. Qualified students may register for graduate credit)

	Winter Quarter
T	6:20-8:50, Vincent 125, Plumstead

Symbols explained on page 20.

Course Offerings—Arts and Sciences

Engl 105. Hawthorne and Melville. 3 degree credits. \$33.

Hawthorne and Melville: A study of the classic works of American romance, symbolism, and ambiguity. (Prerequisite: 5 credits in literature, English or American, exclusive of freshman English. Qualified students may register for graduate credit)

Spring Quarter

T 6:20-8:50, Vincent 307, Plumstead

Engl 108, 109, 110. Romantic Poetry and Prose. 3 degree credits each quarter. \$33 each quarter.

108: Blake, Wordsworth, Coleridge, and others. 109: Scott, Byron, Lamb, De-Quincey, and others. 110: Shelley, Keats, Hazlitt, and others. (Prerequisite: 5 credits in literature, exclusive of freshman English. Need not be taken in sequence. Qualified students may register for graduate credit)

Fall Quarter

108 Th 6:20-8:50,
Vincent 301,
Stricker, Scoggins

Winter Quarter

109 Th 6:20-8:50,
Vincent 301,
Stricker, Scoggins

Spring Quarter

110 Th 6:20-8:50,
Vincent 301,
Stricker, Scoggins

Engl 113. American Short Story. 3 degree credits. \$33.

Historical examination of American short story from 18th century to the present. (Prerequisite: 5 credits in literature exclusive of freshman English. Qualified students may register for graduate credit. Repeated winter and spring quarters)

Fall Quarter

T 6:20-8:50, Vincent
207, Alsen

Winter Quarter

T 6:20-8:50, Vincent
207, Alsen

Spring Quarter

T 6:20-8:50, Vincent
207, Alsen

Engl 127. Drama. 3 degree credits. \$33.

The beginnings of modern realism. (Prerequisite: 5 credits in literature, exclusive of freshman English. Qualified students may register for graduate credit)

Fall Quarter

Th 6:20-8:50, Vincent 303, Leyasmeyer

Engl 129. Modern Drama. 3 degree credits. \$33.

Survey of chief dramatists, English, American, and Continental, from 1900. (Prerequisite: 55 and 56 or 126 and 127. Qualified students may register for graduate credit)

Winter Quarter

Th 6:20-8:50, Vincent 303, Leyasmeyer

Engl 162. Milton. 3 degree credits. \$33.

The minor poems, *Areopagitica*, *Paradise Lost*, and *Samson Agonistes*. (Prerequisite: 21 and 22 or 55 and 56. Qualified students may register for graduate credit. Repeated each quarter)

Fall Quarter

W 6:20-8:50, Vincent
306, Steinmann

Winter Quarter

W 6:20-8:50, Vincent
306, Steinmann

Spring Quarter

W 6:20-8:50, Vincent
306, Steinmann

Symbols explained on page 20.

Evening Classes

Engl 165. The Structure of Modern English. 3 degree credits. \$33.

An introductory study of English phonemics, morphemics, and syntax. (Prerequisite: 5 credits in literature, exclusive of freshman English. Qualified students may register for graduate credit)

Fall Semester

M 6:20-8:00, Vincent 303

Engl 166. History of the English Language. 3 degree credits. \$33.

Historical influences upon, and changes within, the language as both a popular and literary medium of communication. (Prerequisite: 5 credits in literature, exclusive of freshman English. Qualified students may register for graduate credit)

Spring Semester

M 8:15-9:55, Vincent 303

Engl 169. Earlier English Drama. 3 degree credits. \$33.

Interludes, moralities, the cyclic plays (selected), academic and court plays; plays of Kyd, Marlowe, Lyly, Greene, and Peele. (Prerequisite: 5 credits in literature, exclusive of freshman English. Qualified students may register for graduate credit)

Spring Quarter

T 6:20-8:50, Vincent 306, O'Brien

Engl 184, 185, 186. Form and Idea in Dramatic Literature. 3 degree credits each quarter. \$33 each quarter.

Dramatic types, in chronological sequence; analytical reading of selected representative plays. 184: Tragic and religious drama (classical, medieval, Renaissance, and modern); theories of tragedy. 185: Comedy (classical, Renaissance, and modern); theories of comedy. 186: Experimental and nonrealistic drama. (Prerequisite: 5 credits in literature, English or American, exclusive of freshman English; 55-56 recommended. Need not be taken in sequence. Qualified students may register for graduate credit)

Fall Quarter

184 W 6:20-8:50,
Vincent 205,
Hurrell

Winter Quarter

185 W 6:20-8:50,
Vincent 205,
Hurrell

Spring Quarter

186 W 6:20-8:50,
Vincent 205,
Hurrell

Engl 190, 191, 192. Twentieth-Century Writers. 3 degree credits each quarter. \$33 each quarter.

190: Faulkner, Fitzgerald, Mailer. 191: Lawrence, Joyce. 192: Yeats, Hardy, Frost, Stevens. (Prerequisite: 5 credits in literature, English or American, exclusive of freshman English. Need not be taken in sequence. Qualified students may register for graduate credit)

Fall Quarter

190 Th 6:20-8:50,
Vincent 307, Foster

Winter Quarter

191 Th 6:20-8:50,
Vincent 307, Foster

Spring Quarter

192 Th 6:20-8:50,
Vincent 307, Foster

Symbols explained on page 20.

Engl 194, 195, 196. Elizabethan Literature. 3 degree credits each quarter. \$33 each quarter.

194: From beginning of Tudor period to about 1580; Medieval origins of the drama. 195: From early work of Spenser and Sidney to the mid-nineties, 196: The decade centering in the last year or two of the Queen's reign. (Prerequisite: 5 credits in literature, exclusive of freshman English. Need not be taken in sequence. Qualified students may register for graduate credit)

Fall Quarter		Winter Quarter		Spring Quarter	
194	M 6:20-8:50, Vincent 307	195	M 6:20-8:50, Vincent 307	196	M 6:20-8:50, Vincent 307

Composition and Communication

Harold J. Alford, Associate Professor of English

David H. Anderson, Lecturer in English

Angus Clarke, Lecturer in English

James T. Farrell, Lecturer in English

Roland Flint, Instructor in English

J. Vernon Jensen, Associate Professor of Communication

Alex Kurak, Associate Professor of Literature and Writing

Charlotte Kwiat, Instructor in English

Robert Lippert, Lecturer in English

Agnes Macdonald, Lecturer in English

Philip Moe, Lecturer in English

Thomas A. Nelson, Jr., Instructor in English

Charles Norman, Lecturer in English

Justin O'Connell, Lecturer in English

John A. Sweetser III, Lecturer in English

Placement Tests for Composition and Communication

Admission to Comp 1 or Comm 1 is based on satisfactory score in the placement test or satisfactory completion of Comp X, Preparatory Composition.

Your first step is to register for Comp 1 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 Comp X in the last 3 years at the University of Minnesota, you need not take the placement test. (c) If you have passed a freshman English composition 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 English composition from that school, you have two choices: you may continue English Composition in proper sequence (i.e., if you have had the credit equivalent of Comp 1, you should take Comp 2, etc.) or you may take communication, starting with Comm 1; you do not need to take the placement test in either

Symbols explained on page 20.

Evening Classes

case. (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 14, Nicholson 213
- 7:00 p.m. Tuesday, September 19, Nicholson 213
- 7:00 p.m. Tuesday, September 19, StP Ext Center 202
- 7:00 p.m. Wednesday, September 20, Robbinsdale HS 231 and 233

Winter Quarter

- 7:00 p.m. Wednesday, December 20, Nicholson 211
- 7:00 p.m. Wednesday, December 27, Nicholson 211

Spring Quarter

- 7:00 p.m. Wednesday, March 20, Nicholson 211

You will be notified by mail prior to the first meeting of your class of your eligibility to remain in Comp 1 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 Comp 1 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 Comp 1 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.

Comp X. Preparatory Composition. No credit. \$33 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 Comp 1 or Comm 1. (No prerequisite. Repeated winter and spring quarters)

	Fall Quarter	Winter Quarter	Spring Quarter
M	6:30-9:00, Robbinsdale HS 221	M 6:30-9:00, Robbinsdale HS 221	M 6:30-9:00, Robbinsdale HS 221
T	6:00-8:30, MacPhail Center 220	T 6:00-8:30, MacPhail Center 220	T 6:00-8:30, MacPhail Center 220
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	F 6:00-8:30, StP Ext Center	

Comp 1-2-3. Freshman Composition. 4 degree credits each quarter. \$44 each quarter.

A course in composition. It concentrates upon developing the student's skill in writing exposition, with some reading in expository literature chiefly as a means of providing subject matter for the writing. It satisfies the Group A requirements for graduation. (Prerequisite: Comp X or satisfactory score in placement test, explained above, for 1; 1 or Engl 1B for 2; 2 or Engl 2B for 3. Must be taken in sequence. Registration must be made in person. Repeated winter and spring quarters)

Symbols explained on page 20.

Course Offerings—Arts and Sciences

Fall Quarter		Winter Quarter		Spring Quarter	
1	M 6:30-10:00, Robbinsdale HS 217	1	T 6:00-9:30, MacPhail Center 326	1	M 6:30-10:00, Robbinsdale HS 213
	T 6:00-9:30, MacPhail Center 326		T 6:20-9:50, Vincent 2		T 6:00-9:30, MacPhail Center 326
	T 6:20-9:50, Vincent 2		W 6:20-9:50, Vincent 2		T 6:20-9:50, Vincent 2
	W 6:20-9:50, Vincent 2		Th 6:20-9:50, Vincent 6		W 6:20-9:50, Vincent 2
	Th 6:20-9:50, Vincent 6		F 6:00-9:30, StP Ext Center		Th 6:20-9:50, Vincent 2
	F 6:00-9:30, StP Ext Center	2	M 6:30-10:00, Robbinsdale HS 217	2	M 6:30-10:00, Robbinsdale HS 211
2	T 6:20-9:50, Vincent 301		T 6:00-9:30, MacPhail Center 101		T 6:00-9:30, MacPhail Center 221
	Th 6:20-9:50, Vincent 2		T 6:20-9:50, Vincent 301		T 6:20-9:50, Vincent 1
3	W 6:20-9:50, Vincent 301		W 6:20-9:50, Vincent 301		W 6:20-9:50, Vincent 1
			Th 6:20-9:50, Vincent 2		Th 6:20-9:50, Vincent 1
			Th 6:20-9:50, Vincent 207		F 6:00-9:30, StP Ext Center
			F 6:00-9:30, StP Ext Center	3	M 6:30-10:00, Robbinsdale HS 217
		3	T 6:20-9:50, Vincent 1		T 6:00-9:30, MacPhail Center 101
					T 6:20-9:50, Vincent 301
					W 6:20-9:50, Vincent 301
					Th 6:20-9:50, Vincent 6
					F 6:00-9:30, StP Ext Center

Comm 1-2-3. Communication. 4 degree credits each quarter. \$44 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: Comp X or satisfactory score on placement test, explained on page 91, for 1; 1 for 2; 2 for 3. Must be taken in sequence. Meets all requirements which are satisfied by Comp 1-2-3, Freshman Composition, *except in the Institute of Technology. Registration must be made in person*)

Fall Quarter		Winter Quarter		Spring Quarter	
1	T 6:00-9:20, MacPhail Center 327	2	T 6:00-9:20, MacPhail Center 327	3	T 6:00-9:20, MacPhail Center 327
	W 6:20-9:50, Johnston 114, Jensen		W 6:20-9:50, Johnston 114, Jensen		W 6:20-9:50, Johnston 114, Jensen

Symbols explained on page 20.

Evening Classes

Comp. Grammar Review. 3 certificate credits. \$33 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)

<i>Fall Quarter</i>		<i>Winter Quarter</i>		<i>Spring Quarter</i>	
M	6:00-8:30, MacPhail Center 220, Alford	M	6:00-8:30, MacPhail Center 220, Alford	M	6:00-8:30, McPhail Center 220, 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. Advanced Grammar. 3 certificate credits. \$33.

Designed for the student who wishes to make a greater academic inquiry into grammar than that which he may have made in *Grammar Review*. The course includes a thorough study of complex grammatical forms, including those common to modern American English, an examination of faulty syntactical forms, and a study of effective sentence construction. Limited readings from selected old and modern grammar texts; one short paper required. (Prerequisite: *Grammar Review*. Repeated winter and spring quarters)

<i>Fall Quarter</i>		<i>Winter Quarter</i>		<i>Spring Quarter</i>	
T	6:20-8:50, Vincent 205, O'Connell	T	6:20-8:50, Vincent 205, O'Connell	T	6:20-8:50, Vincent 205, O'Connell

Comp. Writing Projects. 3 certificate credits. \$33.

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 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)

<i>Fall Semester</i>		<i>Spring Semester</i>	
F	7:00-10:00, StP Ext Center, Alford	F	7:00-10:00, StP Ext Center, Alford

Comp 27, 28. Advanced Writing. 3 degree credits each semester. \$33 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: Completion of freshman English requirement or # for 27 or 28. Need not be taken in sequence)

<i>Fall Semester</i>		<i>Spring Semester</i>	
27 M	6:20-8:00, Vincent 113, Macdonald	28 T	6:20-8:00, Vincent 113, Macdonald
T	6:20-8:00, Vincent 113, Macdonald	W	6:20-8:00, Vincent 113, Macdonald
W	6:20-8:00, Vincent 113, Macdonald		

Symbols explained on page 20.

Engl. English for Foreign Students. No credit. \$33 each quarter.

The students have the opportunity to speak, read, and write American English. Emphasis is on conversational English and the errors most frequently made in English by foreign students. Students are encouraged to think in English rather than in their native languages. Students are taught to distinguish informal and colloquial speech from literary and formal English. (Prerequisite: open to those who have a working knowledge of English grammar. Repeated winter and spring quarters)

Fall Quarter	Winter Quarter	Spring Quarter
Th 6:20-8:50, Vincent 210, Kwiat	Th 6:20-8:50, Vincent 210, Kwiat	Th 6:20-8:50, Vincent 210, Kwiat

Business English. (See page 166)

Engineering English. (See page 207)

FAMILY STUDIES

Richard Hey, Associate Professor of Family Studies

Nathan Mandel, Assistant Professor of Family Studies

Elizabeth Peterson, Assistant Professor of Family Studies

David Torbett, Instructor in Family Studies

FamS 1. Dynamics of Dating, Courtship, and Marriage. 3 degree credits. \$33 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)

Spring Semester

M 6:20-8:00, Johnston 114

FamS 1A. Dynamics of Marriage and Parenthood. 3 degree credits, \$1. \$33 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

Symbols explained on page 20.

Evening Classes

discussion and personal or family counseling with the instructor. (No prerequisite. Repeated spring semester)

Fall Semester

M 6:20-8:00, Johnston 114, Torbett

Spring Semester

Th 6:20-8:00, Johnston 105, Mandel

*FamS 25A. Parenthood. 2 degree credits. \$22.

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. Limited to 40 students. Repeated winter and spring terms)

Special Term—September 25 to December 4

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

M 7:00-8:45, Sheridan Elementary School, Richfield, Peterson

Special Term—January 8 to March 18

M 7:30-9:10, Architecture 30, Peterson

Special Term—March 25 to June 3

M 7:00-8:45, White Bear Lake High School 109, Peterson

FRENCH

John E. Fadell, Instructor in French

Claude Francis, Associate Professor of French

Blandine M. Rickert, Instructor in French

Mireille G. Rydell, Instructor in French

1-2-3, *Beginning French 1A-1B-2A-2B-3A-3B*, *Beginning French*, and 25, *Intermediate French*, are courses stressing pronunciation, aural comprehension, basic grammatical forms, patterns of French and the ability to recombine them in new situations. The reading and writing skills will be developed as a complement to the acquisition of the spoken objectives. Each meeting will consist of language laboratory work as well as class recitation. Grades will be assigned solely on the basis of class recitation and weekly quizzes.

The two *Beginning French* sequences differ only in rate of progress and may be correlated as follows:

Fren 1A plus 1B will be considered the equivalent of Fren 1

Fren 2A plus 2B will be considered the equivalent of Fren 2

Fren 3A plus 3B will be considered the equivalent of Fren 3

The laboratory fee for beginning French courses entitles students to use of the Language Laboratory.

Symbols explained on page 20.

* Enrollment space limited; instructions on page 10.

Course Offerings—Arts and Sciences

Fren 1. Beginning French. 5 degree credits. \$55 plus \$3 laboratory fee.

See note on page 96. (No prerequisite. Repeated spring semester)

Fall Semester

MTh 6:20-8:00, Folwell 104

Spring Semester

MTh 6:20-8:00, Folwell 104

Fren 2. Beginning French. 5 degree credits. \$55 plus \$3 laboratory fee.

See note on page 96. (Prerequisite: 1 or 1B or 1 year high school French. Repeated spring semester)

Fall Semester

MTh 6:20-8:00, Folwell 110

Spring Semester

MTh 6:20-8:00, Folwell 110

Fren 3. Beginning French. 5 degree credits. \$55 plus \$3 laboratory fee.

See note on page 96. (Prerequisite: 2 or 2B or 2 years high school French. Repeated spring semester)

Fall Semester

MTh 6:20-8:00, Folwell 107

Spring Semester

MTh 6:20-8:00, Folwell 107

Fren 1A-1B. Beginning French. 3 degree credits each semester. \$33 plus \$3 laboratory fee each semester.

See note on page 96. (No prerequisite for 1A; 1A for 1B. Repeated spring semester)

Fall Semester

1A W 6:20-8:00, Folwell 109

1B W 6:20-8:00, Folwell 108

Spring Semester

1A W 6:20-8:00, Folwell 109

1B W 6:20-8:00, Folwell 108

Fren 2A-2B. Beginning French. 3 degree credits each semester. \$33 plus \$3 laboratory fee each semester.

See note on page 96. (Prerequisite: 1 or 1B or 1 year high school French for 2A; 2A for 2B)

Fall Semester

2A M 6:20-8:00, Folwell 303½

Spring Semester

2B M 6:20-8:00, Folwell 303½

Fren 3A-3B. Beginning French. 3 degree credits each semester. \$33 plus \$3 laboratory fee each semester.

See note on page 96. (Prerequisite: 2 or 2B or 2 years high school French for 3A; 3A for 3B)

Fall Semester

3A T 6:20-8:00, Folwell 303½

Spring Semester

3B T 6:20-8:00, Folwell 303½

Fren 25. Intermediate French. 5 degree credits. \$55 plus \$3 laboratory fee.

See note on page 96. (Prerequisite: 3 or 3B or 3 years high school French. Repeated spring semester)

Fall Semester

MTh 6:20-8:00, Folwell 203

Spring Semester

MTh 6:20-8:00, Folwell 203

Symbols explained on page 20.

Evening Classes

Fren 30. Introduction to French Literary Texts. 3 degree credits. \$33.

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

Fall Semester

Th 6:20-8:00, Folwell 201

Spring Semester

Th 6:20-8:00, Folwell 201

Fren 54. French Composition. 3 degree credits. \$33.

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

Fall Semester

Th 6:20-8:00, Folwell 108

Fren 55. French Conversation. 3 degree credits. \$33 plus \$10 laboratory fee.

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

Fall Semester

T 6:20-8:00, Folwell 201

Spring Semester

T 6:20-8:00, Folwell 201

Fren 65. Survey of French Literature: Rabelais to La Bruyère. 3 degree credits. \$33.

Examines the principal works in the Renaissance, the baroque period, and the age of classicism, including those of Ronsard, d'Aubigné, Montaigne, Malherbe, Corneille, Molière, Racine, Mme De LaFayette, and LaFontaine. (Prerequisite: 30 or ¶30)

Fall Semester

T 6:20-8:00, Folwell 205

Fren 66. Survey of French Literature: The Age of Enlightenment. 3 degree credits. \$33.

Includes a study of the principal works of Marivaux, Montesquieu, Voltaire, Diderot, Rousseau, Beaumarchais, and others. (Prerequisite: 30 or ¶30)

Spring Semester

T 6:20-8:00, Folwell 205

Fren 149. French Dramatists of the Twentieth Century. 3 degree credits. \$33.

The course is designed to reflect the variety of experimentation in the French theater since Cocteau. (Prerequisite: one literature course in French or ¶. Qualified students may register for graduate credit)

Fall Semester

W 6:20-8:00, Folwell 205, Francis

Symbols explained on page 20.

Course Offerings—Arts and Sciences

Fren 162. Le Nouveau Roman: Representative French Novelists of the 50's. 3 degree credits. \$33.

Includes the last existentialist novels and the innovations of Nathalie Sarraute, Alain Robbe-Grillet, Michel Butor, and others. (Prerequisite: one literature course in French or Φ . Qualified students may register for graduate credit)

Spring Semester

W 6:20-8:00, Folwell 205, Francis

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. \$33 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 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
202, Fadell

Winter Quarter

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

Spring Quarter

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

GENERAL ARTS

Jerome E. Gates, Associate Professor of General Arts

GC. 21. General Arts. 3 degree credits. \$33 plus \$2 materials fee.

The student is given the opportunity to evaluate his attitudes and ideas relating to the arts. This is done through an examination of the basic similarities which underlie all art forms and through an investigation of the development of these art forms in terms of human needs. The arts concentrated on are painting, sculpture, music, architecture, and literature. (No prerequisite. Repeated winter and spring quarters)

Fall Quarter

Th 6:30-9:00, Robbinsdale
HS 223, Gates

Winter Quarter

Th 6:30-9:00, Robbinsdale
HS 223, Gates

Spring Quarter

Th 6:30-9:00, Robbinsdale
HS 223, Gates

Symbols explained on page 20.

Evening Classes

GEOGRAPHY

Ward Barrett, Associate Professor of Geography

John Webb, Associate Professor of Geography

Geog 1. Physical Geography. 5 degree credits. \$55.

Major features of distribution patterns of climate, relief, vegetation, and soils; regional differences in problems of physical development. (No prerequisite)

Fall Semester

Th 6:20-9:20, West Bank CB 255,
Barrett

Geog 4. Human Geography. 5 degree credits. \$55.

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

Spring Semester

Th 6:20-9:20, West Bank CB 235,
Webb

GEOLOGY

(See page 209)

GERMAN

Ethard Friedrichsmeyer, Associate Professor of German

Edwin F. Menze, Professor of German

Herman Ramras, Professor of German

Wolfgang Taraba, Professor of German

Gerhard H. Weiss, Professor of German

Cecil Wood, Professor of German

Two sequences of Beginning German are offered for credit: Ger 1A-2A-3A and Ger 1B-2B-3B. Either will satisfy the College of Liberal Arts language requirement. Ger 17A and 17B are noncredit courses designed for graduate students only. The German language requirement for an advanced degree can be satisfied by passing the examination given at the end of 17B with a grade of "B" or better.

The prospective student should choose the course that is best suited for his needs.

1A-2A-3A. Beginning German: "Oral" 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.

Symbols explained on page 20.

The course will be reinforced with programmed materials which will be available to students in the language laboratory. The continuation course is Ger 4-5, which is a prerequisite for Upper Division German courses.

1B-2B-3B. Beginning German: Language and Culture. 5 credits per unit. Provides a foundation for a reading knowledge adequate for cultural and professional purposes; a core of minimum essential vocabulary and familiarity with German structure necessary to develop a speaking knowledge; an introduction to representative German figures such as Goethe, Heine, Thomas Mann, through a variety of graded texts. Tapes for practicing pronunciation, listening comprehension, and basic structural patterns will be available to students in the language laboratory. The continuation course is Ger 4-5, which is the prerequisite for Upper Division German courses.

The laboratory fee for beginning German courses entitles students to use of the Language Laboratory.

Ger 1A-2A. Beginning German: "Oral" Approach. 5 degree credits each semester. \$55 plus \$3 laboratory fee each semester.

Structure, pronunciation, reading, and oral comprehension by learning the patterns of basic German. See note on page 100. (No prerequisite for 1A; 1A or 1 year preparatory German for 2A)

Fall Semester

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

Spring Semester

1A Th 6:20-9:20, Folwell 209
2A M 6:20-9:20, Folwell 209½, Weiss
Th 6:20-9:20, Folwell 209½

Ger 3A. Beginning German: "Oral" Approach. 5 degree credits. \$55.

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

Fall Semester

M 6:20-9:20, Folwell 109

Ger 1B-2B. Beginning German: Language and Culture. 5 degree credits each semester. \$55 each semester.

Reading and oral comprehension, core of minimum structure and vocabulary. See note on page 100. (No prerequisite for 1B; 1B or 1 year preparatory German for 2B)

Fall Semester

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

Spring Semester

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

Ger 3B. Beginning German. 5 degree credits. \$55.

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

Fall Semester

M 6:20-9:20, Folwell 108

Symbols explained on page 20.

Evening Classes

Ger 4-5. Intermediate German. 5 degree credits. \$55.

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 degree credits; Ger 5, Intermediate German, Elementary Composition, 2 degree credits. A student must register concurrently for both courses in the Extension Division. (Prerequisite: 3A or 3B or 3 years of high school German)

Spring Semester

M 6:20-9:20, Folwell 305½

Ger 61E-62E. Conversation. 3 degree credits each semester, \$61-62-63. \$33 each semester.

Systematic development of vocabulary in areas relating to everyday life and practice in the use of spoken German. (Prerequisite: 4-5 or equivalent or # for 61E; 61E for 62E)

Fall Semester

61E Th 6:20-8:00, Folwell 302

Spring Semester

62E Th 6:20-8:00, Folwell 302

Ger 68. Contemporary Germany. 3 degree credits. \$33.

An introduction to the culture and civilization of present-day Germany. (Prerequisite: Ger 56 or Ger 4 and Δ)

Fall Semester

T 6:20-8:00, Folwell 207

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. \$33.

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 that 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

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

Spring Semester

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

Symbols explained on page 20.

Course Offerings—Arts and Sciences

Ger 17B. German for Graduate Students. No credit. \$44.

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

M 6:20-8:35, Folwell 105, C Wood

Spring Semester

M 6:20-8:35, Folwell 105, C Wood

GREEK

(See Classics, page 82)

HISTORY

W. Donald Beatty, Professor of History

Harold C. Deutsch, Professor of History

George D. Green, Assistant Professor of History and Economics

John R. Howe, Associate Professor of History

Tom B. Jones, Professor of History

Rodney C. Loehr, Professor of History

Byron K. Marshall, Assistant Professor of History

John K. Munholland, Assistant Professor of History

David W. Noble, Professor of History

Darrett B. Rutman, Associate Professor of History

Ronald Sack, Instructor in History

Timothy L. Smith, Professor of History

Theofanis G. Stavrou, Associate Professor of History

William E. Wright, Associate Professor of History

Note—In the fall of 1964 all history courses numbered 100 and above were renumbered. The old numbers are in parentheses following the new course numbers. 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. 3 degree credits each quarter. \$33 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

Symbols explained on page 20.

Evening Classes

Western and world civilization in the 20th century. (No prerequisite. Need not be taken in sequence. For Upper Division credit, register in Hist 53, 54, 55)

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
	W 5:30-8:00, West Bank CB 10, Wright		W 5:30-8:00, West Bank CB 10, Wright		W 5:30-8:00, West Bank CB 10, Wright
	Th 6:00-8:30, StP Ext Center		Th 6:00-8:30, StP Ext Center		Th 6:00-8:30, StP Ext Center

Hist 11, 12, 13. Medieval and Renaissance History. 3 degree credits each quarter. \$33 each quarter.

11: The early Middle Ages, decline of Rome, the barbarian kingdoms, Carolingian empire. 12: The high Middle Ages, feudal Europe, medieval culture. 13: The later Middle Ages and early Renaissance, rise of national monarchies, art, learning, and literature. (No prerequisite. Need not be taken in sequence)

Fall Quarter		Winter Quarter		Spring Quarter	
11	M 6:00-8:30, MacPhail Center Annex 2	12	M 6:00-8:30, MacPhail Center Annex 2	13	M 6:00-8:30, MacPhail Center Annex 2

Hist 14, 15, 16. Ancient Civilization. 3 degree credits each quarter. \$33 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 achievement 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. Need not be taken in sequence, but recommended that 16 be preceded by 15, and 15 by 14 in order that the student may acquire a background for following course. For Upper Division credit, register in Hist 50, 51, 52)

Fall Quarter		Winter Quarter		Spring Quarter	
14	W 6:00-8:30, MacPhail Center Annex 1, Sack	15	W 6:00-8:30, MacPhail Center Annex 1, Sack	16	W 6:00-8:30, MacPhail Center Annex 1, Sack
	Th 5:30-8:00, West Bank CB 10, Jones		Th 5:30-8:00, West Bank CB 10, Jones		Th 5:30-8:00, West Bank CB 10, Jones

Hist 17, 18, 19. History of Asia. 3 degree credits each quarter. \$33 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.

Symbols explained on page 20.

Course Offerings—Arts and Sciences

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. For Upper Division credit, register in Hist 59, 60, 61)

<i>Fall Quarter</i>		<i>Winter Quarter</i>		<i>Spring Quarter</i>	
17	M	5:30-8:00, West Bank CB 135, Marshall	18	M	5:30-8:00, West Bank CB 135, Marshall
19	M	5:30-8:00, West Bank CB 135, Marshall			

Hist 23, 24 (old 20, 21, 22). American History. 4 degree credits each term. \$44 each term.

Survey of political, economic, and social history of the United States with emphasis on forces that resulted in the emergence of Modern America. **23:** Colonial, early national period through the sectional crisis. **24:** Modern America. (No prerequisite. Need not be taken in sequence)

<i>Fall Semester</i>			<i>Spring Semester</i>		
23	M	7:00-9:15, StP Ext Center	24	M	7:00-9:15, StP Ext Center
	W	6:30-8:45, Robbinsdale HS 233		W	6:30-8:45, Robbinsdale HS 233
	Th	6:30-8:45, MacPhail Center Annex 1		Th	6:30-8:45, MacPhail Center Annex 1
24	Th	5:45-8:00, West Bank CB 150, Green	23	W	5:45-8:00, West Bank CB 235, Howe

<i>Fall Quarter</i>		<i>Winter Quarter</i>		<i>Spring Quarter</i>	
23	T	5:30-8:50, West Bank CB 410, Rutman	24	T	5:30-8:50, West Bank CB 410, Rutman

Hist 50, 51, 52. Ancient Civilization. 3 degree credits each quarter. \$33 each quarter.

See course description as listed under Hist 14, 15, 16. (Prerequisite: Limited to those students eligible for Upper Division credit)

<i>Fall Quarter</i>		<i>Winter Quarter</i>		<i>Spring Quarter</i>	
50	Th	5:30-8:00, West Bank CB 10, Jones	51	Th	5:30-8:00, West Bank CB 10, Jones

Hist 53, 54, 55. Civilization of the Modern World. 3 degree credits each quarter. \$33 each quarter.

See course description as listed under Hist 1, 2, 3. (Prerequisite: Limited to those students eligible for Upper Division credit)

<i>Fall Quarter</i>		<i>Winter Quarter</i>		<i>Spring Quarter</i>	
53	M	6:30-9:00, Robbinsdale HS 231,	54	M	6:30-9:00, Robbinsdale HS 231,
	W	5:30-8:00, West Bank CB 10, Wright		W	5:30-8:00, West Bank CB 10, Wright
	Th	6:00-8:30, StP Ext Center		Th	6:00-8:30, StP Ext Center

Symbols explained on page 20.

Evening Classes

Hist 59, 60, 61. History of Asia. 3 degree credits each quarter. \$33 each quarter.

See course description as listed under Hist 17, 18, 19. (Prerequisite: Limited to those students eligible for Upper Division credit)

	Fall Quarter	Winter Quarter	Spring Quarter
59	M 5:30-8:00, West Bank CB 135, Marshall	M 5:30-8:00, West Bank CB 135, Marshall	M 5:30-8:00, West Bank CB 135, Marshall

Hist 81, 79. The United States in the Twentieth Century. 3 degree credits each semester. \$33 each semester.

Courses are last and first parts of the sequence 79, 80, 81. 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. 81: From 1932 to present. 79: Spanish-American War and America's overseas empire; the rise of big business; problems of the city; and Progressive Era of Reform; America in World War I. (No prerequisite. Need not be taken in sequence)

	Fall Semester	Spring Semester
81	Th 6:20-8:00, West Bank CB 120, Noble	Th 6:20-8:00, West Bank CB 120, Noble

Hist 87A-88A. The Era of the American Revolution. 3 degree credits each quarter. \$33 each quarter.

The causes and course of the American Revolution, accenting the economic, social, political, and psychological impact of the Revolution upon American life. 87A: The causes and course of the Revolution. 88A: The Revolution and an American nation. (No prerequisite for 87A; 87A or 88A for 88A)

	Fall Quarter	Winter Quarter
87A	Th 5:30-8:00, Ford 175, Howe	Th 5:30-8:00, Ford 175, Howe

Hist 103C, 104C, 105C (old 100B-101B-102B). History of Rome. 3 degree credits each quarter. \$33 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. (No prerequisite. Need not be taken in sequence. Qualified students may register for graduate credit)

	Fall Quarter	Winter Quarter	Spring Quarter
103C	T 5:30-8:00, West Bank CB 255, Jones	T 5:30-8:00, West Bank CB 255, Jones	T 5:30-8:00, West Bank CB 255, Jones

Symbols explained on page 20.

Course Offerings—Arts and Sciences

Hist 115D, 116D, 117D (old 109, 110, 111). Europe in the Twentieth Century.
3 degree credits each quarter. \$33 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 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. Qualified students may register for graduate credit)

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 (old 134, 135, 136). World War II. 3 degree credits each quarter. \$33 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. (No prerequisite. Need not be taken in sequence. Qualified students may register for graduate credit)

Fall Quarter	Winter Quarter	Spring Quarter
115E W 5:30-8:00, West Bank CB 215, Deutsch	116E W 5:30-8:00, West Bank CB 215, Deutsch	117E W 5:30-8:00, West Bank CB 215, Deutsch

Hist 118F, 119F, 120F (old 125B, 126B, 127B). Modern Russia. 3 degree credits each quarter. \$33 each quarter.

118F: The 18th-century background. 119F: The 19th-century. 120F: The fall of the Russian monarchy; the revolutions and the Soviet Regime. (No prerequisite. Need not be taken in sequence. Qualified students may register for graduate credit)

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

Hist 133E (old 137A). American History, 1850-1865. 3 degree credits. \$33.

133E begins the sequence 133E, 134E, 135E. 133E: Compromise of 1850 to Appomattox. (No prerequisite. Qualified students may register for graduate credit)

Spring Quarter
M 5:30-8:00, West Bank CB 155, Loehr

Symbols explained on page 20.

Evening Classes

Hist 136A, 137A (old 146A, 147A). History of the South. 3 degree credits each semester. \$33 each semester.

Courses are the first two parts of the sequence 136A, 137A, 138A. 136A: Covers the period 1607-1840. 137A: Covers the period 1840-1890. (No prerequisite. Need not be taken in sequence. Qualified students may register for graduate credit)

<i>Fall Semester</i>		<i>Spring Semester</i>	
136A	Th 8:15-9:55, West Bank CB 10, Noble	137A	Th 8:15-9:55, West Bank CB 10, Noble

Hist 140D (old 144A). Religion and Social Radicalism in American History. 3 degree credits. \$33.

Nineteenth and twentieth-century expressions of the radical elements in religious thought in movements of social protest and reform. (No prerequisite. Qualified students may register for graduate credit)

<i>Fall Quarter</i>	
Th	5:30-8:00, West Bank CB 415, Smith

Hist 141D (old 145A). Religious Aspects of American Ethnic History. 3 degree credits. \$33.

The relationship of religion to the organization of ethnic group life in America, and the impact of intense feelings of nationality upon Protestant, Eastern Orthodox, Roman Catholic, and Jewish religious life in America. (No prerequisite. Qualified students may register for graduate credit)

<i>Spring Quarter</i>	
Th	5:30-8:00, West Bank CB 205, Smith

Hist 143A, 144A (old 147, 148). American Economic History. 3 degree credits each quarter. \$33 each quarter.

143A and 144A are the last two parts of the sequence 142A, 143A, 144A. 143A: From American Revolution to 1860. 144A: Developments since 1860. (No prerequisite. Need not be taken in sequence. Qualified students may register for graduate credit)

<i>Fall Quarter</i>		<i>Winter Quarter</i>	
143A	M 5:30-8:00, West Bank CB 155, Loehr	144A	M 5:30-8:00, West Bank CB 155, Loehr

Hist 145A, 146A, 147A (old 157, 158, 159). Survey of Latin-American History. 3 degree credits each quarter. \$33 each quarter.

145A: Colonial period. 146A: Latin-American republics. 147A: Recent Latin-American history. (No prerequisite. Need not be taken in sequence. Qualified students may register for graduate credit)

<i>Fall Quarter</i>		<i>Winter Quarter</i>		<i>Spring Quarter</i>	
145A	T 5:30-8:00, West Bank CB 225, Beatty	146A	T 5:30-8:00, West Bank CB 225, Beatty	147A	T 5:30-8:00, West Bank CB 225, Beatty

Symbols explained on page 20.

Hist 148F, 149F. History of Japan. 3 degree credits each semester. \$33 each semester.

148F: Ancient and Medieval Japan to 1700—early borrowing from China; the evolution of the political and social institutions of Japanese feudalism; Japanese religion and culture, and the reaction to first contacts with Europe. 149F: Modern Japan from 1700—background to the Meiji Restoration; the impact of the West; nationalism, industrialization, cultural and social change; World War II; the Occupation; and postwar period. (No prerequisite. Need not be taken in sequence. Qualified students may register for graduate credit)

		<i>Fall Semester</i>			<i>Spring Semester</i>
148F	W	6:20-8:00, West Bank CB 240, Marshall	149F	W	6:20-8:00, West Bank CB 430, Marshall

HUMANITIES

Makka J. Abishaker, Teaching Assistant in Humanities
William Agee, Instructor in Humanities
Eugene Atkin, Instructor in Humanities
David Brown, Lecturer in Humanities
Stephen Hult, Instructor in Humanities
George Kliger, Instructor in Humanities
Don Lambert, Lecturer in Humanities
Ray Livingston, Lecturer in Humanities
Margaret MacInnes, Assistant Professor, General College
Albert Milgrom, Instructor in Humanities
Mischa Penn, Instructor in Humanities
Dale Peterson, Lecturer in Humanities
Eric Stokes, Assistant Professor, General College
Wolfgang Taraba, Associate Professor of German and the Humanities
Robert Tembeck, Instructor in Humanities
Kathryn A. Thomas, Teaching Assistant in Humanities
Gaylord Todd, Instructor in Humanities and Romance Languages
Andre Toth, Instructor in Humanities
Hermann Weber, Lecturer in Humanities
Courtland White, Instructor in Humanities
William Wright, Associate Professor of History

Hum 1. Humanities in the Modern World I. 3 degree credits, \$51. \$33.

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. (No prerequisite. Repeated each term)

		<i>Fall Semester</i>			<i>Spring Semester</i>
W		8:15-9:55, West Bank CB 225, Wright	W		6:20-8:00, West Bank CB 425, Wright

Symbols explained on page 20.

Evening Classes

Fall Quarter		Winter Quarter		Spring Quarter	
T	5:15-7:45, StP Ext Center, Thomas	W	5:30-8:00, Ford 55, Milgrom	T	5:30-8:00, Ford 55, Kliger
T	5:30-8:00, MacPhail Center Annex 1, Brown	Th	5:30-8:00, Ford 285, Peterson	W	5:30-8:00, Ford 55, White
T	5:30-8:00, Nicholson 207, MacInnes				
W	5:30-8:00, Ford 285, Peterson				
W	6:30-9:00, Robbinsdale HS 231, Lambert				
W	7:00-9:30, Ford 130, Atkin				
Th	5:30-8:00, Ford 55, Abishaker				

Hum 2. Humanities in the Modern World II. 3 degree credits, §52. \$33.

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

Spring Semester

M 8:15-9:55, Ford 285, Stokes

Winter Quarter

T	5:15-7:45, StP Ext Center, Thomas
T	5:30-8:00, MacPhail Center Annex 1, Brown
W	5:30-8:00, Ford 285, Milgrom
W	6:30-9:00, Robbinsdale HS 231, Lambert
W	7:00-9:30, Ford 130, White
Th	5:30-8:00, Nicholson 213, Abishaker

Hum 3. Humanities in the Modern World III. 3 degree credits, §53. \$33.

The impact of science and evolution; religion and morals in a changing world, from about 1840 to 1914. Authors: the evolutionists, Kierkegaard, Nietzsche, Chekhov, Thomas Mann. (No prerequisite. Repeated spring quarter)

Fall Semester

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

Spring Quarter

T	5:15-7:45, StP Ext Center, Hult
T	5:30-8:00, MacPhail Center Annex 1, Todd
W	5:30-8:00, Nicholson 213
W	6:30-9:00, Robbinsdale HS 231, Lambert
Th	5:30-8:00, Nicholson 207, MacInnes

Hum 4. Humanities in the Modern World IV. 3 degree credits, §54. \$33.

Civilization between two wars: the impact of psychoanalysis, communism, 20th-century liberalism, new problems of human value and authority. Authors: Freud, Lenin, T. S. Eliot, Kafka, and others. (No prerequisite. Repeated spring semester)

Fall Semester

M 6:20-8:00, Ford 130, Toth

Spring Semester

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

Symbols explained on page 20.

Hum 11. The Greek Heritage. 3 degree credits, §61. \$33.

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, Greek art and architecture. (No prerequisite)

Fall Quarter

T 5:30-8:00, Ford 130, Weber

Hum 12. Roman and Medieval Heritage. 3 degree credits, §62. \$33.

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. (No prerequisite)

Winter Quarter

T 5:30-8:00, Ford 130, Weber

Hum 13. The Renaissance and Reformation. 3 degree credits, §63. \$33.

The 14th to 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. (No prerequisite)

Spring Quarter

T 5:30-8:00, Ford 130, Weber

Hum 21. American Life. 3 degree credits. \$33.

Individualism and the American Dream. Readings of varying length from a variety of authors including Franklin, Tocqueville, Emerson, Thoreau, Whitman, Lewis, Farrell, and Fitzgerald. Industrial and union folk songs. (No prerequisite)

Fall Quarter

T 6:20-8:50, Vincent 6, Agee
W 6:20-8:50, Vincent 6, Agee
Th 6:00-8:30, StP Ext Center, Agee

Hum 22. American Life. 3 degree credits. \$33.

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, Melville, Ingersoll, William James, and Eliot. Studies of American religious utopias. The "Honest to God" and "God Is Dead" controversies. (No prerequisite)

Winter Quarter

T 6:20-8:50, Vincent 6, Agee
W 6:20-8:50, Vincent 6, Agee
Th 6:00-8:30, StP Ext Center, Agee

Symbols explained on page 20.

Evening Classes

Hum 23. American Life. 3 degree credits. \$33.

Two topics are investigated: (a) The land, the city, and the machine as factors in American life. Readings of varying length from Jefferson, Crevecoeur, Mark Twain, and Dreiser. The natural and 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 modern American Negro. Readings of varying length from Washington, Ellison, King, and Baldwin. The development of jazz. Negro folk songs and the humor of protest. (No prerequisite)

Spring Quarter

T 6:20-8:50, Vincent 6, Agee
W 6:20-8:50, Vincent 6, Agee
Th 6:00-8:30, STP Ext Center, Agee

Hum 51. Humanities in the Modern World. 3 degree credits, \$1. \$33.

Similar to Hum 1. More extensive readings, papers. (Prerequisite: Limited to those students eligible for Upper Division credit)

Fall Quarter

Th 5:30-8:00, Ford 160, Hult

Hum 52. Humanities in the Modern World. 3 degree credits, \$2. \$33.

Similar to Hum 2. More extensive readings, papers. (Prerequisite: Limited to those students eligible for Upper Division credit)

Winter Quarter

Th 5:30-8:00, Ford 160, Hult

Hum 53. Humanities in the Modern World. 3 degree credits, \$3. \$33.

Similar to Hum 3. More extensive readings, papers. (Prerequisite: Limited to those students eligible for Upper Division credit)

Spring Quarter

Th 5:30-8:00, Ford 160, Taraba

Hum 54. Humanities in the Modern World. 3 degree credits, \$4. \$33.

Similar to Hum 4. More extensive readings, papers. (Prerequisite: Limited to those students eligible for Upper Division credit)

Spring Semester

W 6:20-8:00, Ford 160, Tembeck

Hum 55. Humanities in the Modern World. 3 degree credits. \$33.

The intellectual climate of the western world since World War II. The worlds of existentialism and "the absurd"; alienation, irrationalism; the new theology and the influence of Zen. Readings in Buber, Camus, Hesse, Ionesco, Genet, Bultmann, Tillich, and others. (Prerequisite: 4 or 54)

Fall Semester

W 6:20-8:00, Ford 160, Tembeck

Symbols explained on page 20.

Course Offerings—Arts and Sciences

Hum 61. The European Heritage. 3 degree credits, \$11. \$33.

Similar to Hum 11. More extensive readings, papers. (Prerequisite: Limited to those students eligible for Upper Division credit)

Fall Quarter

W 5:30-8:00, Ford 170, Taraba

Hum 62. The European Heritage. 3 degree credits, \$12. \$33.

Similar to Hum 12. More extensive readings, papers. (Prerequisite: Limited to those students eligible for Upper Division credit)

Winter Quarter

W 5:30-8:00, Ford 170, Kliger

Hum 63. The European Heritage. 3 degree credits, \$13. \$33.

Similar to Hum 13. More extensive readings, papers. (Prerequisite: Limited to those students eligible for Upper Division credit)

Spring Quarter

W 5:30-8:00, Ford 170, Brown

***Hum 99. Science and the Humanities. 3 degree credits. \$33.**

Examines the warfare between the "two cultures"; the scientific and the humanistic, through a consideration of decisive documents from Ficino and Vives to the recent work of Polanyi, Koestler, Bronowski, Popper, Cassier, and A. Huxley. Selected topics include (a) humanistic scholarship and the methodological character of the sciences, (b) creativity in the arts and sciences, and (c) the problem of the scientist's moral responsibility. (Prerequisite: Limited to those students eligible for Upper Division credit. Limited to 25 students)

Spring Semester

Th 6:20-8:00, Ford 170, Penn

Note—Students who have completed and received credit for Hum 131, 132, or 133 before 1967-68 may enroll again for credit, since the Proseminar topics are new.

Hum 131. Proseminar: The Voices of Earth. 3 degree credits. \$33.

Modern man's dialogue with the cosmos and its creatures. Readings and showings: classics of nature writing (nonscientific), photography, art, and music. (Prerequisite: 9 credits in humanities program courses or 4. May not be taken for graduate credit)

Fall Quarter

Th 6:20-8:50, Ford 60, Livingston

Symbols explained on page 20.

* Enrollment space limited; instructions on page 10.

Evening Classes

Hum 132. Proseminar: The Voices of the Primitive. 3 degree credits. \$33.

Modern man's dialogue with primitive man. Readings: collections, with commentaries, on primitive myths, legends, songs, art, rites, and ways of life. (Prerequisite: 9 credits in humanities program courses or §. May not be taken for graduate credit)

Winter Quarter

Th 6:20-8:50, Ford 60, Livingston

Hum 133. Proseminar: The Voices of the Artist. 3 degree credits. \$33.

The artist's dialogue with modern man, both through his explicit statements about his art and through his works. Readings and showings. (Prerequisite: 9 credits in humanities program courses or §. May not be taken for graduate credit)

Spring Quarter

Th 6:20-8:50, Ford 60, Livingston

INTERDISCIPLINARY PROGRAMS

Communication

(See page 93)

Family Studies

(See page 95)

Humanities

(See page 109)

Personal Orientation

How to Study

(See page 159)

Social Science

(See page 146)

ITALIAN

Arshi Pipa, Associate Professor of Italian

Maria Rita Rohr, Assistant Professor of Italian

Livia Pellegrini-Seim, Lecturer in Italian

Symbols explained on page 20.

Course Offerings—Arts and Sciences

Note—The principal aim of 1-2-3, Beginning Italian, is to provide a solid foundation for comprehension of the written and spoken language. This sequence is recommended for those planning to continue the study of Italian or wishing to satisfy college language requirements. For those students who have met some of the course requirements under the old numbering system in Evening Classes, the following schedule will apply:

Completed	May enter
Ital 1A	Ital 2 with #
Ital 1B	Ital 2
Ital 2A	Ital 3 with #
Ital 2B	Ital 3
Ital 3A	Ital 25
Ital 3B	Ital 25

The laboratory fee for beginning Italian courses entitles students to use of the Language Laboratory.

Ital 1-2. Beginning Italian. 5 degree credits each semester. \$55 plus \$3 laboratory fee each semester.

Pronunciation, reading, and conversation. (No prerequisite for 1; 1 or equivalent for 2)

Fall Semester

1 TTh 6:20-7:45, Folwell 204

Spring Semester

2 TTh 6:20-7:45, Folwell 204

Ital 3. Beginning Italian. 5 degree credits. \$55 plus \$3 laboratory fee.

Fall Semester

3 MW 6:20-7:45, Folwell 204

Ital 25. Intermediate Italian. 5 degree credits. \$55 plus \$3 laboratory fee.

Review of grammar based on literary texts. (Prerequisite: 3 or equivalent)

Spring Semester

MW 6:20-7:45, Folwell 204

Ital 30. Introduction to Italian Literary Texts. 3 degree credits. \$33.

Reading and discussion of a selection of literary texts representing the principal genres. (Prerequisite: 25 or equivalent. Repeated spring semester)

Fall Semester

T 6:20-8:00, Folwell 108

Spring Semester

T 6:20-8:00, Folwell 108

Ital 164. Dante and the Middle Ages (in English). 3 degree credits. \$33.

Emphasis on the *Divine Comedy*, considered as the epitome of medieval European culture. (No prerequisite. This course is not a substitute for 160, 161, 162, or 163. May not be taken for graduate credit)

Fall Semester

M 6:20-8:00, Nicholson 122

Symbols explained on page 20.

Evening Classes

Ital 166. Petrarch and Petrarchism (in English). 3 degree credits. \$33.

The significance of Petrarch as the initiator of Humanism, and his impact on Renaissance European poetry. (No prerequisite. This course is not a substitute for 165. May not be taken for graduate credit)

Spring Semester

M 6:20-8:00, Nicholson 122

Ital 17A. Italian for Graduate Students. No credit. \$33.

This course is designed to impart a basic reading knowledge of the Italian language. Successfully passing the examination fulfills the Graduate School requirement of reading knowledge of a foreign language. (No prerequisite. Repeated spring semester)

Fall Semester

M 6:20-8:00, Folwell 307

Spring Semester

M 6:20-8:00, Folwell 307

JOURNALISM AND MASS COMMUNICATION

James S. Barden, Instructor in Journalism

Virginia A. Harris, Lecturer in Journalism

Robert Lindsay, Associate Professor of Journalism

R. Smith Schuneman, Assistant Professor of Journalism

Herman J. Sittard, Lecturer in Journalism

Harold W. Wilson, Professor of Journalism

Gerald C. Wollan, Lecturer in Journalism

Jour 1 (old 13). Introduction to Mass Communications. 3 degree credits. \$33.

The nature, functions, and responsibilities of newspapers, magazines, radio and television, examined from the point of view of the professional journalist. News, opinion, entertainment, and persuasion functions. Basic instruction in fact-gathering and journalistic writing. (Prerequisite: completion of freshman English requirement or #; minimum typing skill of 30 words per minute. Repeated spring semester)

Fall Semester

T 6:20-8:00, Murphy 212, Sittard

Spring Semester

T 6:20-8:00, Murphy 212, Sittard

Jour 18. Principles of Advertising. 3 degree credits. \$33.

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: 1 or #)

Fall Semester

W 6:20-8:00, Murphy 311, Barden

Jour 41. Publications Editing. 3 degree credits. \$33.

Lectures and exercises in basic problems of copy editing, headline writing, page layout, integration of illustrative material for various types of publications. Basic aspects

Symbols explained on page 20.

Course Offerings—Arts and Sciences

of libel. (Prerequisite: 1 or #; not recommended for journalism majors. Repeated spring semester)

Fall Semester

Th 6:20-8:00, Murphy 207

Spring Semester

Th 6:20-8:00, Murphy 207

***Jour 57. Design and Typography: Advertising and Publications.** 3 degree credits. \$33 plus \$5 laboratory fee.

Principles of design and layout. Use of photo-typography, cold-type pasteup techniques. Appropriate use of typefaces. Color in layout and make-up. Hand composition. Individual projects. (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. \$33 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 308, Wilson

***Jour 71. Business and Industrial Journalism.** 3 degree credits. \$33.

Study of the business and industrial press as specialized communications media; analysis and evaluation of content, staffs, and production methods. Gathering material for and writing of feature articles and other types of content in the industrial field. (Prerequisite: completion of freshman English requirement or #. Limited to 20 students)

Fall Semester

W 6:20-8:00, Murphy 302, Schuneman

***Jour 73. Magazine Writing.** 3 degree credits. \$33.

Planning and writing feature articles for general, class, and trade publications; marketing articles; problems of magazine editing. Aid for the free-lance writer. (Prerequisite: completion of freshman English requirement and #. Limited to 20 students)

Fall Semester

T 8:15-9:55, Murphy 207, Sittard

Jour 78. Public Relations Methods. 3 degree credits. \$33.

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: 1 or #)

Fall Semester

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

Symbols explained on page 20.

* Enrollment space limited; instructions on page 10.

Evening Classes

°Jour 79. Advertising Copy Writing. 3 degree credits. \$33.

Techniques of writing retail and national advertising copy. Application of psychological principles relating to approach, appeals, and response. Use of pretesting, and creative research findings. (Prerequisite: 18 or ‡. Limited to 18 students)

Spring Semester

W 6:20-8:00, Murphy 311

Jour 124. International Communications and Foreign Affairs. 3 degree credits. \$33.

Channels of international communication and news gathering agencies. Factors affecting flow of news throughout the world. Role of foreign correspondent. Relation of communications to foreign affairs and international understanding. (Prerequisite: 15 credits in social sciences, with inclusion of Upper Division course in history or political science or ‡. Qualified students may register for graduate credit)

Fall Semester

M 6:20-8:00, Murphy 311, Lindsay

Jour 150. Institutional Public Relations. 3 degree credits. \$33.

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 ‡. Qualified students may register for graduate credit)

Spring Semester

M 6:20-8:00, Murphy 308, Lindsay

LATIN

(See Classics, page 81)

LIBRARY SCIENCE

Elmo Brekhus, Lecturer in Library Science

Catherine Budewitz, Lecturer in Library Science

Nancy J. Freeman, Instructor in Library Science

Lowell E. Olson, Associate Professor of Library Science

Ruta Praulins, Lecturer in Library Science

Marie Samanisky, Lecturer in Library Science

Lib 53. School Library Management. 3 degree credits. \$33.

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 undergraduates in the College of Education and postgraduates admitted to the Minimum Certification Program for School Librarians. No prerequisite)

Fall Quarter

M 6:30-9:00, Library 4B, Budewitz

Symbols explained on page 20.

° Enrollment space limited; instructions on page 10.

Course Offerings—Arts and Sciences

Lib 74. Library Materials in the Classroom. 3 degree credits. \$33.

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)

Winter Quarter

T 6:00-8:30, location to be arranged, Praulins

Lib. 102. Reference I. 3 degree credits. \$33.

General reference tools and other sources of information. Theory and practice of reference work. Required of students admitted to the graduate program and the Minimum Certification Program for School Librarians. Useful for all college students intending to pursue graduate study in any field. (No prerequisite. Qualified students may register for graduate credit)

Spring Quarter

TTh 4:00-5:15, location to be arranged

Lib 103. Cataloguing and Classification. 3 degree credits. \$33.

Basic principles of descriptive cataloguing, including rules of entry, subject headings, and classification in libraries, for all types of libraries. Required of graduate students and students admitted to the Minimum Certification Program for School Librarians. (No prerequisite. Qualified students may register for graduate credit. Repeated winter quarter)

Fall Quarter

MW 4:00-5:15, location to be arranged, Samanisky

Winter Quarter

MW 4:00-5:15, location to be arranged, Samanisky

Lib 104. Selection of Library Materials. 3 degree credits. \$33.

Techniques and standards for selection of books, magazines, pamphlets, phonograph records, films, etc. Required of graduate students and students admitted to the Minimum Certification Program for School Librarians. (No prerequisite. Qualified students may register for graduate credit)

Fall Quarter

TTh 4:00-5:15, location to be arranged, Freeman

Lib 171. Reading Guidance for Children. 3 degree credits. \$33.

Reading interests of children and the various kinds of materials that meet these interests. Knowledge of the sources, selection, evaluation, and methods of introducing books to children. Required for the Minimum Certification Program. (Prerequisite: 104. Qualified students may register for graduate credit)

Fall Quarter

TTh 4:00-5:15, Library 4B, Olson

Lib 172. Reading Guidance for Adolescents. 3 degree credits. \$33.

The library's relationship to the teen-ager in terms of his interests and needs. Methods of introducing books and developing and guiding reading. Required for the Minimum

Symbols explained on page 20.

Evening Classes

Certification Program. (Prerequisite: 104. Qualified students may register for graduate credit)

Spring Quarter

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

Lib 241. Library Mechanization. 3 degree credits. \$33.

Application of data processing and systems analysis principles to library operations; principles, problems, and examples of library mechanization. (Prerequisite: 101 and 103 or #, and admission to the Graduate School or a fifth-year library degree. Qualified students may register for graduate credit)

Spring Quarter

Th 6:30-9:00, Library 4B, Brekhuis

MATHEMATICS

(See page 212)

MIDDLE EASTERN LANGUAGES

Anwar Chejne, Professor of Middle Eastern Languages

Henry Toledano, Assistant Professor of Middle Eastern Languages

The laboratory fee for beginning Middle Eastern courses entitles students to use of the Language Laboratory.

Arabic

Arab 1-2. Introduction to Arabic Grammar and Reading. 3 degree credits each semester. \$33 plus \$3 laboratory fee each semester.

Vocabulary, forms and syntax; intensive graded reading and speaking facility. (No prerequisite for 1; 1 or # for 2)

Fall Semester

1 T 6:20-8:00, Nicholson 209A, Chejne

Spring Semester

2 T 6:20-8:00, Nicholson 209A, Chejne

Hebrew

Heb 1-2. Introduction to Spoken Hebrew. 3 degree credits each semester. \$33 plus \$3 laboratory fee each semester.

Fundamentals of reading, speaking, and writing of Israeli Hebrew. Active use of the language will be stressed. (No prerequisite for 1; 1 or # for 2)

Fall Semester

1 T 6:20-8:00, Nicholson 122,
Toledano

Spring Semester

2 T 6:20-8:00, Folwell 110, Toledano

Symbols explained on page 20.

MUSIC

Frank P. A. Benciscutto, Associate Professor of Music

Paul Feller, Professor of Music

Daryl Gibson, Associate Professor of Music

Paul Knowles, Assistant Professor of Music

Adrian Lauritzen, Associate Professor of Music

Johannes Riedel, Professor of Music

Charles F. Schwartz, Jr., Assistant Professor of Music

Richard E. Steber, Assistant Professor of Music Education

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. Lessons are available on the Minneapolis Campus and at the MacPhail Center in downtown Minneapolis. Private lessons are given in piano, organ, voice, and all other musical instruments.

Elective Credit Courses

All applicants for elective credit in applied music 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 daytime 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.* Auditions for all elective credit must be taken at Scott Hall on the Minneapolis Campus.

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.

Non-Credit Courses

Applicants who wish to enroll for noncredit instruction may do so by inquiring at any of the locations listed in the first paragraph. Students wishing to enroll for noncredit classes at the MacPhail Center should contact Joan Jacobson at the MacPhail Center—telephone 332-4424—for information about availability of instruction, and tuition and fee costs. No auditions are required.

Piano Technician

A special course in piano tuning and repairing will be offered at MacPhail Center, with the fall session beginning Monday, September 11, 1967, and the spring session be-

Symbols explained on page 20.

Evening Classes

gining Monday, May 13, 1968. There will be no credit given for the course. The fee of \$200.00 for each 12-week session includes professional equipment, and text. Prerequisites for the course are a secure musical background, although piano playing itself is not necessary. A minimum of 6 hours tuning practice outside the class is required each week, with pianos available at MacPhail Center for these purposes. A certificate is awarded after the completion of the course and one season of experience. The student is required to tune a piano for testing by a panel of judges before the certificate is awarded. All inquiries regarding this course should be directed to the MacPhail Center; telephone 332-4424.

***Mus. Piano Playing for Pleasure I-II.** 2 certificate credits each semester. \$33 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		Spring Semester	
I T	6:30-7:45, Music Education 103	I Th	6:30-7:45, Music Education 103
Th	6:30-7:45, Music Education 103	II T	6:30-7:45, Music Education 103

Group Performance

Note—Students must audition for all of the group performance music classes. Auditioning should be arranged with the instructor in advance of the class opening.

Mus 39. Women's Glee Club. 1 degree credit. \$11.

Rehearsals and performances cover standard women's glee club material as well as special arrangements. (Prerequisite: #. Students may receive credit for 6 quarters of work. Repeated winter and spring quarters)

Fall Quarter		Winter Quarter		Spring Quarter	
TTh	12:15-1:05, Northrop Aud 5, Schwartz	TTh	12:15-1:05, Northrop Aud 5, Schwartz	TTh	12:15-1:05, Northrop Aud 5, Schwartz

Mus 40, 41, 42. University Symphony Orchestra. 1 degree credit each quarter. \$11 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: #. Need not be taken in sequence. Students may receive credit for 6 quarters of work. Extension students may choose whether or not to attend the MWF daytime section, but must attend the evening section)

Fall Quarter		Winter Quarter		Spring Quarter	
40 MWF	3:15-4:05, Wulling 320	41 MWF	3:15-4:05, Wulling 320	42 MWF	3:15-4:05, Wulling 320
T	7:00-9:30, Northrop Aud	T	7:00-9:30, Northrop Aud	T	7:00-9:30, Northrop Aud

Symbols explained on page 20.

* Enrollment space limited; instructions on page 10.

Course Offerings—Arts and Sciences

Mus 43. University Chorus. 1 degree credit. \$11.

Performances of major symphonic-choral works with the Minneapolis Symphony Orchestra, University Symphony Orchestra, and University Concert Band. (Prerequisite: #. Students may receive credit for 6 quarters of work. Extension students may choose whether or not to attend one of the MWF daytime sections, but must attend the evening section. Repeated winter and spring quarters)

<i>Fall Quarter</i>	<i>Winter Quarter</i>	<i>Spring Quarter</i>
MWF 11:15-12:05, Northrop Aud 4, Schwartz	MWF 11:15-12:05, Northrop Aud 4, Schwartz	MWF 11:15-12:05, Northrop Aud 4, Schwartz
MWF 1:15-2:05, Northrop Aud 5, Schwartz	MWF 1:15-2:05, Northrop Aud 5, Schwartz	MWF 1:15-2:05, Northrop Aud 5, Schwartz
T 7:30-9:30, Science Building 325, Schwartz	T 7:30-9:30, Science Building 325, Schwartz	T 7:30-9:30, Science Building 325, Schwartz
T 7:30-9:30, MacPhail Center 404	T 7:30-9:30, MacPhail Center 404	T 7:30-9:30, MacPhail Center 404

Mus 43S, 44S, 45S. St. Paul Campus Chorus. 1 degree credit each quarter. \$11 each quarter.

Prepares for at least one public appearance each quarter as well as for special events connected with the St. Paul Campus. (Prerequisite: #. Need not be taken in sequence. Students may receive credit for 6 quarters of work)

<i>Fall Quarter</i>	<i>Winter Quarter</i>	<i>Spring Quarter</i>
43S TTh 4:30-6:00, Horticulture 102, Kleinsasser	44S TTh 4:30-6:00, Horticulture 102, Kleinsasser	45S TTh 4:30-6:00, Horticulture 102, Kleinsasser

Mus 46, 47, 48. Concert Band. 1 degree credit each quarter. \$11 each quarter.

Rehearsals and appearances cover standard band literature; several appearances each quarter. (Prerequisite: #. Need not be taken in sequence. Class meets 2, 3, or 4 days a week, by arrangement. Students are advised to arrange auditions and class meeting days with Professor Bencriscutto, telephone 373-3431, prior to registration. Students may receive credit for 6 quarters of work)

<i>Fall Quarter</i>	<i>Winter Quarter</i>	<i>Spring Quarter</i>
46 Days arranged, 3:15-5:05, Northrop Aud 4, Bencriscutto	47 Days arranged, 3:15-5:05, Northrop Aud 4, Bencriscutto	48 Days arranged, 3:15, 5:05, Northrop Aud 4, Bencriscutto

Mus 49. Men's Glee Club. 1 degree credit. \$11.

Rehearsals and performances cover standard men's glee club material as well as special arrangements. Group appears for on- and off-campus functions. (Prerequisite: #. Students may receive credit for 6 quarters of work. Repeated winter and spring quarters)

<i>Fall Quarter</i>	<i>Winter Quarter</i>	<i>Spring Quarter</i>
MWF 12:15-1:05, Northrop Aud 5, Kleinsasser	MWF 12:15-1:05, Northrop Aud 5, Kleinsasser	MWF 12:15-1:05, Northrop Aud 5, Kleinsasser

Symbols explained on page 20.

Evening Classes

Mus 54-55-56. Brass Ensemble. 2 degree credits each term. \$22 plus \$3 laboratory fee each term.

Performance of chamber music of great composers. (Prerequisite: 54 for 55; 55 for 56. Open to all interested brass players, including high school students who may register but will receive no credit)

Special Term—October 7 to December 16

54 S 11:30-1:00, MacPhail Center Annex 2, Gibson

Special Term—January 13 to March 16

55 S 11:30-1:00, MacPhail Center Annex 2, Gibson

Special Term—March 30 to June 1

56 S 11:30-1:00, MacPhail Center Annex 2, Gibson

Mus 57-58-59 (old 66-67-68). Chamber Singers. 2 degree credits each quarter. \$22 each quarter.

A small mixed vocal ensemble of select voices. Sacred and secular music from 16th century to contemporary composers prepared for concert presentation. (Prerequisite: #. Need not be taken in sequence. Students may receive credit for 6 quarters of work)

Fall Quarter

57 MWF 2:15-3:05,
Northrop Aud 5,
Schwartz

Winter Quarter

58 MWF 2:15-3:05,
Northrop Aud 5,
Schwartz

Spring Quarter

59 MWF 2:15-3:05,
Northrop Aud 4,
Schwartz

Mus 147, 148, 149. Opera Production. 2 degree credits each quarter. \$22 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: #. Students are advised to arrange auditions with Professor Knowles, telephone 373-4061, prior to registration. 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 Theory, History, and Literature

Mus. Enjoying Music. No credit. \$22.

Enjoying and understanding music heard in today's concert halls, theaters, 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 any quarter)

Fall Quarter

M 6:20-8:00, Scott 3
W 6:20-8:00, MacPhail
Center 220, Sieber

Winter Quarter

M 6:20-8:00, Scott 3,
Sieber

Spring Quarter

W 6:20-8:00, MacPhail
Center 220, Sieber

Symbols explained on page 20.

Course Offerings—Arts and Sciences

Mus 1A. Introduction to Music. 3 degree credits. \$33.

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

Mus 1T-2T-3T. Music Theory. 3 degree credits each quarter. \$33 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

1T T 6:20-8:50, Wulling
320, Fetler
W 6:20-8:50, MacPhail
Center 221

Winter Quarter

2T T 6:20-8:50, Wulling
320, Fetler
W 6:20-8:50, MacPhail
Center 221

Spring Quarter

3T T 6:20-8:50, Wulling
320, Fetler
W 6:20-8:50, MacPhail
Center 221

Mus 4T-5T-6T. Music Theory. 3 degree credits each quarter. \$33 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

4T Th 6:20-8:50, Scott
103, Fetler

Winter Quarter

5T Th 6:20-8:50, Scott
103, Fetler

Spring Quarter

6T Th 6:20-8:50, Scott
103, Fetler

Mus 4. Fundamentals of Music. 2 degree credits. \$33.

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 each term)

Fall Semester

W 6:00-8:00, Music Education 103

Spring Semester

W 6:00-8:00, Music Education 103

Fall Quarter

M 6:00-9:00, MacPhail
Center 101,
Lauritzen

Winter Quarter

M 6:00-9:00, MacPhail
Center 101,
Lauritzen

Spring Quarter

M 6:00-9:00, MacPhail
Center 101,
Lauritzen

Mus 50, 51, 52. American Music. 2 degree credits each quarter. \$22 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.

Symbols explained on page 20.

Evening Classes

Menotti, Elliott Carter, Leonard Bernstein, and others. Listening to numerous studio and field recordings. (No prerequisite. 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

Mus 85-86-87 (old 73-74-75). Introduction to Opera. 2 degree credits each quarter. \$22 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 theater space is available; there will be work during the class period with costumes, props, and so forth. (No prerequisite for 85; 85 for 86; 86 for 87. Must be taken in sequence. For nonmusic majors)

Fall Quarter		Winter Quarter		Spring Quarter	
85	T 6:20-8:00, Wull- ing 7, Knowles	86	T 6:20-8:00, Wull- ing 7, Knowles	87	T 6:20-8:00, Wull- ing 7, Knowles

MUSIC EDUCATION

(See page 196)

NATURAL HISTORY

Walter J. Breckenridge, Professor of Zoology

Dwain W. Warner, Associate Professor of Zoology

***Nath 1. Birds of Minnesota.** No credit. \$40.

A laboratory and field class in identifying and enjoying the birds of this region. Early meetings will make use of collections of the Museum of Natural History, but, as soon as weather permits, the class will meet in field locations on Sunday mornings at 7:30. (No prerequisite. Limited to 25 students)

Special Class

(February 14 to June 5)

W 6:20-8:00, Museum of Natural History
309, Breckenridge and Warner

NATURAL SCIENCE

Oliver S. Owen, Associate Professor of Biology

GC 11B. Utilization of Natural Resources: Science in Context. 5 degree credits. \$55.

Mankind is vitally concerned in gaining knowledge about the earth as a place in which to live and as a base for procuring the necessities of life. Nature provides a basic

Symbols explained on page 20.

* Enrollment space limited; instructions on page 10.

Course Offerings—Arts and Sciences

wealth of materials that can be utilized by man, but these resources must be used intelligently. These natural resources (land, soil, water, plants, animals, forests, minerals, and wildlife), their location, characteristics, and use by man are considered an essential part of the education of the American citizen. So intimately is the welfare of the human race associated with natural resources that every citizen should be informed concerning their utilization. (No prerequisite. Repeated spring semester)

Fall Semester

T 6:20-9:20, Science Building 125, Owen

Spring Semester

T 6:20-9:20, Science Building 125, Owen

NATURAL SCIENCES

Astronomy

(See page 200)

Biology

(See page 79)

Chemistry

(See page 200)

Geology and Geophysics

(See page 209)

Physics

(See page 223)

NURSING

Marilyne Backlund, Assistant Professor of Nursing

Helen Hansen, Assistant Professor, School of Nursing

Marian Town, Assistant Professor, 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 20.

Evening 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. Clinical Nursing I. No credit. \$33.

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

(September 26 to December 12)

T 6:00-8:30, Millard 118, Hansen
and Town

Nurs. Nursing Concerns Today. No credit. \$33.

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

(March 26 to June 4)

T 6:00-8:30, Millard 118, Backlund

PHILOSOPHY

May Brodbeck, Professor of Philosophy

Paula Giese, Assistant Professor, Minnesota School Mathematics and Science Center

William H. Hanson, Assistant Professor of Philosophy

Douglas Lewis, Assistant Professor of Philosophy

Homer E. Mason, Associate Professor of Philosophy

Jeffrie G. Murphy, Assistant Professor of Philosophy

Grover Maxwell, Professor of Philosophy

Mischa Penn, Instructor in Humanities

Candido Zanoni, Instructor in 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.

Symbols explained on page 20.

Course Offerings—Arts and Sciences

Phil 1A. Problems of Philosophy. 3 degree credits. \$33.

Introduction to the subject; the main fields of investigation; permanent problems; principal methods and schools of philosophy; historical and contemporary use. (No prerequisite. Repeated winter and spring quarters)

Fall Quarter		Winter Quarter		Spring Quarter	
W	6:20-8:50, MacPhail Center 326, Giese	W	6:20-8:50, Ford 150, Maxwell	M	6:20-8:50, Ford 130, Penn
Th	5:15-7:45, StP Ext Center, Zanoni			W	5:30-8:00, Ford 130, Brodbeck
Th	5:30-8:00, Ford 115				

Phil 2A. Logic. 3 degree credits. \$33.

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 winter and spring quarters)

Fall Quarter		Winter Quarter		Spring Quarter	
W	6:20-8:50, Ford 55, Lewis	T	5:30-8:00, Ford 155	Th	6:20-8:50, Ford 55, Maxwell
Th	5:30-8:00, Ford 130, Hanson	W	6:20-8:50, MacPhail Center 326, Giese		
		Th	5:15-7:45, StP Ext Center, Zanoni		

Phil 3A. Ethics. 3 degree credits. \$33.

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 winter and spring quarters)

Fall Quarter		Winter Quarter		Spring Quarter	
M	6:20-8:50, Ford 155, Penn	M	6:20-8:50, Ford 155, Penn	W	6:20-8:50, MacPhail Center 326, Giese
				Th	5:15-7:45, StP Ext Center, Zanoni
				Th	5:30-8:00, Ford 349

Phil 70. Logic of Scientific Reasoning. 3 degree credits. \$33.

Introduction to principles of scientific method; definition and classification; observation, measurement, experiment; elementary statistical concepts; hypotheses, evidence, and confirmation; nature and limits of the scientific enterprise. (Prerequisite: 2)

Winter Quarter	
Th	6:20-8:50, Ford 359, Hanson

Phil 108. Political and Social Ethics. 3 degree credits. \$33.

Ethical principles, theoretical and practical, at the basis of the social order. (Prerequisite: 3 or #. May not be taken for graduate credit)

Winter Quarter	
Th	6:20-8:50, Ford 349, Mason

Symbols explained on page 20.

Evening Classes

Phil 140. Contemporary Philosophy. 3 degree credits. \$33.

Current systematic and critical philosophies, especially idealism, naturalism, realism, pragmatism, positivism, as represented by their principal exponents. (Prerequisite: 9 credits in history of philosophy or #. May not be taken for graduate credit)

Spring Quarter

M 6:20-8:50, Ford 359, Mason

Phil 151. Principles of Aesthetics. 3 degree credits. \$33.

Sample topics: standards of evaluation; aesthetic experience; representation, meaning. (Prerequisite: 3 credits in philosophy or #. May not be taken for graduate credit)

Fall Quarter

Th 5:30-8:00, Ford 170, Murphy

Phil 160. Philosophy of Science. 4 degree credits. \$44.

Provides a clear understanding of meaning, methods, and implications of modern science through examination of basic concepts, presuppositions, and procedures. Topics include description, explanation, prediction, experimentation; space, time, number, matter, energy, causality, probability, statistics; organic life, evolution, mind. (Prerequisite: 2 or #. May not be taken for graduate credit)

Fall Semester

Th 5:40-8:00, Ford 30, Maxwell

PHOTOGRAPHY

Harry C. Webb, Lecturer in Photography

Students in all photography classes must furnish their own cameras.

Phot. Color Photography I. 3 certificate credits. \$33 plus \$10 laboratory fee.

A foundation course in the growing field of color photography, designed to provide the student with practical knowledge and experience in basic color work. Course includes: (a) lecture demonstrations of equipment, color processes, and techniques; and (b) supervised camera assignments in the studio and on outdoor field trips. (No prerequisite. Repeated spring semester)

Fall Semester

T 6:20-8:00, Wesbrook 202, Webb

Spring Semester

T 6:20-8:00, Wesbrook 202, Webb

Phot. Color Photography II. 3 certificate credits. \$33 plus \$10 laboratory fee.

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

Spring Semester

T 6:20-8:00, Wesbrook 202, Webb

Symbols explained on page 20.

Art 10. Basic Photography I. (See page 73)

Art 11. Basic Photography II. (See page 73)

PHYSICS

(See page 223)

POLITICAL SCIENCE

Charles H. Backstrom, Associate Professor of Political Science

Roger W. Benjamin, Assistant Professor of Political Science

Harold W. Chase, Professor of Political Science

Eugene Eidenberg, Assistant Professor of Political Science

James E. Jernberg, Assistant Professor of Political Science

G. Theodore Mitau, Lecturer in Political Science

J. John Penikis, Assistant Professor of Political Science

Robert E. Riggs, Associate Professor of Political Science

William C. Rogers, Professor of Political Science

John E. Schwarz, Assistant Professor of Political Science

Thomas M. Scott, Assistant Professor of Political Science

John E. Turner, Professor of Political Science

Your attention is called to the World Affairs Certificate program, page 38.

Note—Graduate students majoring in political science can use only 200-level seminars to satisfy major requirements; they should take lower-level political science courses only to supply deficiencies in background when directed to do so by advisers. Political science courses numbered 50 through 199 are available for Upper Division credit. Nonmajors may receive graduate credit for 100-level courses.

Pol 1, 2. American Government and Politics: Parts I and II. 3 degree credits each semester. \$33 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 govern-

Symbols explained on page 20.

Evening Classes

ment (national, state, and local) with special attention to current development. (No prerequisite for 1 or 2. Need not be taken in sequence)

Fall Semester

1 M 6:20-8:00, West Bank CB
410, Scott
W 7:00-8:40, StP Ext Center,
Mitau

Spring Semester

2 M 6:20-8:00, West Bank CB
410, Backstrom
W 7:00-8:40, StP Ext Center,
Mitau

Pol A, B. The State in the Modern World. 3 degree credits each quarter. \$33 each quarter.

An examination of principles, structure, and operation of the modern state. Emphasis on nation state; historical development; democratic government (United States, Great Britain); totalitarian government (Nazi Germany, Soviet Russia); conflict between states. (No prerequisite for A or B. Need not be taken in sequence)

Fall Quarter

A Th 6:30-9:00,
MacPhail Center
327, Chase

Winter Quarter

A Th 6:30-9:00, Rob-
binsdale HS 231
B Th 6:30-9:00,
MacPhail Center
221, Chase

Spring Quarter

B Th 6:30-9:00, Rob-
binsdale HS 231

Pol 25. World Politics. 3 degree credits. \$33.

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

T 6:20-8:00, West Bank CB 125,
Rogers

Spring Quarter

M 6:30-9:00, Robbinsdale HS 233,
Riggs

Pol 26. American Foreign Policy. 3 degree credits. \$33.

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

T 6:20-8:00, West Bank CB 105,
Rogers

Pol 30. American Public Policy. 3 degree credits, \$10. \$33.

Analysis of policy to meet major foreign and domestic issues facing the American political system; emphasis on the forces molding government policy on civil rights, labor and business, military and diplomatic strategy, foreign aid. (No prerequisite)

Spring Quarter

Th 6:30-9:00, MacPhail Center
Annex 2, Chase

Symbols explained on page 20.

Pol 40. Contemporary Political Ideologies. 3 degree credits. \$33.

Liberalism, communism, fascism, Nazism, taking account of democratic and dictatorial regimes in theory and practice. Emphasis on ideas, role of policy, power nationally and internationally. (No prerequisite)

Fall Semester

W 6:20-8:00, West Bank CB 105,
Benjamin

Pol 107. The American Chief Executive. 3 degree credits, §79. \$33.

Constitutional powers and political roles of the President and governors; the chief executive and administration; executive relations with legislatures; party and popular leadership; presidential roles in crisis. (No prerequisite)

Fall Semester

W 6:20-8:00, West Bank CB 205,
Eidenberg

Pol 108. Legislative Organization and Procedure. 3 degree credits, §56. \$33.

Congress and the state legislature at work. (No prerequisite)

Spring Semester

W 6:20-8:00, West Bank CB 105,
Eidenberg

Pol 118. Metropolitan Government and Politics. 3 degree credits. \$33.

Development of political and governmental problems in metropolitan areas. Analysis of politics of metropolitan reform. (No prerequisite)

Spring Semester

M 6:20-8:00, West Bank CB 105,
Scott

Pol 130. Administrative Process I. 3 degree credits. \$33.

Organization theory and administrative behavior. Problems of centralization, rationality, bureaucratic processes. (No prerequisite)

Fall Semester

T 6:20-8:00, West Bank CB 440,
Jernberg

Pol 131. Administrative Process II. 3 degree credits. \$33.

Analysis of budgeting, planning, and personnel administration. (No prerequisite)

Spring Semester

T 6:20-8:00, West Bank CB 440,
Jernberg

Symbols explained on page 20.

Evening Classes

Pol 137. American Political Parties. 3 degree credits. \$33.

Role and functions of the party in American government; party composition and organization; process of nomination and party formation; regulation of party organization and activities. (No prerequisite)

Fall Semester

M 6:20-8:00, West Bank CB
230, Backstrom

Pol 141. European Government and Politics. 3 degree credits, \$82. \$33.

Britain. Political institutions in their social setting; problems of power and responsibility, governmental stability; political decision-making, government and the economic order. (No prerequisite)

Fall Semester

T 6:20-8:00, West Bank CB
450, Schwarz

Pol 142. European Government and Politics. 3 degree credits. \$33.

France and Germany. Political institutions in their social setting; problems of power and responsibility, governmental stability; political decision-making, government and the economic order. (No prerequisite)

Spring Semester

T 6:20-8:00, West Bank CB 450,
Schwarz

Pol 143. Government of the Soviet Union. 3 degree credits, \$55. \$33.

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 105, Turner

Pol 154. Chinese Government. 3 degree credits, \$54. \$33.

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 115, Turner

Pol 161. Problems of Democracy. 3 degree credits. \$33.

Analysis of postulates and implications; moral foundations; democratic theory and the economic order; liberty and authority; equality; representation; spiritual order; democracy and practical politics; critics of democracy. (No prerequisite)

Spring Semester

W 6:20-8:00, West Bank CB 440,
Benjamin

Symbols explained on page 20.

Pol 176. United States Foreign Affairs Administration. 3 degree credits, §96. \$33.

Control of foreign relations; treaties and executive agreements; structure and function of foreign affairs agencies—Department of State, U.S. Information Agency, Central Intelligence Agency; Department of Defense, National Security Council; co-ordination of agencies; the Foreign Service and other overseas agencies. (No prerequisite)

Fall Semester

Th 6:20-8:00, West Bank CB 440,
Penikis

Pol 177. United States Foreign Policy. 3 degree credits. \$33.

Analysis of factors conditioning United States foreign policy: geographic and economic position, defense needs and dispositions, social structure, ideologies, psycho-cultural characteristics, technological revolution, public opinion, political participation; role of parties, interest groups, bureaucracy; leadership; decision-making processes. (No prerequisite)

Spring Semester

Th 6:20-8:00, West Bank CB 440,
Penikis

Pol 187. International Organization. 3 degree credits, §87. \$33.

The organization of interaction among nation-states; decision-making in international organizations; comparison of national and international political institutions; world organization for collective security and peaceful settlement of disputes. (No prerequisite)

Fall Semester

W 6:20-8:00, West Bank CB 450, Riggs

PORTUGUESE

Russell G. Hamilton, Jr., Associate Professor of Portuguese

The laboratory fee for beginning Portuguese entitles students to use of the Language Laboratory.

Port 1-2. Beginning Portuguese. 5 degree credits each semester. \$55 plus \$3 laboratory fee each semester.

Grammar, pronunciation, reading, and practice in speaking. (No prerequisite for 1; 1 or equivalent for 2)

Fall Semester

I MW 6:20-8:00, Folwell 208,
Hamilton

Spring Semester

2 MW 6:20-8:00, Folwell 208,
Hamilton

Symbols explained on page 20.

Evening Classes

PSYCHOLOGY

Floyd W. Ayers, *Instructor in Psychology*

Rene Dawis, *Professor of Psychology and Industrial Relations*

Nancy Fox, *Lecturer in Psychology*

Harold Gilberstadt, *Associate Professor of Psychology*

Thomas S. Hyde, *Instructor in Psychology*

Dwight R. Kauppi, *Instructor in Psychology*

Leslie A. King, *Associate Professor of Psychological Studies*

G. Gordon Kingsley, *Professor of Psychological Studies*

Jesse K. Lair, *Associate Professor of Rhetoric*

Michael J. Maley, *Instructor in Psychology*

Donald Stieper, *Lecturer in Psychology*

Norris Vestre, *Assistant Professor of Psychology*

Psy 1A. Application of Psychology to Living. 3 degree credits. \$33.

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

Fall Semester

M 6:20-8:00, Nicholson 211, Kingsley
W 6:20-8:00, MacPhail Center Annex 3
Th 8:15-9:55, Nicholson 213, King

Spring Semester

M 6:20-8:00, Nicholson 213, Kingsley
W 6:20-8:00, MacPhail Center Annex 3
Th 8:15-9:55, Nicholson 207, King

Psy 1-2.† General Psychology. 3 degree credits each term. \$33 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, Vestre
Th 6:20-8:00, MacPhail Center Annex 3
Th 7:50-9:30, StP Ext Center
2 T 6:20-8:00, Nicholson 211, Ayers
Th 6:00-7:40, StP Ext Center

Spring Semester

2 W 6:20-8:00, Nicholson Aud, Vestre
Th 6:20-8:00, MacPhail Center Annex 3
Th 7:50-9:30, StP Ext Center
1 T 6:20-8:00, Nicholson 211, Ayers
Th 6:00-7:40, StP Ext Center

Fall Quarter

1 T 6:30-9:00, Robbinsdale HS 231, Vestre (*Limited to 150 students**)

Winter Quarter

2 T 6:30-9:00, Robbinsdale HS 231, Vestre (*Limited to 150 students**)

Symbols explained on page 20.

* Enrollment space limited; instructions on page 10.

°Psy 4-5.† Introductory Laboratory Psychology. 2 degree credits each semester. \$33 plus \$1.50 laboratory fee 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 W 8:15-9:55, Wesbrook 101
Th 8:15-9:55, Wesbrook 101, Fox

Spring Semester

5 W 8:15-9:55, Wesbrook 101
Th 8:15-9:55, Wesbrook 101, Fox

Psy 70. Principles of Psychological Measurement. 3 degree credits, §Soc 45, §QA 5. \$33.

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. For graduate credit, register in Psy 270)

Fall Semester

Th 8:15-9:55, Johnston 114, Dawis

Spring Semester

Th 8:15-9:55, Johnston 114, Dawis

Psy 75. Introduction to the Psychology of Learning. 3 degree credits. \$33.

Survey of the basic methods in the study of learning. Development of fundamental concepts and principles governing the learning process. (Prerequisite: 2. Repeated spring semester)

Fall Semester

T 6:20-8:00, Wesbrook 101, Hyde

Spring Semester

T 6:20-8:00, Wesbrook 101, Hyde

Psy 119. Psychology of Personality. 3 degree credits. \$33 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. (Prerequisite: 2. Repeated spring semester. Qualified students may register for graduate credit)

Fall Semester

W 6:20-8:00, Wesbrook 101, Gilbertstadt

Spring Semester

W 6:20-8:00, Wesbrook 101, Gilbertstadt

Psy 122-123.† Vocational Development and Personnel Psychology. 3 degree credits each semester, §Psy 160. \$33 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

Symbols explained on page 20.

° Enrollment space limited; instructions on page 10.

Evening Classes

and interviewing; constructing and using rating scales; training, maintaining, and promoting employees. There will also be actual practice in the use of psychological tests. (Prerequisite: 2 for 122; 122 for 123. Must be taken in sequence. Qualified students may register for graduate credit)

<i>Fall Semester</i>			<i>Spring Semester</i>		
122	M	6:20-8:00, Wesbrook 101, Kauppi	123	M	6:20-8:00, Wesbrook 101, Kauppi

Psy 125-126. Psychology of Individual Differences. 3 degree credits each semester. \$33 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. (Prerequisite: 5 or 70 or 8 for 125; 125 for 126. Must be taken in sequence. Qualified students may register for graduate credit)

<i>Fall Semester</i>			<i>Spring Semester</i>		
125	Th	6:20-8:00, Johnston 114, Dawis	126	Th	6:20-8:00, Johnston 114, Dawis

Psy 138. Psychology of Motivation and Conflict. 3 degree credits. \$33.

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. May not be taken for graduate credit)

<i>Fall Semester</i>			<i>Spring Semester</i>		
Th	8:15-9:55,	Wesbrook 202, Maley	Th	8:15-9:55,	Wesbrook 202, Maley

Psy 144-145.† Abnormal Psychology. 3 degree credits each semester. \$33 each semester.

Normal and abnormal behavior contrasted. Dynamics, and particularly the social determinants, of personality and maladjustments. (Prerequisite: 9 credits in psychology, or 6 credits in psychology with either Zool 1-2-3 or 12 credits in social science for 144; 144 for 145. Must be taken in sequence. Qualified students may register for graduate credit)

<i>Fall Semester</i>			<i>Spring Semester</i>		
144	Th	6:20-8:00, Architecture 40, Stieper	145	Th	6:20-8:00, Architecture 40, Stieper

Psy 156. Psychology of Advertising. 3 degree credits. \$33.

Psychological analysis of the basic principles underlying advertising and selling. Consumer research is stressed. Research techniques for investigating advertising problems and the analysis of consumer wants are considered in detail. (Prerequisite: 2. Repeated spring semester. Qualified students may register for graduate credit)

<i>Fall Semester</i>			<i>Spring Semester</i>		
Th	6:20-8:00,	Burton 125, Lair	Th	6:20-8:00,	Burton 125, Lair

Symbols explained on page 20.

Course Offerings—Arts and Sciences

Psy 270. Advanced Psychological Measurement. 3 degree credits. \$33.

See course description as listed under Psy 70. Same work as Psy 70, but in addition students will write reports on advanced psychometric topics. Qualified students may register for graduate credit.

Fall Semester

Th 8:15-9:55, Johnston 114, Dawis

Spring Semester

Th 8:15-9:55, Johnston 114, Dawis

Child Psychology. (See page 193)

Educational Psychology. (See page 195)

How to Study. (See page 159)

PUBLIC ADMINISTRATION

Nancy N. Anderson, Assistant Professor of Public Administration

Reynold A. Boezi, Lecturer in Public Administration

E. Wayne Drehmel, Lecturer in Public Administration

John H. Farley, Lecturer in Public Administration

Hosni N. Iskander, Assistant Professor of Architecture

John W. Jackson, Lecturer in Public Administration

David J. Kennedy, Lecturer in Public Administration

Henry Lederer, Lecturer in Public Administration

Daniel Magraw, Lecturer in Public Administration and Accounting

Howard Mold, Lecturer in Public Administration

David H. Smith, Assistant Professor of Speech

Paul T. Steen, Associate Professor of Public Administration

George A. Warp, Professor of Public Administration

In view of the demand by federal, state, and local government employees for professional classes in public administration, *all course offerings have been revamped and in the future will carry certificate credit only.* At the present time, these courses are not applicable toward degree programs.

Your attention is called to the Certificate Program in Public Administration which is described on page 37. Credits earned in all of the public administration courses are applicable towards the Public Administration Certificate.

Your attention also is called to the Public Administration Center's graduate course offerings in the late afternoon and Saturday morning hours. These courses lead to the degree of Master of Arts in Public Administration (M.A. P.A.). The graduate program is open to students who can profit from professional public administration courses and who have the academic qualifications for admission to the Graduate School.

Courses offered from 4 to 6:30 p.m. in Federal Government buildings in the Fort Snelling area are intended primarily for federal employees, and

Symbols explained on page 20.

Evening Classes

courses offered from 3 to 5:30 p.m. in State Government buildings in St. Paul are intended primarily for state employees.

PA 55. Human Relations in Administration. 3 certificate credits. \$33.

Supervision as a function of management; social aspects of supervision; communication; work simplification; role in achieving organizational objectives and formulating programs and policies; training for development. Presentation and discussion of cases. (No prerequisite: Intended primarily for state employees. Repeated winter and spring quarters)

Fall Quarter		Winter Quarter		Spring Quarter	
T	3:00-5:30, State Highway Building Training Room	T	3:00-5:30, State Highway Building Training Room	T	3:00-5:30, State Highway Building Training Room, Mold

PA 58. Governmental Accounting. 3 certificate credits. \$33.

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 Quarter

M 6:20-8:50, West Bank CB 430, Magraw

PA 60. Organization and Management. 3 certificate credits. \$33.

Study of the traditional technical aspects of administration—organization, finance, and personnel—with emphasis both on formal content and on the realities of the administrative process. Attention is given to administrative planning, leadership, decision-making, organization and management, and automation. (No prerequisite)

Winter Quarter

M 6:20-8:50, West Bank CB 430, Warp

PA 61. Municipal Law and Administration. 3 certificate credits. \$33.

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

Fall Quarter

Th 6:20-8:50, West Bank CB 205, Kennedy

PA 62. Public Personnel Administration. 3 certificate credits. \$33.

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, con-

Symbols explained on page 20.

Course Offerings—Arts and Sciences

ditions of employment; separation; human relations and morale; employee organizations; obligations and responsibilities of public employees; retirement systems. (No prerequisite)

Fall Quarter

M 6:20-8:50, West Bank BA 632, Jackson

PA 63. Public Financial Administration. 3 certificate credits. \$33.

Systems, techniques, and problems of financial organization and management, including revenue administration, budgeting, and control of public expenditures. (No prerequisite)

Spring Quarter

M 6:20-8:50, West Bank CB 450,
Drehmel

PA 67A. Computer-Based Management Systems. 3 certificate credits. \$33.

Study of management of complex projects utilizing computers as direct management tools. Includes management control systems from Gantt charts through PERT/cost. Analysis of implications and underlying concepts. Student prepares own PERT network. (No prerequisite)

Winter Quarter

Th 6:20-8:50, West Bank CB 450, Lederer

PA 102. Public Management — Concepts and Issues. 3 certificate credits. \$33.

Underlying issues, problems, and concepts in public administration. The study of public administration; management concepts and trends; unique aspects of public administration; bureaucracy; administrative leadership, authority, and decision-making; communication; the administrator as an individual; personnel and financial administration; legal aspects of administration; administrative responsibility. (No prerequisite. Intended primarily for federal employees)

Fall Quarter

W 4:00-6:30, Bureau of Mines
Conference Room, Warp

PA 105. Executive Management. 3 certificate credits. \$33.

Management concepts and trends; organizing for public service; styles of leadership; employee relations and grievances; job training and employee development; work standards and performance evaluation; communication; computer applications; formulation of programs and policies. (Prerequisite: recommendation of state agency. Repeated spring quarter)

Fall Quarter

Th 3:00-5:30, State Highway Building
Training Room

Spring Quarter

Th 3:00-5:30, State Highway Building
Training Room

PA 106. Presentational Speaking and Conference Leadership. 3 certificate credits. \$33.

Effective conference leadership and participation in government organizations. Training in how to accomplish change, handle misunderstanding and disagreement, and

Symbols explained on page 20.

Evening Classes

communicate orally to gain objectives. (No prerequisite. Winter quarter class intended primarily for state employees; spring quarter class intended primarily for federal employees)

Winter Quarter		Spring Quarter	
Th	3:00-5:30, State Highway Building Training Room, Smith	W	4:00-6:30, Bureau of Mines Conference Room

PA 125. Administration of Services for the Aging. 3 certificate credits. \$33.

Contemporary administrative theories and processes applied to the planning, organization, management, and evaluation of programs and services for the aging. (No prerequisite)

Fall Quarter

M 6:20-8:50, West Bank BA 933, Steen

PA 126. Social Gerontology. 3 certificate credits. \$33.

A survey of the social, psychological, and biological aspects of aging, with emphasis on current social problems and issues involved in governmental programs. (No prerequisite)

Spring Quarter

M 6:20-8:50, West Bank CB 430, Anderson

PA 145. Administrative Analysis. 3 certificate credits [For degree credit register in Acct 145C, page 165]. \$33.

A study of the techniques of analyzing and designing the organization and methods of administrative agencies. Topics include approaches to systems analysis, the organization as a total system, flow charting, work measurement, forms design and control, procedure writing and manualization, quantitative techniques in administration, information and decision systems, control systems, automated data processing, systems integration and communication, making systems effective. (No prerequisite. Winter quarter class intended primarily for federal employees)

Winter Quarter		Spring Quarter	
W	4:00-6:30, Bureau of Mines Conference Room, Magraw	W	6:20-8:50, West Bank CB 410, Magraw

PA 146. The Planning Process. 3 certificate credits. \$33.

Nature and techniques of the planning process for urban development and redevelopment in regional, metropolitan, city, and neighborhood areas; steps in the planning process; growth alternatives and policy planning. Principles and standards involved in functional plans. Case studies of the planning process in the Twin Cities metropolitan area and in other areas. (No prerequisite)

Winter Quarter

T 6:20-8:50, West Bank CB 430, Iskander

PA 148. Administration of Planning. 3 certificate credits. \$33.

Purpose of planning; organization of planning agencies; citizen participation in planning; the master plan; zoning; housing; urban redevelopment; fiscal planning; the

Symbols explained on page 20.

Course Offerings—Arts and Sciences

capital budget and program; planning for various municipal functions; intergovernmental relationships in planning. (No prerequisite, but 146 is strongly recommended)

Spring Quarter

T 8:20-8:50, West Bank CB 430, Boezi

PUBLIC HEALTH

Stewart C. Thomson, Professor of Public Health

PubH 50. Personal and Community Health. 3 degree credits, §2, §3, §3A, §4, §5, §51, §52. \$33.

Fundamental principles of health conservation and disease prevention. (No prerequisite)

Fall Semester

T 8:15-9:55, Owre 15, Thomson

ROMANCE LANGUAGES

(See listing under each language: French, page 96; Italian, page 114; Portuguese, page 135; Spanish, page 152)

SCANDINAVIAN LANGUAGES

Bjarne E. Landa, Lecturer in Scandinavian

Lillemor Saether, Instructor in Scandinavian

Allen Simpson, Assistant Professor of Scandinavian

The laboratory fee for beginning Scandinavian courses entitles students to use of the Language Laboratory.

Danish

Dan 1A-2A (old Scan 13-14). Beginning Danish. 3 degree credits each semester. \$33 plus \$3 laboratory fee 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 1A; 1A or § for 2A)

Fall Semester

1A Th 6:20-8:00, Folwell 307, Landa

Spring Semester

2A Th 6:20-8:00, Folwell 307, Landa

Symbols explained on page 20.

Evening Classes

Norwegian

Nor 1A-2A (old Scan 1-2). Beginning Norwegian. 3 degree credits each semester. \$33 plus \$3 laboratory fee 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 1A; 1A or # for 2A)

Fall Semester

1A M 6:20-8:00, Folwell 305, Simpson

Spring Semester

2A M 6:20-8:00, Folwell 305, Simpson

Nor 3A-4A (old Scan 3-4). Intermediate Norwegian. (To be offered 1968-69)

Swedish

Swed 1A-2A (old Scan 7-8). Beginning Swedish. 3 degree credits each semester. \$33 plus \$3 laboratory fee 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 1A; 1A or # for 2A)

Fall Semester

1A M 6:20-8:00, Burton 123, Saether

Spring Semester

2A M 6:20-8:00, Folwell 207, Saether

Swed 3A-4A (old Scan 9-10). Intermediate Swedish. (To be offered 1968-69)

Swed 1-2-3. Swedish for SPAN Students. 3 degree credits each quarter. \$33 each quarter.

This course, intended for students who have little or no previous knowledge of Swedish, stresses fundamentals of grammar, pronunciation, reading, and conversation. (No prerequisite. Must be taken in sequence. Course is intended for students participating in the Minnesota SPAN program in Sweden)

Fall Quarter

1 S 9:00-11:30, West
Bank CB 125

Winter Quarter

2 S 9:00-11:30, West
Bank CB 125

Spring Quarter

3 S 9:00-11:30, West
Bank CB 125

SLAVIC LANGUAGES

Tatiana Prokopov, Instructor in Slavic Languages

Marilyn Sjöberg, Assistant Professor of Slavic Languages

Danuta Zamojska, Instructor in Slavic Languages

The laboratory fee for beginning Slavic courses entitles students to use of the Language Laboratory.

Symbols explained on page 20.

Polish

Plsh 1-2. Beginning Polish. 3 degree credits each semester. \$33 plus \$3 laboratory fee 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 201, Zamojska

Russian

Russ 1-2. Beginning Russian. 3 degree credits each semester. \$33 plus \$3 laboratory fee each semester.

Grammar, pronunciation, reading, and practice in speaking. (No prerequisite for 1; 1 or # for 2)

Fall Semester

1 M 6:20-8:00, Folwell 406,
Prokopov

Spring Semester

2 M 6:20-8:00, Folwell 406,
Prokopov

Russ 3-4. Intermediate Russian. 3 degree credits each semester. \$33 plus \$3 laboratory fee each semester.

Readings from modern authors, review of essential grammar, emphasis on spoken Russian. (Prerequisite: 2 or # for 3; 3 for 4)

Fall Semester

3 T 6:20-8:00, Folwell 307, Prokopov

Spring Semester

4 T 6:20-8:00, Folwell 307, Prokopov

Russian for Graduate Students

The Russian language requirement for an advanced degree can be satisfied with a program of study based on Russ 17A and Russ 17B; 17A or permission is a prerequisite for Russ 17B. If the student achieves a grade of "B" or better in the final examination administered at the conclusion of Russ 17B, the Department of Slavic Languages will certify him as having satisfied the Russian language requirement for an advanced degree.

Russ 17A. Russian for Graduate Students. No credit. \$33.

This course is designed to help the graduate student acquire a reading knowledge of basic Russian as rapidly as possible. Russ 17A assumes no knowledge of Russian on the part of the student. The course includes reading of simple, graded material. (No prerequisite)

Fall Semester

M 6:20-8:00, Folwell 303

Russ 17B. Russian for Graduate Students. No credit. \$33.

As a continuation of Russ 17A, the concentration in this course is on intensive reading of Russian literary and scientific texts. The graduate student is able to satisfy

Evening Classes

the Russian 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 §)

Spring Semester

M 6:20-8:00, Folwell 303

Serbo-Croatian

Serb 1-2. Beginning Serbo-Croatian. 3 degree credits each semester. \$33 plus \$3 laboratory fee each semester.

Grammar, pronunciation, reading, and practice in speaking. (No prerequisite for 1; 1 or § for 2)

Fall Semester

1 T 6:20-8:00, Folwell 203, Sjoberg

Spring Semester

2 T 6:20-8:00, Folwell 203, Sjoberg

SOCIAL SCIENCE

Martin Dolan, Instructor in Social Science

Khosrow Riggi, Instructor in Social Science

Richard Sykes, Instructor in Social Science

Robert Utlaut, 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 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. 4 degree credits. \$44.

Personality is the basic theme for SSci 1. Investigation of factors that influence individual human behavior. Topics studied include personality in nature, culture, society; personality as shaper of culture and history; American character; validation of theories and confirmation of findings about personality, character, identity. (No prerequisite. Repeated spring semester. For Upper Division credit, register in SSci 51)

Fall Semester

T 5:45-8:00, West Bank CB 220, Utlaut
Th 5:45-8:00, West Bank CB 220, Dolan

Spring Semester

T 5:45-8:00, West Bank CB 220, Utlaut
Th 5:45-8:00, West Bank CB 220, Dolan

SSci 2. Introduction to Social Science. 4 degree credits. \$44.

Work. Division of labor and economic organization studied within social framework. Social functions of economic systems. Historical and social perspectives on work ideals.

Symbols explained on page 20.

Course Offerings—Arts and Sciences

Problems of development. Comparison of economic systems. (Prerequisite: 1. Repeated spring semester. For Upper Division credit, register in SSci 52)

Fall Semester

W 5:45-8:00, West Bank CB 440, Riggi

Spring Semester

W 5:45-8:00, West Bank CB 450, Riggi

SSci 3. Introduction to Social Science. 4 degree credits. \$44.

Community. Structures and patterns of human relations in traditional and modern societies. Varieties of group behavior; caste and class, kinship, urbanization, modernization, power distribution in different societies. Examination of social theories. (Prerequisite: 1 or 2. For Upper Division credit, register in SSci 53. Repeated spring semester)

Fall Semester

M 5:45-8:00, West Bank CB 440, Sykes

Spring Semester

M 5:45-8:00, West Bank CB 440, Sykes

SSci 51. Introduction to Social Science. 4 degree credits. \$44.

See course description as listed under SSci 1. Same work as SSci 1, but with additional assignments. (Prerequisite: Limited to those students eligible for Upper Division credit)

Fall Semester

T 5:45-8:00, West Bank CB 220, Utlaut
Th 5:45-8:00, West Bank CB 220, Dolan

Spring Semester

T 5:45-8:00, West Bank CB 220, Utlaut
Th 5:45-8:00, West Bank CB 220, Dolan

SSci 52. Introduction to Social Science. 4 degree credits. \$44.

See course description as listed under SSci 2. Same work as SSci 2, but with additional assignments. (Prerequisite: Limited to those students eligible for Upper Division credit)

Fall Semester

W 5:45-8:00, West Bank CB 440, Riggi

Spring Semester

W 5:45-8:00, West Bank CB 450, Riggi

SSci 53. Introduction to Social Science. 4 degree credits. \$44.

See course description as listed under SSci 3. Same work as SSci 3, but with additional assignments. (Prerequisite: Limited to those students eligible for Upper Division credit)

Fall Semester

M 5:45-8:00, West Bank CB 440, Sykes

Spring Semester

M 5:45-8:00, West Bank CB 440, Sykes

SOCIAL WORK

Edward Francel, Professor of Social Work

Joann Gannon, Instructor in Social Work

Dagny Johnson, Assistant Professor of Social Work

Harvey Kaplan, Instructor in Social Work

Mayo Newhouse, Associate Professor of Social Work

Albert Rosenthal, Professor of Public Administration

Minna Shapiro, Clinical Assistant Professor of Social Work

Symbols explained on page 20.

Evening Classes

*SW 100. **Special Topic: Family Counseling.** 3 degree credits. \$33.

Course content and teaching methods will be directed toward enhancing the knowledge and skill of the practicing social worker engaged in family counseling. Role of the social worker and the helping process will be emphasized. Consideration of current theories and practices in the field. (Prerequisite: Bachelor's degree with current employment in a social welfare position. Limited to 25 students. May not be taken for graduate credit. Repeated spring quarter)

Fall Quarter

W 6:20-9:00, West Bank CB 255,
Shapiro

Spring Quarter

W 6:20-9:00, West Bank CB 255,
Shapiro

SW 124. **Government and Welfare.** 3 degree credits. \$33.

Philosophy, policy development, and administration of federal, state, and local programs in fields of social insurance, public assistance, welfare services, and housing. (Prerequisite: Pol 2 or ♯. Qualified students may register for graduate credit)

Fall Quarter

W 6:20-8:50, West Bank SocSci 1383,
Rosenthal

Organized Extension Program in Social Work

The Organized Extension Program in Social Work consists of courses offered over a 2-year span. As of the fall of 1966, this program offered by the School of Social Work through the General Extension Division began again. The 21 credits in the seven courses have been designed to meet the expressed needs of individuals employed in social welfare positions who do not intend to enter the 2-year graduate program in social work. The Organized Extension Program in Social Work is designed to help these individuals in acquiring knowledge and skill in better performing specific current social welfare tasks. The student will be helped to acquire increased understanding of the people for whom 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.

Three of the courses listed below (SW 125, SW 140, and SW 171) comprise the offerings of the second year of the 2-year program. The other four courses (SW 148-149 and SW 165-166) are among those usually offered during the first year of the 2-year program. However, during 1967-68 these four courses are being offered out of sequence with the understanding that the School of Social Work may not offer SW 125, SW 140, and SW 171 during 1968-69.

For additional information about the Organized Extension Program in Social Work, please contact the School of Social Work; telephone 373-2632.

Symbols explained on page 20.

* Enrollment space limited; instructions on page 10.

Course Offerings—Arts and Sciences

*SW 125. Public School Policy and the Social Work Profession. 3 degree credits. \$33.

The objective of the course is to provide the student with the opportunity to acquire knowledge and explore attitudes about social welfare services. There will be exploration of developing policy and program trends with emphasis upon the conflicts of value systems and the changing needs of society in the area of social welfare. (Prerequisite: SW 149 and SW 176 or SW 149 and SW 166, or #. Students must register concurrently in SW 171. Limited to 25 students. May not be taken for graduate credit)

Fall Semester

Th 6:20-8:00, West Bank CB 135,
Newhouse

*SW 140. Individual Human Rights and the Social Work Profession. 3 degree credits. \$33.

The purpose of this course is to make the student conscious of the attitudes and philosophy of the social work profession; to help him attain an understanding of certain basic value principles that underlie a social worker's approach to his client and to problems of social living; and to convey an understanding of the importance of the attitudes of the helping person to the helping process and to the individual seeking help. (Prerequisite: 125 and 171 or #. Limited to 25 students. May not be taken for graduate credit)

Spring Semester

T 4:30-6:10, West Bank CB 105,
Kaplan

*SW 148-149. Normal Social Functioning. 3 degree credits each semester. \$33 each semester.

Develops understanding of basic personality and environmental factors which affect and determine the individual's potential for normal social functioning. (Prerequisite: Bachelor's degree and current employment in a social welfare position or #. Limited to 25 students. May not be taken for graduate credit)

Fall Semester

148 Th 3:40-5:20, West Bank CB 115,
Johnson

Spring Semester

149 Th 3:40-5:20, West Bank CB 115,
Johnson

*SW 165-166. Practical Problems in the Casework Process. 3 degree credits each semester. \$33 each semester.

Knowledge, attitudes, skills needed for supportive techniques; emphasis on how, why, when of referral and use of supervision and consultation. (Prerequisite: Bachelor's degree and current employment in a social welfare position or #. Limited to 25 students. May not be taken for graduate credit)

Fall Semester

165 M 3:40-5:20, West Bank CB 105,
Gannon

Spring Semester

166 M 3:40-5:20, West Bank CB 105,
Gannon

*SW 171. The Community and the Social Agency. 3 degree credits. \$33.

The purpose of this course is to acquaint the student with the process of community organization and social work administration as integrated means of identifying community

Symbols explained on page 20.

* Enrollment space limited; instructions on page 10.

Evening Classes

problems and needs, and to describe methods of deciding what to do and developing ways of transforming the arrived-at policies into services to meet the needs. (Prerequisite: 149 and 166; or 149 and 176, or §. Students must register concurrently in SW 125. Limited to 25 students. May not be taken for graduate credit)

Fall Semester

Th 3:40-5:20, West Bank CB 415, Francel

SOCIOLOGY

William Bennett, Assistant Professor of Sociology

Lois Blaug, Lecturer in Sociology

John Donohue, Lecturer in Sociology

David D. Franks, Lecturer in Sociology

Arthur L. Johnson, Professor of Sociology

Caroline Rose, Lecturer in Sociology

Howard Shapiro, Lecturer in Sociology

William L. Zwerman, Assistant Professor of Sociology

Soc 1. Man in Modern Society. 3 degree credits. \$33.

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

M 6:20-8:00, MacPhail Center
Annex 1, Shapiro
T 6:00-7:40, StP Ext Center, Franks
Th 6:20-8:00, West Bank CB 5,
Blaug

Spring Semester

M 6:20-8:00, Agricultural Engineering
109, St Paul Campus
T 6:20-8:00, West Bank CB 150,
Shapiro
W 6:20-8:00, MacPhail Center
Annex 2, Blaug

Soc 3. Social Problems. 3 degree credits. \$33.

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

Fall Semester

M 8:15-9:55, West Bank CB 10,
Zwerman
T 6:20-8:00, Agricultural Engineering
109, St Paul Campus
W 6:20-8:00, MacPhail Center
Annex 2, Franks

Spring Semester

M 6:20-8:00, MacPhail Center
Annex 1, Franks
M 8:15-9:55, West Bank CB 410,
Zwerman
T 7:00-8:40, StP Ext Center, Franks

Soc 52. Juvenile Delinquency and Juvenile Courts. 3 degree credits. \$33.

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

Symbols explained on page 20.

Course Offerings—Arts and Sciences

of the juvenile court in meeting the problems of delinquency prevention and treatment will be studied. (Prerequisite: 1 and 53 or ‡. Repeated spring semester)

Fall Semester

Spring Semester

W 8:15-9:55, West Bank CB 215,
Donohue

T 6:00-7:40, StP Ext Center, Donohue

Soc 53. Elements of Criminology. 3 degree credits. \$33.

General survey of field criminology. (Prerequisite: 1 or ‡)

Fall Semester

T 6:00-7:40, StP Ext Center, Donohue

W 6:20-8:00, West Bank CB 250, Donohue

Soc 120. Social Psychology. 3 degree credits. \$33.

Research and theory regarding the relation of the individual to social groups. Emphasis on the socialization processes; effects of social interaction and isolation; individual behavior under conditions of social organization and disorganization; cultural influence and its limits. (Prerequisite: 1 or ‡. Qualified students may register for graduate credit)

Fall Semester

W 6:20-8:00, West Bank CB 155, Rose

Soc 123. Minority Group Relations. 3 degree credits. \$33.

Interaction of social and cultural groups in America; particular reference to the Negro. Processes leading to group contact; characteristics and contributions of ethnic groups in 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 ‡. Qualified students may register for graduate credit)

Spring Semester

W 6:20-8:00, West Bank CB 155, Rose

Soc 140. Social Organization. 3 degree credits. \$33.

Organization and structure of social groups; basic culture patterns of economic, political, and social institutions. Integration and disintegration of social groups and institutions. Essentials of social dynamics. (Prerequisite: 1 or ‡. Qualified students may register for graduate credit)

Spring Semester

W 6:20-8:00, West Bank CB 205,
Bennett

Soc 141. The Family. 3 degree credits. \$33.

Evolution of the family, development of family unity or disunity, roles of the several members of the family, methods of investigation of the family. (Prerequisite: 1 or ‡. Qualified students may register for graduate credit)

Fall Semester

T 6:20-8:00, West Bank CB 250, Johnson

Symbols explained on page 20.

Evening Classes

Soc 142. Religion as a Social Institution. 3 degree credits. \$33.

Structure and function of religious organizations in various types of societies, nature of religious leadership, types of religious participation, and relationship of religion to other social institutions. (Prerequisite: 1 or #. Qualified students may register for graduate credit)

Spring Semester

T 6:20-8:00, West Bank CB 250,
Johnson

Soc 145. Urban Sociology. 3 degree credits. \$33.

Urban ecology; urban institutions and the urban way of life. (Prerequisite: 1 or #. Qualified students may register for graduate credit)

Spring Semester

M 6:20-8:00, West Bank CB 240,
Zwerman

Soc 146. Industrial and Occupational Sociology. 3 degree credits. \$33.

The occupational group; the factory and the business enterprise as social institutions; the contrasting functions of formal and informal organization; significance of co-operation, authority, communication, status, and group norms in the working situation. (Prerequisite: 1 and 15 credits in sociology, psychology, political science, or economics. Qualified students may register for graduate credit)

Fall Semester

M 6:20-8:00, West Bank CB 450, Zwerman

Soc 195. Sociology of Education. 3 degree credits, §HED 190. \$33.

Advanced studies in social aspects of education—including the school as a socializing process, the social structure of education, the role of the school in social change, and others. Emphasis on theory and empirical research. (Prerequisite: 1 or #. Qualified students may register for graduate credit)

Fall Semester

Th 6:20-8:00, West Bank CB 225,
Bennett

SPANISH

Larry Collins, Instructor in Spanish

William P. Cooke, Instructor in Spanish

Santiago Cúneo, Associate Professor of Spanish

Robert F. Estelle, Instructor in Spanish

Rodolfo O. Floripe, Professor of Spanish

Richard Franklin, Instructor in Spanish

Richard Narváez, Associate Professor of Spanish

Constance Sullivan, Assistant Professor of Spanish

Symbols explained on page 20.

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.

The laboratory fee for beginning Spanish courses entitles students to use of the Language Laboratory.

Span 1-2. *Beginning Spanish*. 5 degree credits each semester. \$55 plus \$3 laboratory fee 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

Spring Semester

1 TTh 6:20-8:00, Folwell 109

2 TTh 6:20-8:00, Folwell 109

Span 3. *Beginning Spanish*. 5 degree credits. \$55 plus \$3 laboratory fee.

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

MW 6:20-8:00, Folwell 201

Span 1A-1B. *Beginning Spanish*. 3 degree credits each semester. \$33 plus \$3 laboratory fee each semester.

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

Fall Semester

Spring Semester

1A W 6:20-8:00, Folwell 110, Cúneo

1A W 6:20-8:00, Folwell 110

1B W 6:20-8:00, Folwell 209

1B W 6:20-8:00, Folwell 209, Cúneo

Symbols explained on page 20.

Evening Classes

Span 2A-2B. Beginning Spanish. 3 degree credits each semester. \$33 plus \$3 laboratory fee each semester.

Grammar, pronunciation, reading, and practice in speaking. See note on page 153. (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 108

Span 3A-3B. Beginning Spanish. 3 degree credits each semester. \$33 plus \$3 laboratory fee each semester.

Grammar, pronunciation, reading, and practice in speaking. See note on page 153. (Prerequisite: 2 or 3B or old 4 or 2 years high school Spanish for 3A; 3A for 3B)

Fall Semester

3A T 8:15-9:55, Folwell 103

Spring Semester

3B T 8:15-9:55, Folwell 103

Span 25 (old 53). Intermediate Spanish. 5 degree credits. \$55 plus \$3 laboratory fee.

An intensive review of grammar through analysis of a variety of Spanish texts. (Prerequisite: 2 or 3B or old 3C or 3 years high school Spanish. Repeated spring semester)

Fall Semester

MW 6:20-8:00, Folwell 103

Spring Semester

MW 6:20-8:00, Folwell 103

Span 30. Introduction to Spanish and Spanish-American Literary Texts. 3 degree credits. \$33.

A variety of literary works representing the principal genres is examined through stylistic analyses and literary explications. Students learn critical terminology and discuss literary problems and techniques. (Prerequisite: 25 or 4 years high school Spanish or #. Repeated spring semester)

Fall Semester

Th 6:20-8:00, Folwell 208, Cooke

Spring Semester

Th 6:20-8:00, Folwell 208, Cooke

Span 54. Composition. 3 degree credits. \$33.

This course (conducted in Spanish) is designed for persons desiring to continue the study of the Spanish language and literature. Its goals are to develop the student's capacity and ability to write effectively in the language. Stress will be on the principles of effective written communication, terminology, errors common to native speakers in syntax, morphology, and vocabulary. An analysis of written materials for content will serve as a basis for writing compositions. (Prerequisite: 25 or #. Repeated spring semester)

Fall Semester

M 6:20-8:00, Nicholson 209, Franklin

Spring Semester

M 6:20-8:00, Nicholson 209, Franklin

Span 55. Conversational Spanish. 3 degree credits. \$33 plus \$8 laboratory fee. Daily and contemporary affairs are discussed. (Prerequisite: 25 or equivalent)

Fall Semester

T 6:20-8:20, Folwell 209, Narváez

Symbols explained on page 20.

Course Offerings—Arts and Sciences

Span 58. Advanced Conversational Spanish. 3 degree credits. \$33.

(Prerequisite: 55 or equivalent)

Spring Semester

T 6:20-8:20, Folwell 207, Narváez

Span 66. Survey of Spanish Literature: The Golden Age. 3 degree credits. \$33.

(Prerequisite: 30 or ¶30 or §)

Fall Semester

W 6:20-8:00, Folwell 305½, Floripe

Span 67. Survey of Spanish Literature: Neoclassicism to Early Twentieth Century. 3 degree credits. \$33.

(Prerequisite: 30 or ¶30 or §)

Spring Semester

W 6:20-8:00, Folwell 305½, Floripe

Span 174. Twentieth-Century Spanish Literature: Drama. 3 degree credits. \$33.

Benavente, Martínez Sierra, Linares-Rivas, Álvarez Quintero, Valle Inclán, Marquina, García Lorca, and Casona. (Prerequisite: 65 or 66 or 67 or §. Qualified students may register for graduate credit)

Fall Semester

M 6:20-8:00, Folwell 205, Floripe

Span 176. Twentieth-Century Spanish Literature: Poetry. 3 degree credits. \$33.

Juan Ramón Jiménez, Unamuno, Antonio Machado, García Lorca, Alberti, Guillén, Salinas. (Prerequisite: 65 or 66 or 67 or 74 or 75 or 76 or §. Qualified students may register for graduate credit)

Spring Semester

M 6:20-8:00, Folwell 205, 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.

Span 17A. Spanish for Graduate Students. No credit. \$33.

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

Symbols explained on page 20.

Evening Classes

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 107, Estelle	W 6:20-8:50, Folwell 107, Estelle	W 6:20-8:50, Folwell 107, Estelle

Span 17B. Spanish Technical and Business Reading. No credit. \$33.

This course is designed to give a reading mastery of Spanish beyond the basic knowledge gained in Span 17A. The course is intended to help those whose research, business, or personal interests require a thorough acquaintance with the prose style and terminology of books, journals, periodicals, or newspapers published within their area of study. Extensive reading will be done, mostly on an individual basis, in texts selected by the student with the instructor's help. Problems of translation will be dealt with, when necessary. (Prerequisite: Span 17A or a basic course in the structure of Spanish or #. Repeated spring quarter)

	Winter Quarter	Spring Quarter
T	6:20-8:50, Folwell 107, Estelle	T 6:20-8:50, Folwell 107, Estelle

SPEECH, COMMUNICATION, AND THEATRE ARTS

H. Lee Adey, Assistant Professor of Speech, Communication, and Theatre Arts
Arthur H. Ballet, Professor of Speech, Communication, and Theatre Arts
Leonard Bart, Assistant Professor of Speech, Communication, and Theatre Arts
Ernest Bormann, Professor of Speech, Communication, and Theatre Arts
Bernard L. Brock, Assistant Professor of Speech, Communication, and Theatre Arts
Albert M. Fulton, Professor of Speech
Maxine Klein, Assistant Professor of Speech, Communication, and Theatre Arts
Merle W. Loppnow, Lecturer in Speech, Communication, and Theatre Arts

Speech

*Spch. Beginning Practical Speech Making. 3 certificate credits. \$33 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 30, Fulton	T 6:20-8:50, Architecture 30, Fulton	T 6:20-8:50, Architecture 30, Fulton
Th	6:20-8:50, Architecture 30, Fulton		Th 6:20-8:50, Architecture 30, Fulton

Symbols explained on page 20.

* Enrollment space limited; instructions on page 10.

Course Offerings—Arts and Sciences

*Spch. Advanced Practical Speech Making. 3 certificate credits. \$33.

Emphasis will be given to analysis of controversial subjects and the logical presentation of a point of view. Impromptu speeches will also be featured. There will be continuous practice in thinking on one's feet. Each student speaks before the class at least once each meeting. (Prerequisite: Beginning Practical Speech Making. Class limited to 15 students)

Winter Quarter

Th 6:20-8:50, Architecture 30, Fulton

*Spch 5X-6X. Fundamentals of Speech. 3 degree credits each semester. \$33 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. Credit for 5X without 6X by petition only. Limited to 30 students)

Fall Semester

5X M 6:20-8:00, Folwell 306, Bormann
Th 6:00-7:40, MacPhail Center
Annex 2, Bart

Spring Semester

5X T 6:20-8:00, Folwell 306, Brock
6X M 6:20-8:00, Folwell 306, Bormann
Th 6:00-7:40, MacPhail Center
327, Bart

Spch 65. Radio and Television Speech. 3 degree credits. \$33 plus \$10 laboratory fee.

Speech arts and psychology of radio and television. Practice exercises, projects, and reports on problems of appeal and audience response. Laboratory fee to cover use of radio and TV production facilities. Students will have the opportunity of making audio-taped and video-taped programs. (Prerequisite: 5 or 5X-6X or §)

Spring Semester

W 6:20-8:00, Aeronautical Engineering
309, Bart

Spch 106. Discussion. 3 degree credits. \$33.

Principles of leadership and small group communication. Understanding group dynamics to improve discussions. Application to the business conference, group decision-making, and public discussion. Planning, preparing for, participating in, and leading discussions, meetings, and conferences. (Prerequisite: 5 or 5X-6X or §. Qualified students may register for graduate credit)

Fall Semester

T 6:20-8:00, Folwell 302, Bormann

English for Foreign Students. (See page 95)

Theatre Arts

Th 11. Introduction to the Theatre. 3 degree credits. \$33.

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

Symbols explained on page 20.

* Enrollment space limited; instructions on page 10.

Evening Classes

view of the highlights of theatre, architecture, scenic design, stagecraft, lighting, costumes, make-up and special effects. (No prerequisite. Repeated winter quarter)

Fall Quarter		Winter Quarter	
W	6:20-8:50, Science Building 175, Ballet	W	5:45-8:15, MacPhail Center 416, Ballet

Th 12. Laboratory Section: Introduction to the Theatre. 1 degree credit. \$11.

A laboratory in the practice of the arts and crafts of the theatre; scenery and particularly construction and painting; stage operation, theatre lighting, costuming, make-up. (Prerequisite: 11 or ¶11. First class meeting of each quarter further sessions will be scheduled. Repeated winter and spring quarters)

Fall Quarter		Winter Quarter		Spring Quarter	
Th	6:20-8:50, Armory 53, Adey	Th	6:20-8:50, Armory 53, Adey	Th	6:20-8:50, Armory 53, Adey

Th 21. Beginning Acting: Creative Approach. 3 degree credits. \$33.

Creation and presentation of original scenes and exercises. Ability to respond to the imaginative situation with individuality and effectiveness is stressed. (Prerequisite: 12 or ¶12)

Winter Quarter	
W	6:20-8:50, Wesbrook 302, Klein

Th 34. Stagecraft, Construction, and Painting. 3 degree credits. \$33.

Theory and practice in construction, painting, and shifting of scenery. (Prerequisite: 12)

Spring Quarter	
W	6:20-8:50, Wesbrook 306, Adey

Th 114. Theatre Management and Promotion. 3 degree credits. \$33.

Theory and practice in box office procedures, house management, publicity, and promotion; special problems in college, community, children's, and professional theatre. (Prerequisite: 12 or ¶12. Qualified students may register for graduate credit)

Spring Quarter	
M	6:20-8:50, Wulling 130, Loppnow

STUDY SKILLS

Fred M. Amram, Assistant Professor of Oral Communication
Theodore L. Campbell, Instructor in English
Robert F. Forston, Teaching Associate in Rhetoric
Charles E. Goudey, Instructor in Psychology
Andrew A. King, Instructor in Rhetoric
Alex Kurak, Assistant Professor of Literature and Writing
William M. Marchand, Assistant Professor of Rhetoric
Starling W. Price, Instructor in Rhetoric
Dorothy L. Sheldon, Assistant Professor of Literature and Writing

Symbols explained on page 20.

Course Offerings—Arts and Sciences

William A. Stockdale, Assistant Professor of Literature and Writing

David M. Wark, Assistant Professor of Psychology

Eugene S. Wright, Professor of Rhetoric

***PO 1. How to Study.** 2 degree credits (credits do not count toward a B.A. degree; however, credits are included in the over-all grade point average). \$33 plus \$2 materials fee.

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. Each student receives individual testing and practice to develop basic skills in reading, spelling, vocabulary, and elementary composition. (No prerequisite. Limited to 25 students. Students intending to use this course in a degree program should consult an adviser before registering. Repeated spring semester)

Fall Semester

M 6:20-8:00, Eddy 102, Wark
 M 8:15-9:55 Eddy 102, Wark
 W 6:00-7:40, StP Ext Center, Goudey
 W 7:50-9:30, StP Ext Center, Goudey

Spring Semester

M 6:20-8:00, Eddy 102, Wark
 M 8:15-9:55 Eddy 102, Wark
 W 6:00-7:40, StP Ext Center, Goudey
 W 7:50-9:30, StP Ext Center, Goudey

***Rhet 47. Efficient Reading.** 3 certificate credits (may be used on degree program by petition; 1 credit in Arts or BusAdm; 3 credits in GC, Educ, or Ag). \$33 plus \$2 materials fee.

Designed for students, business, or professional people of average or above-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. A suggested follow-up for PO 1, How to Study. (No prerequisite. Limited to 30 students. Repeated spring semester)

Fall Semester

M 6:20-8:00, Ford 115, Price
 M 8:15-9:55, Ford 115, Price
 T 6:20-8:00, Ford 115, King
 T 8:15-9:55, Ford 115, King
 W 6:20-8:00, Ford 115, Wright
 W 8:15-9:55, Agricultural Engineering
 315, St Paul Campus, Forston
 Th 6:00-7:40, StP Ext Center, Marchand
 Th 7:50-9:30, StP Ext Center, Marchand

Spring Semester

M 6:20-8:00, Ford 115, Price
 M 8:15-9:55, Ford 115, Price
 T 6:20-8:00, Ford 115, King
 W 6:20-8:00, Ford 115, Wright
 W 8:15-9:55, Agricultural Engineering
 315, St Paul Campus, Forston
 Th 6:00-7:40, StP Ext Center, Marchand

SSk. Vocabulary Building: How to Expand Your Word Power. 3 certificate credits. \$33 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. Students master 150 word elements which furnish a basis for the analysis and formation of thousands of English words, learn to use the dictionary as an instrument for expanding their vocabularies and for enhancing their precision and flexibility in reading, writing, and speaking, and steadily extend their familiarity with additional vocabulary in written and spoken contexts. A programmed-learning sequence and reading sequences and tape recordings especially designed for the systematic expansion and effective use of one's vocabulary

Symbols explained on page 20.

* Enrollment space limited; instructions on page 10.

Evening Classes

are employed as instructional aids. (No prerequisite. This course may, by petition, be used on a degree program in General College. Repeated winter and spring quarters)

	Fall Quarter	Winter Quarter	Spring Quarter
M	6:30-9:00, Robbinsdale HS 212, Kurak (Limited to 35 students*)	M 6:30-9:00, Robbinsdale HS 212, Kurak (Limited to 35 students*)	T 6:30-9:00, Robbinsdale HS 212, Kurak (Limited to 35 students*)
T	6:20-8:50, Nicholson 201, Sheldon	T 6:20-8:50, Nicholson 207, Sheldon	Th 6:20-8:50, Nicholson 216, Campbell
W	6:20-8:50, Nicholson 207, Stockdale	W 6:20-8:50, Nicholson 207, Stockdale	
Th	5:15-7:45, StP Ext Center, Campbell	Th 5:15-7:45, StP Ext Center, Campbell	

*GC 34. Creative Problem Solving. 3 degree credits. \$33.

A course organized around a study of creativity and creative problem solving. 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 own blocks. Students will be encouraged to apply their creative activities to their academic, professional, or artistic interests. (No prerequisite. Limited to 25 students. Repeated winter and spring quarters)

	Fall Quarter	Winter Quarter	Spring Quarter
W	6:20-8:50, Nicholson 201, Amram	Th 6:20-8:50, Nicholson 201, Amram	W 6:20-8:50, Nicholson 201, Amram

Symbols explained on page 29.

* Enrollment space limited; instructions on page 10.

BUSINESS ADMINISTRATION

Your attention is called to the Master of Business Administration program on page 65 and to the certificate programs in assessment and appraisal administration, secretarial training, industrial relations, business administration, accounting, and management of administrative services; see pages 39 to 47.

Effective fall, 1962, the School of Business Administration changed its prefix designations for degree courses previously having a BA prefix. In most 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.

Special Notice—The following courses will be offered in 1967-68 as part of the master of business administration degree program. These courses are open *only* to students who have been admitted to the Graduate School and to the evening master of business administration program. They are *not* open to other graduate students. These courses require joint registration in the Graduate School and the Department of Evening Classes of the General Extension Division. Inquiries should be directed to the Associate Dean—Programs and Administration, School of Business Administration, University of Minnesota, Minneapolis, Minnesota 55455; telephone 373-5505.

Schedule, 1967-68, for "150-Series" Courses in Evening Master of Business Administration

Part I of the Program

Fall Semester

Acct 155A. Introduction to Managerial Accounting. 3 degree credits. \$33.

W 8:15-9:55, West Bank CB 145

Fall Quarter

QA 151. Elements of Statistics. 3 degree credits. \$33.

M 5:30-8:00, West Bank CB 220

Mktg 157. Marketing. 3 degree credits. \$33.

T 5:30-8:00, West Bank CB 10

Ins 153. Risk Management and Insurance I. 3 degree credits. \$33.

Th 5:30-8:00, West Bank CB 125

Spring Semester

Acct 155B. Introduction to Managerial Accounting. 3 degree credits. \$33.

W 8:15-9:55, West Bank CB 145

Winter Quarter

Tran 154. Fundamentals of Transportation. 3 degree credits. \$33.

T 5:30-8:00, West Bank BA 632

Prod 150B. Administration of Production. 3 degree credits. \$33.

W 5:30-8:00, West Bank CB 125

BLaw 158. Business Law: Contracts. 3 degree credits. \$33.

Th 6:20-8:50, West Bank CB 125

Evening Classes

Spring Quarter

Mgmt 150A. Fundamentals of Management. 3 degree credits. \$33.

T 5:30-8:00, West Bank CB 135

IR 152C. Industrial Relations Fundamentals. 3 degree credits. \$33.

W 5:30-8:00, West Bank CB 125

BFin 156. Business Finance Fundamentals. 3 degree credits. \$33.

Th 5:30-8:00, West Bank CB 125

ACCOUNTING

Your attention is called to the Accounting Certificate programs; see page 39.

Alvin Arens, Lecturer in Accounting

Bruce Budge, Lecturer in Accounting

Wallace Johnson, Lecturer in Accounting

Robert Katz, Lecturer in Accounting

Jerome Lee, Lecturer in Accounting

Daniel Magraw, Lecturer in Accounting

Leonard A. Rapoport, Lecturer in Accounting

John K. Simmons, Lecturer in Accounting

Jay M. Smith, Jr., Lecturer in Accounting

Gilbert W. Urban, Lecturer in Accounting

Robert K. Zimmer, Associate Professor of 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 bookkeepers.

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 13, 7:00 p.m.

Wednesday, September 20, 7:00 p.m.

Wednesday, December 20, 7:00 p.m.

Wednesday, January 31, 7:00 p.m.

Acct 25 Thursday, September 14, 7:00 p.m.

Thursday, September 21, 7:00 p.m.

Thursday, February 1, 7:00 p.m.

Symbols explained on page 20.

Course Offerings—Business Administration

Acct 26 Friday, September 15, 7:00 p.m.
 Friday, September 22, 7:00 p.m.
 Friday, February 2, 7:00 p.m.

The three courses are scheduled on two plans:

1. Regular semester class schedule for 3 credits each of 3 semesters for full first-year course. 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.
2. Quarter basis, two 75-minute classes or one 2½-hour class each week, 3 credits each quarter, course completed in 1 year. 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 at the end of the quarter. However, students may not transfer to the semester basis during the middle of a quarter.

Acct 24-25-26. Principles of Accounting. 3 degree credits each term, §Acct 55A-55B. \$33 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 and 26. Must be taken in sequence)

<i>Fall Semester</i>		<i>Spring Semester</i>	
24	T 6:20-8:00, Aeronautical Engineering 309 T 8:15-9:55, Aeronautical Engineering 309 W 6:20-8:00, West Bank CB 110 Th 6:00-7:40, MacPhail Center 101	24	T 6:20-8:00, Aeronautical Engineering 309 T 8:15-9:55, Aeronautical Engineering 309 W 6:20-8:00, West Bank CB 110 W 8:15-9:55, West Bank CB 110
25	T 8:15-9:55, West Bank CB 135 W 8:15-9:55, West Bank CB 135 Th 7:55-9:35, MacPhail Center 101	25	W 6:20-8:00, West Bank CB 135 W 8:15-9:55, West Bank CB 135
26	T 6:20-8:00, West Bank CB 215 T 8:15-9:55, West Bank CB 215	26	M 6:20-8:00, West Bank CB 225 M 8:15-9:55, West Bank CB 225 Th 7:55-9:35, MacPhail Center 101

<i>Fall Quarter</i>		<i>Winter Quarter</i>		<i>Spring Quarter</i>	
24	MW 5:10-6:25, StP Ext Center MW 6:30-7:45, StP Ext Center MW 7:50-9:05, StP Ext Center TTh 5:30-6:45, West Bank CB 230 TTh 6:55-8:10, West Bank CB 230 TTh 8:15-9:30, West Bank CB 230 Th 6:30-9:00, Robbinsdale HS 217	25	MW 5:10-6:25, StP Ext Center MW 6:30-7:45, StP Ext Center TTh 5:30-6:45, West Bank CB 230 TTh 6:55-8:10, West Bank CB 230 TTh 8:15-9:30, West Bank CB 230 Th 6:30-9:00, Robbinsdale HS 217	24	MW 5:30-6:45, West Bank CB 230 MW 6:50-8:10, West Bank CB 230 26 MW 5:10-6:25, StP Ext Center MW 6:30-7:45, StP Ext Center TTh 5:30-6:45, West Bank CB 230 TTh 6:50-8:10, West Bank CB 230 Th 6:30-9:00, Robbinsdale HS 217

Symbols explained on page 20.

Evening Classes

Acct 55A-B. Elementary Accounting. 4 degree credits each quarter, \$24-25-26. \$44 each quarter.

The equivalent of 24-25-26 (Principles of Accounting) for School of Business Administration students and for 4-year combined engineering and business students. (No prerequisite; counts as a Lower Division course when transferred to College of Liberal Arts)

Winter Quarter		Spring Quarter	
55A	MTh 6:20-8:40, West Bank CB 215	55B	MTh 6:20-8:40, West Bank CB 215

Acct 55D. Analysis of Financial Statements. 3 degree credits, \$Acct 105C. \$33.

Interpretation and analysis of financial statements for credit, investment, and managerial purposes. (Prerequisite: 26 or equivalent)

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

Acct 105A-B-C. Intermediate Accounting. 3 degree credits each term, \$Acct 55D for 105C. \$33 each term.

Second-year accounting for students intending to specialize in accounting or in business finance. 105A: Historical review of search for accounting principles, present value analysis and price level indices, nature and measurement of income and funds flow. 105B: Accounting for acquisition and subsequent measurement of business assets. 105C: Accounting for equities, including creditors equity and owners' equity for corporations, proprietorships, nonprofit organizations and consolidated entities. Analysis and interpretation of financial statements. (Prerequisite: 26 and 6 credits in economics for 105A [see page 162 for advanced standing examinations]; 105A and Math 10 or equivalent for 105B; 105A for 105C. Qualified students may register for graduate credit)

Fall Semester		Spring Semester	
105A	W 6:20-8:00, West Bank CB 435	105B	M 8:15-9:55, West Bank CB 220
	T 8:15-9:55, West Bank CB 435		
105C	T 6:20-8:00, West Bank CB 435		

Fall Quarter		Winter Quarter		Spring Quarter	
105A	M 5:15-7:45, StP Ext Center, Johnson	105B	M 5:15-7:45, StP Ext Center, Johnson	105C	M 6:20-8:50, West Bank CB 205
	M 6:30-9:00, Rob- binsdale HS 211		M 6:30-9:00, Rob- binsdale HS 211		

Acct 115A-B. Cost Accounting. 3 degree credits each semester, \$Acct 55C. \$33 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, 6 credits in Principles of Economics and Math 10 or equivalent for 115A [see page 162 for advanced standing examinations]; 115A for 115B. Qualified students may register for graduate credit)

Fall Semester		Spring Semester	
115A	M 6:20-8:00, West Bank CB 255	115B	M 6:20-8:00, West Bank CB 145
	M 8:15-9:55, West Bank CB 255		M 8:15-9:55, West Bank CB 145

Symbols explained on page 20.

Course Offerings—Business Administration

Acct 125. Auditing Principles and Procedures. 3 degree credits. \$33.

Verification of financial data, including consideration of auditing procedures and their application. Preparation of working papers and audit reports is emphasized. (Prerequisite: 105C or ¶105C. May not be taken for graduate credit)

Fall Semester

W 6:20-8:00, West Bank CB 230, Lee

Acct 135A-B. Income Tax Accounting. 3 certificate credits each semester (4 degree credits on completion of both courses consecutively). \$33 each semester.

Principles involved in determining taxable net income and computation of federal and state income taxes for individuals, partnerships, and corporations. (Prerequisite: 105A for 135A; 135A for 135B. May not be taken for graduate credit)

Fall Semester

135A M 8:15-9:55, West Bank CB 230,
Rapoport

Spring Semester

135B M 8:15-9:55, West Bank CB 230,
Rapoport

Acct 145C. Systems and Procedures. 3 degree credits (for certificate credit register in PA 145, page 142). \$33.

A study of the techniques of analyzing and designing the organizations and methods of administrative agencies. Topics include approaches to systems analysis, the organization as a total system, flow charting, work measurement, forms design and control, procedure writing and manualization, quantitative techniques in administration, information and decision systems, control systems, automated data processing, systems integration and communication, making systems effective. (No prerequisite. May not be taken for graduate credit)

Spring Quarter

W 6:20-8:50, West Bank CB 410,
Magraw

Acct 175C. Controllership Functions and Procedures. 3 degree credits. \$33.

Place and functions of the controller in modern business. Emphasis upon control systems which safeguard assets and assist in the efficient utilization of the firm's resources. (Prerequisite: 115B. Qualified students may register for graduate credit)

Fall Semester

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

Acct 185A. Advanced Accounting. 3 degree credits. \$33.

Consolidated statements, fiduciary and fund accounting, partnership accounting, foreign exchange. (Prerequisite: 105C or ¶105C. May not be taken for graduate credit)

Spring Semester

T 8:15-9:55, West Bank CB 145, Budge

Symbols explained on page 20.

Evening Classes

BUSINESS ENGLISH

Clifford I. Haga, Assistant Professor of English

John W. Lippert, Lecturer in English

Comp. Review of Business English. 3 certificate credits. \$33.

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

W 6:00-7:40, StP Ext Center, Lippert
T 6:20-8:00, Main Engineering 4,
Lippert

Spring Semester

M 6:20-8:00, Main Engineering 4,
Lippert
T 6:20-8:00, Main Engineering 4,
Lippert

Comp. Business Correspondence. 3 certificate credits. \$33.

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

W 6:00-7:40, StP Ext Center, Lippert
W 6:20-8:00, Main Engineering 215,
Haga

Comp 58. Business Reports and Letters. (See Communication in Management.)

Comp. Communication in Management. 3 certificate credits. \$33.

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

Paul Jessup, Assistant Professor of Finance

George A. Macomber, Lecturer in Finance

Symbols explained on page 20.

Course Offerings—Business Administration

George A. Mairs II, Lecturer in Finance
J. R. Nelson, Associate Professor of Finance
Peter Rosko, Professor of Finance
Harold W. Stevenson, Professor of Finance
Rolf K. Tedefalk, Lecturer in Finance
Roger Upson, Associate Professor of Finance

BFin 56. Finance Fundamentals. 3 degree credits, §156. \$33.

Deals with the problems of acquiring, allocating, and managing funds within the firm. The following concepts of internal financial management are considered in depth: determining financial goals of the firm; analyzing and controlling fund flows through the firm; measuring the expected return on individual investment projects; selecting optimal "portfolios" of projects; determination of capital costs, and the way these costs vary with financing mix; evaluating the performance of the firm and its components. (Prerequisite: Acct 26. Repeated spring semester)

Fall Semester

T 8:15-9:55, West Bank CB 240
Th 6:00-7:40, MacPhail Center 103
Th 8:15-9:55, West Bank CB 240

Spring Semester

T 6:20-8:00, West Bank CB 240

BFin 57. Financial Management. 3 degree credits. \$33.

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 125

BFin 66. Investment Fundamentals. 3 degree credits, §Introduction to Investments or §BFin 116. \$33.

The investment features 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. Lectures and student projects. (Prerequisite: 56. Primarily for business and professional students. Repeated spring semester)

Fall Semester

Th 6:20-8:00, West Bank CB 105

Spring Semester

Th 6:00-7:40, MacPhail Center 103

BFin 67. Investment Topics. 3 degree credits. \$33.

Advanced treatment of the subject of appraisal of securities and the management of investment funds. Through the use of cases, development of principles and policies covering the management of portfolios for individuals and institutional investors. Analysis of various security types and of imported industry classifications in common stocks. (Prerequisite: 66)

Spring Semester

W 6:20-8:00, West Bank CB 140

Symbols explained on page 20.

Evening Classes

BFin 76. Capital Markets and Institutions. 3 degree credits, §BFin 106. \$33.

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. Repeated spring semester)

Fall Semester

T 6:20-8:00, West Bank CB 105, Nelson

Spring Semester

T 8:15-9:55, West Bank CB 125

BFin. Introduction to Investments. 3 certificate credits, §BFin 66. \$33.

A fundamental course for adult investors who wish a general background of information on the investment field. Classroom instruction supplemented by special lectures by men of experience in investment banking, commercial banking, and other related fields. Course covers nature of various kinds of securities; statistical and investment analysis of securities; vocabulary and practices of the securities business; investment practices of various investor groups. (No prerequisite)

Fall Semester

Th 6:20-8:00, Johnston 105, Mairs

Chartered Financial Analysts Refresher Courses

Intensive review courses primarily of interest to members of the Twin Cities Society of Security Analysts, Inc., preparing for examinations conducted by the Institute of Chartered Financial Analysts for professional designation, Chartered Financial Analyst (CFA).

CFA Examination I. Investment Principles. 3 certificate credits. \$33.

Financial institutions, investment analysis, financial statements. Discussions and examinations. (Limited to persons registered for the CFA examination)

Spring Semester

T 4:00-6:00, West Bank CB 240

CFA Examination II. Applied Security Analysis. 3 certificate credits. \$33.

Practical applications of Financial Analysis, economic growth and business fluctuation, industry and regional analysis. Discussions and examinations. (Limited to members of the Twin Cities Society of Security Analysts, Inc., registered for the CFA examination)

Spring Semester

T 4:00-6:00, Northwestern Bank
Director's Room, Mpls

CFA Examination III. Investment Management Decision-Making. 3 certificate credits. \$33.

The determination of investment goals, investment timing and portfolio balance, ethical issues in financial analysis and management. Discussions and examinations. (Limited

Symbols explained on page 20.

Course Offerings—Business Administration

to members of the Twin Cities Society of Security Analysts, Inc., registered for the CFA examination)

Spring Semester

M 4:00-6:00, Northwestern Bank
Director's Room, Mpls

BUSINESS LAW

John R. Carroll, Lecturer in Business Law

Thomas Lovett, Lecturer in Business Law

James D. Olson, Lecturer in Business Law

C. Harold Peterson, Lecturer in Business Law

Walter Robb, 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

Paul VanValkenburg, Lecturer in Business Law

BLaw 58, 78, 88, 98. Business Law. 3 degree credits each term. \$33 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	M	6:00-7:40, MacPhail Center 221
	T	7:50-9:30, StP Ext Center, J. VanValkenburg
	W	6:20-8:00, West Bank CB 150 Lovett, Robb, Rosengren (Limited to 90 students*)
78	T	6:00-7:40, StP Ext Center, J. VanValkenburg
	W	8:15-9:55, West Bank CB 205, Lovett
88	T	6:20-8:00, West Bank CB 135, Thomas

Spring Semester

58	M	6:00-7:40, MacPhail Center 221
	T	6:00-7:40, StP Ext Center, J. VanValkenburg
	W	8:15-9:55, West Bank CB 150, Robb, P. VanValkenburg
78	T	7:50-9:30, StP Ext Center, J. VanValkenburg
	W	6:20-8:00, West Bank CB 145, P. VanValkenburg
88	T	6:20-8:00, West Bank CB 205, Thomas
98	W	6:20-8:00, West Bank CB 250, Carroll
	Th	6:20-8:00, West Bank CB 250, Olson

Spring Quarter

58	T	6:30-9:00, Robbinsdale HS 231, Rosengren (Limited to 75 students*)
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Symbols explained on page 20.

* Enrollment space limited; instructions on page 10.

Evening Classes

BLaw. Common Legal Problems. 3 certificate credits. \$33.

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 or 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)

Full Semester

Th 6:20-8:00, Johnston 122, Thorfinnson
and Peterson

Spring Semester

Th 6:20-8:00, Johnston 122, Thorfinnson
and Peterson

ECONOMICS

(A department of the College of Liberal Arts. See page 83)

FINANCE

(See Business Finance, page 166)

INDUSTRIAL RELATIONS

James M. Beaton, Teaching Associate II in Industrial Relations

Rene V. Dawis, Professor of Industrial Relations

John J. Flagler, Associate Professor of Industrial Relations and Labor Education

Milton D. Hake, Assistant Professor of Psychology

Herbert G. Heneman, Jr., Professor of Labor Economics and Industrial Relations

Robert D. Hobert, Assistant Professor of Industrial Relations

Elmer John, Lecturer in Industrial Relations

Timothy J. Keaveny, Instructor in Industrial Relations

Thomas A. Mahoney, Professor of Industrial Relations and Labor Economics

George T. Milkovich, Instructor in Industrial Relations

Paul C. Nystrom, Instructor in Industrial Relations

Merrill Robinson, Assistant Professor of Industrial Relations

Blanchard B. Smith, Instructor in Industrial Relations

Cyrus F. Smythe, Associate Professor of Industrial Relations

Earl L. Vitalis, Instructor in Industrial Relations

Symbols explained on page 20.

Course Offerings—Business Administration

Marc J. Wallace, Teaching Associate I in Industrial Relations

John P. Wanous, Teaching Associate I in Industrial Relations

William F. Weitzel, Assistant Professor of Industrial Relations

Mahmood A. Zaidi, Assistant Professor of Industrial Relations and Labor Economics

Your attention is called to the Industrial Relations Certificate program; see page 43.

IR 52. Systems of Industrial Relations: Labor Marketing. 3 degree credits. \$33.

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: 6 credits in Principles of Economics or #. Repeated spring semester. For graduate credit register in IR 152)

Fall Semester

M 7:50-9:30, StP Ext Center, Beaton
W 6:20-8:00, West Bank CB 235,
Heneman
Th 6:20-8:00, West Bank CB 235, Zaidi

Spring Semester

M 6:00-7:40, StP Ext Center, Beaton
W 6:20-8:00, West Bank CB 150,
Mahoney
Th 6:20-8:00, West Bank CB 135, Zaidi

IR 62. Human Relations in Industry. 3 degree credits. \$33.

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. Repeated spring semester)

Fall Semester

M 8:15-9:55, West Bank CB 235
Th 6:00-7:40, StP Ext Center, Vitalis

Spring Semester

M 8:15-9:55, West Bank CB 150

IR 72. Systems of Industrial Relations: Manpower Management. 3 degree credits. \$33.

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: 6 credits in Principles of Economics or #. Repeated spring semester. For graduate credit register in IR 172)

Fall Semester

T 6:20-8:00, West Bank CB 240,
Weitzel
W 8:15-9:55, West Bank CB 220,
Smythe

Spring Semester

M 7:50-9:30, StP Ext Center, Vitalis
W 8:15-9:55, West Bank CB 235,
Weitzel

IR 82. Modern Labor Relations. 3 degree credits. \$33.

Collective bargaining between employers and/or employer associations and unions. Relevant policies of employers, unions, and the public; background of the labor movement;

Symbols explained on page 20.

Evening Classes

current practices in labor relations; and significant trends. (Prerequisite: 52. Repeated spring semester)

Fall Semester

W 6:20-8:00, West Bank CB 220,
Smythe

Spring Semester

T 7:50-9:30, StP Ext Center

IR 152. Systems of Industrial Relations: Labor Marketing. 3 degree credits. \$33.

See course description as listed under IR 52. Same class work as IR 52, but with additional assignments. Qualified students may register for graduate credit.

Fall Semester

W 6:20-8:00, West Bank CB 430,
Heneman

Spring Semester

Th 6:20-8:00, West Bank CB 430, Zaidi

IR 162. Union Government and Policies. 3 degree credits. \$33.

Internal administration and government of unions; economic and social issues; hours, wages, and other conditions of employment. (Prerequisite: 52 or 152. Qualified students may register for graduate credit)

Fall Semester

W 6:00-7:40, StP Ext Center, Flagler

IR 172. Systems of Industrial Relations: Manpower Management. 3 degree credits. \$33.

See course description as listed under IR 72. Same class work as IR 72, but with additional assignments. Qualified students may register for graduate credit.

Fall Semester

W 8:15-9:55, West Bank CB 155,
Smythe

Spring Semester

W 8:15-9:55, West Bank CB 250,
Weitzel

IR 175. The Employment Interview. 3 degree credits. \$33.

A research-oriented course emphasizing the application of experimental methods toward an understanding of interpersonal perception in selection and placement. Course content includes theories of interpersonal perception, measurement of perceptual accuracy, content and process, research strategies, methodological problems, decision validation, and current research findings. (Prerequisite: 172 or #. Repeated spring semester. Qualified students may register for graduate credit)

Fall Semester

Th 6:20-8:00, West Bank SocSci 633,
Hakel

Spring Semester

T 6:20-8:00, West Bank CB 140,
Hakel

IR 182A. Intermediate Labor Marketing. 3 degree credits. \$33.

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 or 152. Qualified students may register for graduate credit)

Spring Semester

Th 8:15-9:55, West Bank CB 430, Zaidi

Symbols explained on page 20.

IR 182B. Intermediate Manpower Management. 3 degree credits. \$33.

Manpower management policy development, application, and evaluation within union and company managements; manpower research and auditing. (Prerequisite: 72 or 172 or 3. Qualified students may register for graduate credit)

Fall Semester

M 8:15-9:55, West Bank CB 450, John

IR 202. Organization and Staffing. 3 degree credits. \$33.

Translation of organization goals and objectives to specific manpower goals and objectives, and staffing to meet an organization's manpower needs. Techniques for recruitment, selection, and assignment of manpower resources for optimal utilization. (Prerequisite: 72 or 172. Qualified students may register for graduate credit)

Fall Semester

T 6:20-8:00, West Bank CB 425

IR 210. Organization Theory. 3 degree credits. \$33.

Survey of theories of organization. Theories and research concerning work organizations, theories of structuring personal and functional relationships, informal and social organizations within work groups, and impact of alternative approaches to organization upon individual behavior and performance. (Prerequisite: 72 or 172. Qualified students may register for graduate credit)

Fall Semester

T 8:15-9:55, West Bank CB 425,
Weitzel

IR 212A. Labor Education. 3 degree credits. \$33.

For professional worker in labor education and industrial relations practitioner. Objectives, principles, content, and methods of university and union labor education programs and relationship of such programs to industrial relations. Program development and evaluation. (Prerequisite: 52 or 152. Qualified students may register for graduate credit)

Fall Semester

Th 8:15-9:55, West Bank CB 430, Flagler

IR 232. Collective Bargaining: The Process. 3 degree credits. \$33.

Examines the collective bargaining process in terms of its functions, variants, determinants, practices, and impacts. (Prerequisite: 152. Qualified students may register for graduate credit)

Spring Semester

W 8:15-9:55, West Bank CB 440,
Smythe

IR 262. Compensation and Reward Administration. 3 degree credits. \$33.

Analysis of concepts and procedures for administration of compensation and rewards within an organization. Examination of approaches to determination of compensation

Symbols explained on page 20.

Evening Classes

levels, forms of compensation and rewards, compensation structures and differentials, and determination of individual compensation. (Prerequisite: 152 and 172. Qualified students may register for graduate credit)

Spring Semester

M 6:20-8:00, West Bank CB 255

IR. Supervision I: Elements of Supervision. 3 certificate credits. \$33 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, Wallace
T 6:20-8:00, West Bank CB 235,
Nystrom
Th 6:20-8:00, West Bank CB 240,
Wanous

Spring Semester

M 6:20-8:00, West Bank CB 150
T 6:00-7:40, StP Ext Center

IR. Supervision II: Advanced Techniques of Supervision. 3 certificate credits. \$33 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 SocSci 860,
Milkovich
T 6:00-7:40, StP Ext Center, Keaveny

Spring Semester

M 6:20-8:00, West Bank CB 415, Hobert
T 6:20-8:00, West Bank CB 435
W 6:00-7:40, StP Ext Center, Smith

IR. Supervision III: Techniques of Employee Training. 3 certificate credits. \$33.

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 evaluations of training. Extensive use is made of class discussion, role playing, case studies, and demonstrations. (Prerequisite: Supervision II or #. Repeated spring semester)

Fall Semester

T 6:20-8:00, West Bank BA 933,
Robinson

Spring Semester

Th 6:00-7:40, StP Ext Center, Nystrom

Symbols explained on page 20.

INSURANCE

David M. Barker, Lecturer in Insurance
 Charles Kroncke, Lecturer in Finance and Insurance
 Fred Gedelman, Lecturer in Insurance
 Thomas E. Holloran, Lecturer in Insurance
 John A. Kohler, Lecturer in Insurance
 Alfred R. W. Larkin, Lecturer in Insurance
 Orem O. Robbins, Lecturer in Insurance
 Norman J. Simler, Professor of Economics
 Roger Wheeler, Lecturer in Insurance
 Andrew F. Whitman, Assistant Professor of Insurance
 C. Arthur Williams, Professor of Economics and Insurance

Ins 53. Risk Management and Insurance. 3 degree credits. \$33.

Recognition, measurement, and evaluation of insurable property, 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. Selection of insurers, insurance pricing methods, and preparation for loss adjustments. Government regulation of insurance. (Prerequisite: 6 credits in Principles of Economics or #. Repeated spring semester)

Fall Semester

M 8:15-9:55, West Bank CB 155,
 Whitman
 W 7:50-9:30, StP Ext Center, Kroncke

Spring Semester

M 8:15-9:55, West Bank CB 155,
 Whitman

Property and Casualty Insurance Curriculum

The University of Minnesota co-operates with the Insurance Institute of America and the American Institute for Property and Liability Underwriters, Inc., by offering an educational program that provides the basic courses needed by those who wish to take the examinations of either or both of the institutes. The Insurance Institute of America Parts A, B, and C courses are considered excellent preparation for the more difficult American Institute courses which lead to the Chartered Property and Casualty Underwriters (CPCU) designation. The Insurance Institute of America Part Adjustment courses are part of a professional education program for claims adjusters. The Insurance Institute of America Risk Management courses are designed to develop professional competence in risk management. 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—Fred Gedelman, 332-3501.

IIA Parts A, B, and C. 3 certificate credits each term, §Part Adjustment 3 for B, §Part Adjustment 4 for C. \$33 each term.

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

Symbols explained on page 20.

Evening Classes

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 reinsurance; 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. (No prerequisite. Part B meets concurrently with Part Adjustment 3; Part C meets concurrently with Part Adjustment 4. It is recommended that Parts A, B, and C be taken in sequence)

Fall Quarter

- A M 5:30-8:00, West Bank CB 215,
Whitman
B T 5:30-8:00, West Bank CB 430,
Whitman

Special Term—January 8 to April 29

- C M 6:20-8:00, West Bank CB 220, Whitman

Note—The following courses are based on the Part Adjustment 1, 2, 3, 4, and 6 Topical Outlines of the Insurance Institute of America. This Educational Program for Adjusters is designed to play an important role in the professional development of independent, staff, and bureau adjusters working in both the property loss and liability claim areas. It is recommended that they be taken in sequence.

IIA Part Adjustment 1. Principles of Insurance and Property Loss Adjusting. 3 certificate credits. \$33.

Topics include the principle of indemnity, coinsurance, insurable risks, deductibles, interpretation of insurance contracts, adjustment procedure, investigation, reports to insurers, and building loss estimates. (No prerequisite)

Fall Quarter

- M 5:30-8:00, West Bank BA 735,
Williams

IIA Part Adjustment 2. Principles of Insurance and Liability Claim Adjusting. 3 certificate credits. \$33.

Topics include the legal liability hazard, the investigation, evaluation, negotiation, and settlement of bodily injury and property damage claims, and the human behavior of claimants. (No prerequisite)

Special Term—January 8 to April 29

- M 6:20-8:00, West Bank BA 735, Williams

IIA Part Adjustment 3. Principles of Fire, Marine, and Allied Lines Insurance. 3 certificate credits, §Part B. \$33.

An intensive study of fire and marine insurance contracts. (No prerequisite. Meets concurrently with Part B)

Fall Quarter

- T 5:30-8:00, West Bank CB 430,
Whitman

Symbols explained on page 20.

IIA Part Adjustment 4. Principles of Casualty Insurance and Surety Bonding. 3 certificate credits, §Part C. \$33.

An intensive study of casualty insurance contracts and surety bonds. (No prerequisite. Meets concurrently with Part C)

Special Term—January 8 to April 29

M 6:20-8:00, West Bank CB 220, Whitman

IIA Part Adjustment 6. Liability Insurance Adjusting. 3 certificate credits. \$33.

Topics include an advanced discussion of legal liability, medical knowledge needed by adjusters, adjuster-lawyer and adjuster-physician relationships, and special problems of settlement of workmen's compensation claims. (No prerequisite)

Fall Quarter

W 5:30-8:00, West Bank BA 735,
Williams

RM 4. Principles of Risk Management. 3 degree credits. \$33.

Primary emphasis on tools and processes involved in the risk management function. Attention to basic risk management devices of risk assumption, loss prevention and control, and risk reduction and control. Identification of hazards and evaluation of loss potential, as well as the process of selecting risk management devices in case situations. The relationship of risk management and personnel management, with special emphasis on employee risk problems and the administration of employee benefit programs. (No prerequisite)

Special Term—October 2 to December 18

M 6:00-8:30, Ford Hall 349, Kohler

RM 5. Practices in Risk Management. 3 degree credits. \$33.

Examination of risk management as a management function. Problems and techniques in loss prevention and control are treated in depth, with attention to industrial injuries, major causes of property damage, crime, employee dishonesty, and public liability losses. Emphasis on advanced insurance topics of special interest to the risk manager, including insurer financial organizations and cost factors, the impact of government on insurer-buyer relations, rating methods and processes, choice of forms and special coverages desired, self-insurance and captive insurers, and the administration of the insurance program. (Prerequisite: 4)

Special Term—February 19 to May 6

M 6:00-8:30, Ford Hall 349, Kohler

CPCU Part I. Insurance Principles and Practices, A-B. 3 certificate credits each semester. \$33 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) designation offered by the American Institute for Property and Liability 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 Adminis-

Evening Classes

tration. (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, Architecture 45,
Gedelman (co-ordinator)

Spring Semester

B M 6:20-8:00, Architecture 45,
Gedelman (co-ordinator)

CPCU Part II. Analysis of Insurance Functions, A-B. (To be offered 1968-69)

CPCU Part III. Economics; Government and Business, A-B. 3 certificate credits each semester. \$33 each semester.

This course is designed as preparation for examination III for the Chartered Property Casualty Underwriter (CPCU) designation offered by the American Institute for Property and Liability Underwriters, Inc. The subject matter covers a general view of economic organization, the economic role of government, bases and types of government control and competition. (Prerequisite: acceptance of special registration application or completion of one or more parts of the CPCU program)

Fall Semester

A W 6:20-8:00, West Bank CB 415,
Simler

Spring Semester

B W 6:20-8:00, West Bank CB 415

CPCU Part IV. Insurance and Business Law, A-B. (To be offered 1968-69)

CPCU Part V. Management, Accounting, and Finance, A-B. 3 certificate credits each semester. \$33 each semester.

This course is designed as preparation for examination V for the Chartered Property Casualty Underwriter (CPCU) designation offered by the American Institute for Property and Liability Underwriters, Inc. The subject matter covers the principles of management, principles of accounting, and principles of finance. (Prerequisite: acceptance of special registration application or completion of one or more parts of the CPCU program)

Fall Semester

A W 8:15-9:55, West Bank CB 415,
Williams

Spring Semester

B W 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), 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—Richard L. Moses, 603 First Federal Building, 333-2329
St. Paul—David York, 1005 Pioneer Building, 225-4616

Symbols explained on page 20.

Note—Registration for all Minneapolis CLU classes will be taken the first night of class, and tuition payment for the full-year course must be made at that time. Checks or money orders are to be made payable to: Minneapolis Chapter of the American Society of Chartered Life Underwriters. Registration for St. Paul Extension classes must be completed at an Extension office.

CLU Part I. Fundamentals of Life and Health Insurance, A-B. 3 certificate credits each semester. \$33 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)

<i>Fall Semester</i>		<i>Spring Semester</i>	
A	M	B	M
	4:30-6:30, 3701 Wayzata Blvd., Larkin		4:30-6:30, 3701 Wayzata Blvd., Larkin

CLU Part II. Group Insurance, Health Insurance, and Pensions, A-B. 3 certificate credits each semester. \$33 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)

<i>Fall Semester</i>		<i>Spring Semester</i>	
A	M	B	M
	4:00-5:40, StP Ext Center, Wheeler		4:00-5:40, StP Ext Center, Wheeler
	W 4:30-6:30, location to be arranged		W 4:30-6:30, location to be arranged

CLU Part III. Law, Trusts, and Taxation, A-B. 3 certificate credits each semester. \$33 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 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. For information concerning the CLU program and its requirements, see notice above)

<i>Fall Semester</i>		<i>Spring Semester</i>	
A	W	B	W
	4:30-6:30, 3701 Wayzata Blvd, Holloran		4:30-6:30, 3701 Wayzata Blvd, Holloran

Symbols explained on page 20.

Evening Classes

CLU Part IV. Finance and Economics, A-B. 3 certificate credits each semester. \$33 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 information concerning the CLU program and its requirements, see notice above)

Fall Semester

A Th 4:30-6:30, 3701 Wayzata Blvd,
Barker

Spring Semester

B Th 4:30-6:30, 3701 Wayzata Blvd,
Barker

CLU Part V. Business Insurance and Estate Planning, A-B. 3 certificate credits each semester. \$33 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. For information concerning the CLU program and its requirements, see notice above)

Fall Semester

A M 4:00-6:00, 1200 2nd Ave S,
Robbins

Spring Semester

B M 4:00-6:00, 1200 2nd Ave S,
Robbins

MANAGEMENT

James Davis, Lecturer in Management

Gary W. Dickson, Assistant Professor of Management

Nicholas A. Glaskowsky, Jr., Professor of Management and Logistics

Richard S. Juralewicz, Assistant Professor of Management

John Mauriel, Assistant Professor of Management

John P. Northcott, Lecturer in Management

Elvin L. Peterson, Lecturer in Management

Albert K. Wickesberg, Professor of Management

***Mgmt 60. Business Policy and Management Control.** 3 degree credits. \$33.

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. Limited to 30 students. Repeated spring semester)

Fall Semester

M 5:30-8:00, West Bank CB 115,
Mauriel

Spring Semester

M 8:15-9:55, West Bank CB 435,
Peterson

Mgmt 70. Fundamentals of Management. 3 degree credits. \$33.

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

Symbols explained on page 20.

* Enrollment space limited; instructions on page 10.

Course Offerings—Business Administration

relationships to achieve organizational objectives. (Prerequisite: current or anticipated management responsibility. Repeated spring semester)

Fall Semester

M 6:20-8:00, West Bank CB 415,
Juralewicz
M 8:15-9:55, West Bank CB 415,
Juralewicz, Mauriel
Th 8:15-9:55, West Bank CB 415,
Glaskowsky, Davis

Spring Semester

T 7:50-9:30, StP Ext Center, Dickson
Th 6:20-8:00, West Bank CB 415,
Glaskowsky
Th 8:15-9:55, West Bank CB 415,
Davis

Mgmt 80. Administrative Practices. 3 degree credits. \$33.

Principles and concepts in the behavior of individuals and groups are applied to the understanding and solution of behavior problems in organizations. Effective performance of the leadership function in management is emphasized. Laboratory simulation of interviews, conferences, and other problem situations is used extensively to highlight key concepts and methods and to provide skill practice. (Prerequisite: current or anticipated management responsibility)

Spring Semester

W 6:20-8:00, West Bank CB 220,
Juralewicz
W 8:15-9:55, West Bank CB 220,
Juralewicz

Mgmt 109. Management of Administrative Services. 3 degree credits. \$33.

Application of management principles and concepts to the administrative services of the enterprise. Overview of organization principles; information systems design and integration; methods and procedures analysis and improvement; performance standards and control; communication and records management; layout and work environment and computer and data processing applications in the design and control of administrative functions. (Prerequisite: Econ 2 or equivalent. May not be taken for graduate credit)

Spring Semester

T 6:20-8:00, West Bank CB 215,
Northcott

MARKETING

Stanley R. Cowle, Lecturer in Marketing
Robert J. Holloway, Professor of Marketing
Willis Kerns, Lecturer in Marketing
Edwin H. Lewis, Professor of Marketing
Bertram W. Russick, Lecturer in Marketing

Mktg 57. Principles of Marketing. 3 degree credits. \$33.

A study of the basic concepts of marketing. Includes the direction of marketing activities: pricing, product, physical distribution, research, and market development. The environment of marketing and a treatment of the social, economic, technological frame-

Symbols explained on page 20.

Evening Classes

works as they relate to basic marketing concepts. (Prerequisite: 6 credits in Principles of Economics. Repeated spring semester)

Fall Semester

M 6:20-8:00, West Bank CB 150
T 6:20-8:00, West Bank CB 150
T 8:15-9:55, West Bank CB 150
Th 6:00-7:40, StP Ext Center

Spring Semester

M 6:20-8:00, West Bank CB 110
T 6:20-8:00, West Bank CB 155
T 8:15-9:55, West Bank CB 155

Mktg 87. Credits and Collections. 3 degree credits. \$33.

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 140, Kerns

Mktg. Principles of Credits and Collections II. 3 certificate credits. \$33.

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 CB 255, Kerns

Mktg 97. Market Analysis and Research I. 3 degree credits. \$33.

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 8:15-9:55, West Bank CB 440,
Russick

Mktg 117. Sales Management. 3 degree credits. \$33.

Sales policies and planning, sales organization, selection, training, and compensation of salesmen. control of sales performance, sales budgets, and cost control. Case materials. (Prerequisite: 57. May not be taken for graduate credit)

Spring Semester

M 6:20-8:00, West Bank CB 140, Lewis

Mktg 197. Purchasing. 3 degree credits. \$33.

Purchasing of materials, supplies, and equipment as a major function in business. Basic principles of purchasing in industrial, governmental, and institutional organizations. Quantity and quality decisions, forward buying, evaluation of purchasing procedures, and pricing policies. (Prerequisite: 57. May not be taken for graduate credit)

Spring Semester

T 6:20-8:00, West Bank CB 425, Cowle

Symbols explained on page 20.

OFFICE MANAGEMENT

John P. Northcott, Lecturer in Office Management

Eudora M. Zellers, Lecturer in Office Management

Your attention is called to the Management of Administrative Services Certificate programs; see page 45.

OMgt. Office Procedures. 3 certificate credits. \$33.

Editing and revising correspondence; communications; basic indexing and filing problems; intraoffice relationships. (Prerequisite: 34 [advanced typing] or #)

Fall Semester

W 6:20-8:00, Vincent 209, Zellers

OMgt. Administrative Secretarial Studies. 3 certificate credits. \$33.

Office situations and problems in the work of an administrative assistant to an executive. Office procedures and secretarial dictation and transcription. (Prerequisite: 34 [advanced typing] and 39 [advanced shorthand] or #)

Spring Semester

W 6:20-8:00, Vincent 209, Zellers

OMgt. Scientific Management in the Office. 3 certificate credits. \$33.

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 215,
Northcott

PRODUCTION

Gary W. Dickson, Assistant Professor of Production

Thomas R. Hoffmann, Professor of Production

Elvin L. Peterson, Lecturer in Management

Prod 50. Production Management. 3 degree credits, §Prod 150B. \$33.

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: 6 credits in Principles of Economics. Repeated spring semester)

Fall Semester

M 6:20-8:00, West Bank CB 435,
Peterson, Dickson

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, Hoffmann

Symbols explained on page 20.

QUANTITATIVE ANALYSIS

Duane J. Berkley, Lecturer in Statistics

Gordon Davis, Professor of Accounting

Gary Dickson, Associate Professor of Management, Production, and Transportation

Warren Gulko, Teaching Assistant in Business Administration

Note—During the year 1967-68, QA 5 and QA 51 will be offered for the last time in the General Extension Division. Starting in the fall of 1968, a new Upper Division sequence (QA 52-53-54) will be required of all students in the School of Business Administration (see the *Bulletin of the School of Business Administration*).

Effective in the fall of 1968 the sequence QA 52-53-54 will be offered in the General Extension Division. The prerequisite for QA 52 will be Math 40A, which in turn has a prerequisite of Math 10A. Therefore, any student wishing to meet the old requirement (Math 10A-QA 5-QA 51) must have completed this by the end of spring semester, 1968. Otherwise the student must plan to take Math 10A and 40A as prebusiness requirements, and take QA 52-53-54 in Upper Division.

These are the only two options available to a student; there are no other alternatives.

QA 5. Elements of Statistics. 3 degree credits, §Soc 45, §Psy 70. \$33.

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. Upon completion of QA 5, students are urged to proceed immediately to QA 51)

Fall Semester

M 6:20-8:00, West Bank CB 125
T 6:20-8:00, West Bank CB 120
W 6:20-8:00, West Bank CB 425
W 8:15-9:55, West Bank CB 425

QA 51. Business Statistics. 3 degree credits. \$33.

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

M 6:20-8:00, West Bank CB 145
T 6:20-8:00, West Bank CB 155
T 8:15-9:55, West Bank CB 155
W 8:15-9:55, West Bank CB 125

Spring Semester

T 6:20-8:00, West Bank CB 415
T 8:15-9:55, West Bank CB 415
W 6:20-8:00, West Bank CB 435
W 8:15-9:55, West Bank CB 435

Symbols explained on page 20.

Course Offerings—Business Administration

QA 58. Quantitative Methods for Administration. 3 degree credits. \$33.

Application of probability and mathematics in the solution of operational problems in business. General elements of model construction; inventory models; allocation models; queueing models. (Prerequisite: 51, Econ 65, and Math 40 or 42, or equivalent)

Fall Semester

M 6:20-8:00, West Bank CB 110

*QA 61. Introduction to Electronic Computers. 2 degree credits plus 2½ certificate credits. \$50 plus \$5 laboratory fee.

Basic concepts of computer logic and construction. Flow charting and programming problems for computers. Operating a computer. Programming and processing short problems. The course is not intended as a training course for programmers. Rather, it is designed to provide a good understanding of the field of computers—equipment, programming, and uses, including new and projected developments in computer hardware and software. The course includes the writing and running of several short programs using the School of Business Administration Computer Center facilities. Basic skill in writing programs in FORTRAN is obtained from this course. For those who wish to become highly skilled in FORTRAN, the course "Programming Computers Using FORTRAN" may be taken concurrently. (Prerequisite: Math 10 or equivalent, and one course in statistics. Limited to 25 students. Repeated spring semester)

Fall Semester

T 6:20-8:50, West Bank CB 115, Davis
W 6:20-8:50, West Bank CB 115,
Dickson

Spring Semester

T 6:20-8:50, West Bank CB 115
W 6:20-8:50, West Bank CB 115

QA. Introduction to Computers. 3 certificate credits. \$33.

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 250,
Berkley (co-ordinator)

Spring Semester

M 6:20-8:00, West Bank CB 250,
Berkley (co-ordinator)

*QA. Programming Computers Using FORTRAN. 1½ certificate credits. \$17 plus \$10 laboratory fee.

FORTRAN is an easily learned programming language which can be used to program most electronic computers. The language uses English words and mathematical symbols and is especially applicable for problems in engineering, mathematics, statistics, and business analysis where the problem to be programmed can be expressed in terms of formulas or arithmetic operations. Well suited for those who need to use the computer for special analyses or computational work. The course emphasizes the programming of problems in FORTRAN and does not cover the field of computers in general. Students will develop good proficiency in writing programs in FORTRAN and will run a large number of programs utilizing the School of Business Administration Computer Center facilities. No previous computer knowledge is required. Students taking QA 61 may also take this course. Although there is duplication of content at the introductory level of FORTRAN, this course provides considerably more depth and more practice in programming, and the

Symbols explained on page 20.

* Enrollment space limited; instructions on page 10.

Evening Classes

student develops a much greater skill in FORTRAN. (No prerequisite, but proficiency in algebra is necessary. Limited to 25 students. Repeated spring semester)

Fall Semester

T 9:05-9:55, West Bank CB 115,
Davis
W 9:05-9:55, West Bank CB 115,
Dickson

Spring Semester

T 9:05-9:55, West Bank CB 115
W 9:05-9:55, West Bank CB 115

***QA. Programming Computers Using COBOL.** 3 certificate credits. \$33 plus \$10 laboratory fee.

COBOL (Common Business Oriented Language) is a recent advance in programming technology which is specially oriented toward problems encountered in business applications. COBOL is designed to make use of regular business data processing language wherever possible. This course emphasizes programming file-oriented problems in COBOL and in the application of this language to generalized business data processing problems. Students will develop proficiency in writing COBOL programs and will run a number of programs on computer facilities. (Prerequisite: 61 or Introduction to Computers. Limited to 30 students. Repeated spring semester)

Fall Semester

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

Spring Semester

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

REAL ESTATE

Bernard G. Rice, Co-ordinator of Real Estate Classes and Staff

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, 100 Minnesota Federal Building, Minneapolis.

***RE. Fundamentals of Real Estate Practice.** 3 certificate credits. \$33.

Economic functions of the real estate business; fundamental practices of the real estate office and other realtors; real estate valuations; methods of appraising; brokerage; principles of real estate management; ethics of real estate practice. Basic course; should be taken prior to any other courses in real estate curriculum. (No prerequisite. Limited to 75 students)

Fall Semester

Th 6:20-8:00, West Bank CB 410,
Rice (co-ordinator)

RE. Real Estate Financing and Insurance. 3 certificate credits. \$33.

A study of financing methods and practice relating to conventional FHA, VA, and combination loans; secondary financing; special loans on leases, farms, industrial and

Symbols explained on page 20.

* Enrollment space limited; instructions on page 10.

Course Offerings—Business Administration

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 145,
Rice (co-ordinator)

RE. Real Estate Sales Brokerage. 3 certificate credits. \$33.

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 145,
Rice (co-ordinator)

RE. Real Estate Appraisal. 3 certificate credits. \$33.

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 435,
Rice (co-ordinator)

RE. Principles of Commercial and Industrial Real Estate. (To be offered 1968-69)

Real Estate Law (BLaw 98, Business Law). (See page 169)

RETAILING AND SELLING

Mark Ludlow, Instructor in Business Studies

Note—For further information concerning the Retailing Program, call Mr. Ludlow at 373-4816.

GC 18A. Retail Careers, Sales, and Customer Services. 5 degree credits. \$55.

The objective of this course is to help students acquire knowledge and skills required of successful sales people. Use is made of text materials, case studies, sales demonstrations, films, interviews and observations with particular attention to concepts of persuasion and the psychology of selling. Management decisions relating to the sales service such as handling complaints, providing alterations or other services, extending credit, etc., are considered in the context of the entire marketing operation. In addition, the impact of marketing decisions is weighed in terms of effect on the total economy together with implications of governmental regulations. (Prerequisite: student must be employed in a suitable marketing position where on-the-job training is given and where

Symbols explained on page 20.

Evening Classes

the instructor has the opportunity to work closely with the employer. Limited to 30 students)

Fall Quarter

TTh 6:20-8:50, Burton 105, Ludlow

GC 18B (old 18C). Retail Sales Promotions. 5 degree credits. \$55.

Sales promotion techniques are studied relating to principles of location, layout, interior and window display, psychology of advertising, use of advertising media and public relations. The emphasis is on learning to develop co-ordinated promotional plans for marketing operations that will aid in the efficient and profitable distribution of goods and services. (Prerequisite: student must be employed in a suitable marketing position where on-the-job training is given and where the instructor has the opportunity to work closely with the employer. Limited to 30 students)

Winter Quarter

TTh 6:20-8:50, Burton 105, Ludlow

GC 18C (old 18B). Retail Store Management Problems. 5 degree credits. \$55.

The third quarter of the marketing sequence is devoted to problems and practices of management. Important concepts of marketing management such as policy and planning, decision-making, co-ordination of operations, etc., are studied and experienced through both job assignment and role-playing situations. Topics covered may include business organizations, forms of ownership, merchandise control, financial planning, buying and pricing, and personnel management. Government regulations relating to the subject are examined. Learning activities include: field trips, individual and group projects, movies, speakers, written and oral reports, role playing and case studies. (Prerequisite: student must be employed where suitable on-the-job training can be received and where the supervisor can evaluate his potential for career employment in a responsible marketing position. Limited to 30 students)

Spring Quarter

TTh 6:20-8:50, Burton 105,
Ludlow

SALESMANSHIP

Perry Jacobson, Lecturer in Salesmanship

Sal. Salesmanship. 3 certificate credits. \$33.

A practical course designed to improve sales presentations—the main essentials in selling. Actual practice in motivating clients to buy, using proven selling principles accompanied by sound closing techniques. (No prerequisite. Repeated spring semester)

Fall Semester

M 6:20-8:00, Ford 285, Jacobson
F 6:00-7:40, StP Ext Center, Jacobson

Spring Semester

M 6:20-8:00, Ford 285, Jacobson
F 6:00-7:40, StP Ext Center, Jacobson

TRANSPORTATION

Frederick J. Beier, Assistant Professor of Transportation and Logistics
Nicholas A. Glaskowsky, Jr., Professor of Management and Logistics

Symbols explained on page 20.

Course Offerings—Business Administration

Donald V. Harper, Professor of Transportation and Logistics

Edmund A. Nightingale, Professor of Economics and Transportation

Tran 54. Fundamentals of Transportation. 3 degree credits, \$154. \$33.

Organization and economic aspects of the transportation system of the United States including rail, highway, air, pipeline, and water transportation. Nature of the transportation function in business. Regulatory problems. Current developments and problems. (Prerequisite: 6 credits in Principles of Economics or equivalent. Repeated spring semester)

Fall Semester

M 6:20-8:00, West Bank CB 140, Harper
M 8:15-9:55, West Bank CB 140, Harper

Spring Semester

M 6:20-8:00, West Bank CB 10, Harper
M 8:15-9:55, West Bank CB 10, Harper
W 7:50-9:30, StP Ext Center, Beier

Tran 144. Transportation Pricing. 3 degree credits. \$33.

Rationale and applications of modern rate and fare structures of the regulated carriers. Principles, problems, and cases relating to the construction, interpretation, and application of carrier classifications and tariffs. Competitive aspects of exempt and private transportation. Fundamentals of rate negotiation between shippers and carrier pricing departments or rate bureaus. Relation of transportation pricing to the successful operation of business logistics systems. (Prerequisite: 54 or 154. Qualified students may register for graduate credit)

Spring Semester

W 8:15-9:55, West Bank BA 837,
Nightingale

Tran 164. Business Logistics. 3 degree credits. \$33.

Considers physical supply and distribution activities in the firm as a logistics system. Elements of logistics systems; constraints on logistic systems; planning, organization, management, and operation of logistics systems. (Prerequisite: 6 credits in Principles of Economics or equivalent. Qualified students may register for graduate credit)

Fall Semester

Th 6:20-8:00, West Bank CB 435, Beier

Tran 174. Traffic Management. (To be offered 1968-69)

Tran 184. Carrier Management. 3 degree credits. \$33.

Managerial problems of carriers by rail, highway, air, and water. Topics include problems associated with carrier organization, operations, traffic and sales, finance and control, labor relations, and public policy issues. (Prerequisite: 54 or 2. Qualified students may register for graduate credit)

Spring Semester

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

Note—Tran 194A and 194C are strongly recommended for nonlawyers who plan to take the Interstate Commerce Commission's examination for admission to practice.

Symbols explained on page 20.

Evening Classes

Tran 194A. Transportation Regulation and National Policy I: Domestic Transportation. 3 degree credits. \$33.

National policies (regulatory and promotional) with respect to railway, highway, air, water, pipeline, and urban transportation. The Interstate Commerce Act, Federal Aviation Act, and Administrative Procedure Act. Organization and functions of the Interstate Commerce Commission, Civil Aeronautics Board, and Federal Aviation Agency. Practice and procedure before the Interstate Commerce Commission. Analysis of leading I.C.C., C.A.B., and Supreme Court decisions. (Prerequisite: 54 or 154. Qualified students may register for graduate credit)

Fall Semester

M 6:20-8:00, West Bank BA 837, Nightingale

Tran 194B. Transportation Regulation and National Policy II: International Transportation—Marine and Air. 3 degree credits. \$33.

National policies (regulatory and promotional). Merchant Marine Statutes and Federal Aviation Act. Organization and functions of Federal Maritime Commission, Maritime Administration, Civil Aeronautics Board, and Federal Aviation Agency with respect to international air transportation. Marine shipping conferences and the dual-rate contract system: regulation of foreign freight forwarders and customs brokers. Agreements and organizations among governments and among carriers for the facilitation of international air transport. Analysis of leading F.M.C., C.A.B., and Supreme Court decisions. (Prerequisite: 54 or 154. Qualified students may register for graduate credit)

Fall Semester

M 8:15-9:55, West Bank BA 837,
Nightingale

Tran 194C. Transportation Regulation and National Policy III. 3 degree credits. \$33.

Analysis of current major issues, pertinent studies and reports in the national policy and regulatory areas, including recent and proposed legislation and Congressional hearings thereon. I.C.C. cost studies. Evaluation of the impact of regulation and national policies on the economy. Role of the federal government as the largest user of transportation services and as an operator of transportation facilities (MATS and MSTs). Individual research. (Prerequisite: 54 or 154; 194A advised. Qualified students may register for graduate credit)

Spring Semester

W 6:20-8:00, West Bank BA 837,
Nightingale

Symbols explained on page 20.

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 liberal 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

William Bradley, Instructor in Art Education
Clifton A. Gayne, Jr., Professor of Art Education
Theron Hegg, Instructor in Art Education
George K. Olson, Instructor in Art Education

ArEd 17. Pictorial Expression for Elementary Education. 3 degree credits.
\$33 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

W 6:20-8:50, Wulling 240, Gayne

Spring Quarter

Th 6:00-8:30, StP Ext Center, Olson

Symbols explained on page 20.

Evening Classes

ArEd 18. Design Activities for Elementary Education. 3 degree credits. \$33 plus \$2 materials fee.

Relationship between art and nature. Problems in inventions, arrangement and decoration, color, lettering, poster, and bulletin board displays. (No prerequisite. Repeated winter quarter)

Fall Quarter		Winter Quarter	
Th	6:00-8:30, StP Ext Center, Olson	W	6:20-8:50, Wulling 240, Gayne

ArEd 19. Functional Arts and Crafts in Elementary Education. 3 degree credits. \$33 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	
Th	6:00-8:30, StP Ext Center, Olson	W	6:20-8:50, Wulling 240, Gayne

***ArEd 80. Contemporary Crafts.** 3 degree credits. \$33 plus \$5 materials fee.

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 120, Bradley	T	6:20-8:50, Wulling 120

ArEd 81. Puppetry in Education. 3 degree credits. \$33.

Use of simple puppetry as a teaching technique; problems of motivation and correlation with school subjects; construction, manipulation, and stage techniques related to school situations. (No prerequisite)

Winter Quarter	
T	6:20-8:50, Wulling 220, Olson

Co-operative Community Workshops in Art Education

For out-state communities, two 1-week intensive workshops are available under University faculty leadership.

While each workshop is independent, a recommended plan for most economical operation is a combination of the two. A late afternoon workshop session on children's art would be of most service to parents and elementary teachers. An evening session workshop on amateur painting would be of greatest interest to those who wish to begin or make progress in painting as a personal interest. Some will be interested in both.

Symbols explained on page 20.

* Enrollment space limited; instructions on page 10

This intensive workshop plan provides a means to help University faculty members provide service to many communities which otherwise would be prohibitively expensive. The procedure requires co-operative planning with a sponsoring group in the community.

The courses listed below are the titles under which registration is handled for the two workshops: ArEd 90 and 95.

For further information, write Huldah Curl, State Art Co-ordinator, 310 Nolte Center for Continuing Education, 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

Marvin W. Daehler, Lecturer in Child Psychology

Frank Eichensehr, Lecturer in Child Psychology

Cynthia Gliner, Lecturer in Child Psychology

Harold R. Ireton, Lecturer in Child Psychology

Alan Moffitt, Lecturer in Child Psychology

Murray K. Reed, Lecturer in Child Psychology

Larry J. Shelton, Lecturer in Child Psychology

Cynthia Turnure, Lecturer in Child Psychology

Frances Wynns, Lecturer in Child Psychology

CPsy 80. Child Psychology. 3 degree credits. \$33.

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

T 8:15-9:55, Johnston 114, Wynns
Th 7:50-9:30, StP Ext Center, Daehler

Spring Semester

T 7:50-9:30, Johnston 114, Turnure
W 7:50-9:30, StP Ext Center, Eichensehr

Fall Quarter

M 6:30-9:00, Robbinsdale HS 233,
Gliner

Symbols explained on page 20.

Evening Classes

CPsy 81. Adolescent Psychology. 3 degree credits. \$33.

Social, physical, mental, emotional, and personality development during adolescence. (Prerequisite: Psy 2)

Spring Semester

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

CPsy 140. Behavior Problems. 3 degree credits. \$33.

Types, origin, development, and treatment of behavior difficulties in normal children. (Prerequisite: 80 or equivalent. Repeated spring semester. Qualified students may register for graduate credit)

Fall Semester

W 8:15-9:55, Johnston 105, Ireton

Spring Semester

M 8:15-9:55, Johnston 114, Reed

CPsy 143. Problems of Mental Deficiency. 3 degree credits. \$33.

Diagnosis, care, training; social and vocational problems. (Prerequisite: 80 or equivalent. Repeated spring semester. Qualified students may register for graduate credit)

Fall Semester

Th 8:15-9:55, Johnston 122, Moffitt

CPsy 144. Psychology of the Gifted Child. 3 degree credits. \$33.

Psychology and development of high intellectual ability and of special talents. (Prerequisite: 80 or equivalent. Qualified students may register for graduate credit)

Fall Semester

M 8:15-9:55, Johnston 114, Reed

CPsy 179. Clinical Procedures with Children. 3 degree credits. \$33.

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. (Prerequisite: 12 credits in child psychology, psychology, educational psychology, or sociology. Qualified students may register for graduate credit)

Fall Semester

T 6:20-8:00, Johnston 122

CURRICULUM AND INSTRUCTION

Clarence H. Boeck, Professor of Education

Neville P. Pearson, Associate Professor of Education

Symbols explained on page 20.

EdCI 103. Teaching of Science in the Elementary School. 3 degree credits. \$33.

Resources, materials, and their application in the elementary grades. (Prerequisite: senior class level, ED 75B or teaching experience. Qualified students may register for graduate credit)

Fall Semester

M 6:20-8:00, Peik 365, Boeck

Note—Courses in audio-visual education are offered in selected high schools in the Twin Cities area. Each course meets one evening a week, from 4:30 to 6:00 and from 6:30 to 10:00, for a 6-week period. Schedules are announced early in September. For further information, please write Associate Professor Neville Pearson, College of Education, University of Minnesota, Minneapolis, Minnesota 55455; telephone 373-3615.

EdCI 105. Audio-Visual Materials in Education. 3 degree credits. \$33 plus \$10 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 circuit television equipment. (Prerequisite: senior. Qualified students may register for graduate credit)

EdCI 108. Nonprojected Audio-Visual Materials and Equipment Laboratory. 3 degree credits. \$33 plus \$10 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. (Prerequisite: 105. Qualified students may register for graduate credit)

EdCI 109. Projected Audio-Visual Materials and Equipment Laboratory. 3 degree credits. \$33 plus \$10 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. (Prerequisite: 105. Qualified students may register for graduate credit)

EDUCATIONAL PSYCHOLOGY

Henry Borow, Professor of Education

Cyril J. Hoyt, Professor of Education

Symbols explained on page 20.

Evening Classes

EPsy 60. Introduction to Measurements and Statistics. 3 degree credits. \$33.

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. \$33.

Principles and methods for construction, evaluation, and improvement of classroom instruction. (No prerequisite. Qualified students may register for graduate credit)

Spring Semester

Th 6:20-8:00, Burton 123, Hoyt

EPsy 159. Personality Development and Mental Hygiene. 3 degree credits. \$33.

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. (Prerequisite: Upper Division status or teaching experience or ♯. Repeated spring semester. Qualified students may register for graduate credit)

Fall Semester

M 6:20-8:00, Nicholson 207, Borow

Spring Semester

M 6:20-8:00, Nicholson 207, Borow

MUSIC EDUCATION

Robert L. Borg, Associate Professor of Music Education

Daryl Gibson, Associate Professor of Music

Richard E. Sieber, Assistant Professor of Music Education

*MuEd 51. Teaching Music (Kindergarten-Primary grades). 2 degree credits. \$33.

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: Mus 4 or ♯. Limited to 30 students)

Fall Semester

M 6:20-8:00, Scott 104, Borg

Symbols explained on page 20.

* Enrollment space limited; instructions on page 10.

Course Offerings—Education

*MuEd 52. Teaching Music (Intermediate grades). 2 degree credits. \$33.

For nonmusic majors. Appreciation, methods, and materials. (Prerequisite: 51 and Mus 4 or #. Limited to 30 students)

Spring Semester

M 6:20-8:00, Scott 104, Borg

MuEd 115. Advanced String Instrument Techniques. 3 degree credits. \$33.

Research reports, lecture-demonstrations; performance by class members and by school-age laboratory groups. (Prerequisite: Bachelor of science degree in music education or #. Qualified students may register for graduate credit. Repeated winter quarter)

Fall Quarter

S 10:00 a.m.-1:00 p.m.,
MacPhail Center
Annex 1, Sieber

Winter Quarter

S 10:00 a.m.-1:00 p.m.,
MacPhail Center
Annex 1, Sieber

MuEd 118. Advanced Wind and Percussion Techniques. 3 degree credits. \$33.

Research reports, practical performances, and lectures. (Prerequisite: Bachelor of science degree in music education or #. Qualified students may register for graduate credit. Repeated winter and spring quarters)

Fall Quarter

S 9:30-11:30 a.m., Mac-
Phail Center Annex 1,
Gibson

Winter Quarter

S 9:30-11:30 a.m., Mac-
Phail Center Annex 1,
Gibson

Spring Quarter

S 9:30-11:30 a.m., Mac-
Phail Center Annex 1,
Gibson

MUSIC

(See page 121)

PHYSICAL EDUCATION

(See page 225)

Symbols explained on page 20.

* Enrollment space limited; instructions on page 10.

ENGINEERING; PHYSICAL AND TECHNICAL SCIENCES

Your attention is called to the Engineering Science and Engineering Technician Certificate programs; see page 48.

AERONAUTICS

Wensell Frantzich, F.A.A.-Certificated Ground Instructor and Lecturer in Aeronautics

Sam R. Hamilton, Ground School Director and F.A.A.-Certificated Advanced Ground Instructor and Private Pilot

Ground School Courses for Air Pilots—General Information

The University General Extension Division's Ground School offers different courses throughout the school year. Each of these courses is designed to prepare pilots or prospective pilots for the Federal Aviation Agency's written and oral examinations for certification as Private Pilots or Commercial Pilots, or for the Instrument Rating certification. (The Basic Ground School course, described below, is a prerequisite for the Instrument Rating course.)

The Ground School meets all requirements of, and is certificated by, the F.A.A. as an Approved Basic and Advanced Ground School, and 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 instruction and flight test must be completed.

Most of the Basic Ground School classes meet on Fridays, starting at 7 p.m., in Room 209 of the Aeronautical Engineering Building on the Minneapolis Campus of the University. The ground school director (and instructor for the Basic Ground School course) is Sam R. Hamilton; the Instrument Rating course is taught by Wensell S. Frantzich.

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, telephone 698-2559. Persons who wish to be personally notified when an Instrument Rating course is to be offered, should contact Mr. Frantzich, telephone 869-3412.

*Aero 9. Basic Ground School for Private and Commercial Pilots. 3 degree credits or 4 certificate credits. \$44.

Open to all pilots and prospective pilots, regardless of their educational or flight-experience background. 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 by arrangement, opportunities are offered for students to meet for additional instruction, in small groups, for the Commercial-Pilot examinations. The course covers air navigation, radio aids, meteorology, flight theory, analysis of flight maneuvers, aircraft and engine operation, federal aviation regulations, aircraft flight instruments, and other subjects pertaining to safe, efficient, and economical operation of aircraft.

Upon satisfactory completion of the full course, the University Extension Division awards F.A.A. Private-Pilot School Graduation Certificates and 4 Extension certificate credits. Three degree credits, in lieu of 4 certificate credits, are awarded by the Department of Aeronautics, Institute of Technology, to students who have received 3 hours of

Symbols explained on page 20.

* Enrollment space limited; instructions on page 10.

Course Offerings—Engineering, Physical and Technical Sciences

certified dual flight instruction from any certificated flight instructor at any airport at any time prior to the successful completion of the Ground School course. (Certificate credits are awarded under the course title, "Basic Ground School." Degree credits are awarded under the course title, "Aero 9—Basic Ground School and Flying.")

Registration can be accomplished at any University Extension Division office, or (during the first 2 weeks only) in the classroom if the class load limit is not exceeded.

Persons desiring further information regarding this course can contact the General Extension Division, telephone 373-3930, or the instructor, Mr. Hamilton, telephone 698-2559.

	Fall Quarter		Winter Quarter		Spring Quarter
F	7:00-9:30, Aeronautical Engineering 209, Hamilton	F	7:00-9:30, Aeronautical Engineering 209, Hamilton	F	7:00-9:30, Aeronautical Engineering 209, Hamilton

*Accelerated Ground School Course for the Instrument Rating.

Whenever there is sufficient demand, the Extension Division offers an accelerated 10-week course to prepare pilots for the F.A.A. written examination for the Instrument Rating. Classes are limited to 20 students because this course requires much individual attention. Prerequisites are that the pilot must have completed the Basic Ground School Course and/or must have enough aeronautical background to enable him to keep pace with the class, the latter prerequisite to be judged by the instructor.

Specific information as to starting dates, class schedules, fees, etc., can be secured by checking airport bulletin boards, or by calling the General Extension Division, telephone 373-3930. Pilots who want further information, or who would like to be personally notified when this course is to be offered, should call the instructor, Mr. Frantzych, telephone 869-3412.

ARCHITECTURE

Paul Andersen, Professor of Structural Engineering

John Myers, Professor of Architecture

George Winterowd, Professor of Architecture

Arch 21. Architectural Theory and History. 3 degree credits. \$33.

An introduction to architecture, the philosophy and principles of architecture as an art, a survey of architectural history with emphasis upon the development of contemporary architecture from its roots in the 19th century until the present time. (No prerequisite. 21 is a requirement for the entire architectural history sequence. May be used as a refresher course for the State Board examinations. Repeated winter quarter)

	Fall Quarter		Winter Quarter
W	7:00-9:30, Architecture 130, Winterowd	W	7:00-9:30, Architecture 130, Winterowd

Arch. Refresher Course in Architectural Design and Site Planning. No credit. \$44.

A review of basic design principles for candidates for the State Board examinations. Ten sessions (2 hours each)

Special Class

(Class begins January 18, with further sessions arranged)

Th 5:30-7:30, Architecture 125, Myers

Symbols explained on page 20.

* Enrollment space limited; instructions on page 10.

Evening Classes

Arch. Refresher Course in Structural Design for Architects. No credit. \$44.

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 8 to March 11)

M 6:30-9:00, Architecture 55, Andersen

Art. Home Design and Planning. (See page 79)

ASTRONOMY

Karlis Kaufmanis, Associate Professor of Astronomy

Ast 12. Solar System. 3 degree credits, §Ast 11. \$33.

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 131, Kaufmanis

Ast 13. Stars and Galaxies. 3 degree credits, §Ast 11 in day classes. \$33.

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 131, Kaufmanis

CHEMISTRY

Nicholas Kowanko, Lecturer in Chemistry

A \$10 chemistry deposit card is required for all of the courses in chemistry except OrCh 63. 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, less charges for breakage, 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. \$55 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

Symbols explained on page 20.

Course Offerings—Engineering, Physical and Technical Sciences

equilibrium. (Prerequisite: elementary algebra. Higher algebra and trigonometry strongly recommended. Students attend twice a week)

Fall Semester

4 Lab T 6:00-9:30, Chemistry 325,††
Lect Th 6:20-8:30, Chemistry 325

Spring Semester

5 Lab T 6:00-9:30, Chemistry 325,††
Lect Th 6:20-8:30, Chemistry 325

GeCh 6. Principles of Solution Chemistry. 4 degree credits. \$44 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
Lab Th 6:20-9:30, Chemistry 210

Organic Chemistry

OrCh 63. Elementary Organic Chemistry. 3 degree credits. \$33.

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, Kowanko

CIVIL ENGINEERING

Paul Andersen, Professor of Structural Engineering

Charles E. Bowers, Professor of Hydraulic Engineering

Jesse Fant, Associate Professor of Civil Engineering

Lyle Pederson, Assistant Professor of Civil Engineering

John W. Hayden, Associate Professor of Hydraulic Engineering

CE 51. Highways and Pavements. 3 degree credits. \$33.

Elements of highway planning, economics, finance, location, design, construction and maintenance. Laboratory testing of materials. (Prerequisite: 53, 61)

Winter Quarter

M 6:30-9:00, Experimental Engineering 25, Pederson

Symbols explained on page 20.

†† First class meeting only, in room 325 Chemistry.

Evening Classes

CE 52. Highways and Pavements. 3 degree credits. \$33.

Continuation of CE 51. (Prerequisite: 51)

Spring Quarter

M 6:30-9:00, Experimental Engineering
25, Pederson

CE 53. Elements of Soil Mechanics. 3 degree credits. \$33.

Physical properties of soil; soil formation; stress distribution; shearing strength. Laboratory identification and compaction tests. (Prerequisite: MM 35)

Fall Quarter

M 6:30-9:00, Experimental Engineering 25,
Pederson

CE 61A (old 61). Survey Engineering. 3 degree credits. \$33.

The planning, design, and execution of field control survey systems to determine the horizontal and vertical position of points on the earth for mapping, engineering projects, property boundaries, and construction. Field problems in the use of equipment. (Prerequisite: Math 22A or #. Some extra class periods held Saturday mornings for those without instrument experience)

Fall Quarter

W 6:20-9:20, Experimental Engineering
265, Fant

CE 63A (old 62, 63). Elements of Land Development. 3 degree credits. \$33.

Study of land ownership and title transfers, property rights, descriptions and location of property lines; land use and development procedures; study and analysis of maps, photographs, and photogrammetric equipment as data sources for land use studies and engineering design. (Prerequisite: Math 15 or Math 21A or #)

Winter Quarter

W 6:20-9:20, Experimental Engineering 265, Fant

CE 64A (old 64). Engineering Geometronics. 3 degree credits. \$33.

The geometric design of engineering projects; horizontal and vertical curves; grades; fitting of structural elements to the topography; earthwork and drainage analysis; detailed site plans for construction; computations for construction layout; layout. (Prerequisite: 61A. Some extra class hours held Saturday mornings for those without available instruments for field problems)

Spring Quarter

W 6:20-9:20, Experimental Engineering
265, Fant

CE 81. Elementary Structural Analysis. 4 degree credits. \$44.

Algebraic and graphical analysis of structural framework. Influence lines. Effect of moving loads. Highway bridge loadings. Railroad bridge loadings. Impact. Statically

Symbols explained on page 20.

Course Offerings—Engineering, Physical and Technical Sciences

indeterminate structures. Methods of virtual work and moment area. Williot diagram. Methods of consistent deflections and least work. (Prerequisite: MM 35)

Fall Quarter

T 6:20-9:20, Experimental Engineering 25,
Andersen

CE 82. Intermediate Structural Analysis. 4 degree credits. \$44.

Analysis of continuous beams and trusses. Slope deflection method. Moment distribution method. Portal frames and multistory frames. Tapered and haunched members. Wind stress analysis. (Prerequisite: 81)

Winter Quarter

T 6:20-9:20, Experimental Engineering 265, Andersen

CE 83. Elementary Structural Design. 4 degree credits. \$44.

Properties of structural steel sections. Design of structural steel tension members. Columns and beams. Riveted, bolted, and welded connections. The use of high strength steels. Roof trusses, industrial buildings, bridge trusses and plate girders. (Prerequisite: 82)

Spring Quarter

T 6:20-9:20, Experimental Engineering
265, Andersen

CE 101. Fluid Mechanics. 3 degree credits. \$33.

Fluid statics and dynamics for liquids and gases. Viscous effects, dimensional analysis and similitude, potential flow. (Prerequisite: MM 35)

Fall Quarter

W 6:20-9:00, Experimental Engineering
25, Hayden

CE 160. Applied Hydraulics. 4 degree credits. \$44.

Uniform and varied flow in artificial and natural open channels. Analysis of closed conduit pipe and culvert flows. Characteristics and applications of centrifugal pumps. Flow measurement in pipes and open channels. Applied problems pertaining to spillways and outlet works. (Prerequisite: 101)

Winter Quarter

W 6:20-9:20, Experimental Engineering 25, Bowers

CE 161. Hydrology. 3 degree credits. \$33.

Basic data and methods available for analysis of precipitation and run-off, including stream flow, ground water, infiltration, unit hydrographs, flood frequencies, flood routing and probable maximum floods. (Prerequisite: 101)

Spring Quarter

W 6:20-9:00, Experimental Engineering
25, Bowers

CE. Refresher Course for Civil Engineers. No credit. \$44.

This course is for practicing engineers and will consist of lectures and problem sessions relating to highways, soils, sanitary, structural and hydraulic engineering. (Pre-

Symbols explained on page 20.

Evening Classes

requisite: BCE or equivalent degree, or completion of Parts I and II of the State Board Examination)

Special Class

(January 4 to March 14)

Th 6:20-9:20, Experimental Engineering 265

Arch. Refresher Course in Structural Design for Architects. (See page 200)

ELECTRICAL ENGINEERING

Gayle Allen, Lecturer in Electrical Engineering

Anton Beck, Lecturer in Electrical Engineering

Paul A. Cartwright, Associate Professor of Electrical Engineering

Robert Cavins, Lecturer in Electrical Engineering

Guss Krake, Lecturer in Electrical Engineering

Sidney C. Larson, Associate Professor of Electrical Engineering

Dave Lo, Lecturer in Electrical Engineering

Richard Strom, Lecturer in Electrical Engineering

The curriculum leading to the Bachelor of Electrical Engineering degree (B.E.E.) is described in the *Bulletin of the Institute of Technology*. Certain of the curricular requirements can be obtained in the evening school.

Students just beginning the electrical engineering sequences should start with EE 30 and 30A. Students already in the program should follow the schedule below:

Sequence last taken	Should take, 1967-68
EE 30-31	EE 64-65, 84-85
EE 64-65	EE 107-108

Registration Procedures for Evening Electrical Engineering Classes

All students who wish to enroll for electrical engineering classes carrying degree credit are required to (1) complete the Registration Approval Form and (2) submit college transcripts for previous work taken in both day and/or Extension either before or at time of registration. The only exceptions to this rule are those students who submitted this information for the 1966-67 school year.

The purpose of the form and accompanying transcript is to insure that final registrants are properly advised, that they meet the various course prerequisites, and that they are making satisfactory academic progress. The petitions will be reviewed and acted upon prior to the first meeting of each class. A copy of the petition will be returned to the student by mail or at the first class session. If for some reason a registration is not approved, transfer to another class or full refund of tuition and fees will be made without penalty.

The Registration Approval Forms are available at all General Extension Division offices. Transcripts for University of Minnesota college work taken

Symbols explained on page 20.

Course Offerings—Engineering, Physical and Technical Sciences

either in day school or Extension may be secured by writing or calling the Office of Admissions and Records, University of Minnesota, Minneapolis, Minnesota 55455; telephone 373-2149. (Students should be sure to specify whether work was taken in day school, Extension, or both.)

Students are urged to submit petition forms and transcripts well in advance of registration periods, if at all possible.†† They may be presented or mailed to Paul A. Cartwright, Assistant Dean, Institute of Technology, 135 Main Engineering Building, University of Minnesota, Minneapolis, Minnesota 55455.

EE 30-31. Circuit Analysis. 3 degree credits each semester. \$33 each semester.

30: Steady-state and transient response of linear passive circuits under dc, step, and sinusoidal excitation. 31: Steady-state ac analysis; instantaneous and average power. Complex frequency; natural and forced response. Magnetically coupled circuits. (Prerequisite: Phys 23 or ¶Phys 23, Math 31 or ¶Math 31 for 30; 30 for 31; ¶30A-31A required)

Fall Semester

30 M 6:00-7:40, Architecture 40

Spring Semester

31 M 6:00-7:40, Architecture 40

EE 30A-31A. Electrical Engineering Laboratory. 1 degree credit each semester. \$11 plus \$10 laboratory fee each semester.

Laboratory to accompany 30-31. (Prerequisite: ¶30-31)

Fall Semester

30A Two class hours per week. Night and hours arranged at first meeting of EE 30.

Spring Semester

31A Two class hours per week. Night and hours arranged at first meeting of EE 31.

EE 64-65. Electronics I-II. 4 degree credits each semester. \$44 each semester.

64: Introduction to physical principles of electronic devices; electrical properties of metals, insulators, and semiconductors. Semiconductor, vacuum, and gaseous devices; modeling. 65: Piecewise linear and incremental models, biasing, operating characteristics of active devices in single-stage circuits; applications of diodes for rectification, clipping, and clamping. (Prerequisite: 30-31 or ¶30-31, Phys 50)

Fall Semester

64 Lect M 6:00-7:40, Architecture 50
Rec M 7:50-9:30, Architecture 50

Spring Semester

65 Lect M 6:00-7:40, Architecture 50
Rec M 7:50-9:30, Architecture 50

EE 84-85. Junior Electrical Engineering Laboratory. 2 degree credits each semester. \$22 plus \$10 laboratory fee each semester.

Experimental study of electronic circuits. (Prerequisite: ¶64-65)

Fall Semester

84 Three class hours per week. Night and hours arranged at first meeting of EE 64.

Spring Semester

85 Three class hours per week. Night and hours arranged at first meeting of EE 65.

Symbols explained on page 20.

†† This requirement does not apply to students who have previously submitted this information in 1965-66, or 1966-67.

Evening Classes

EE 74-75-76. Electromagnetic Fields. (To be offered 1968-69)

EE 107-108. Linear System Analysis. 3 degree credits each semester. \$33 each semester.

Development of time-invariant linear models for electrical, mechanical, thermal, and acoustic systems; analysis of the models in time and frequency domains. Applications of transform techniques to linear systems. Introduction to feedback systems. Analog computer simulation. Spectral analysis, correlation, noise, and sampling. (Prerequisite: 31, Math 60A)

Fall Semester

107 M 6:00-7:40, Architecture 35

Spring Semester

108 M 6:00-7:40, Architecture 35

The following courses carry certificate credit and are offered as part of the Senior Electrical Engineering Technician program; see page 53.

EE. Elements of Electric Circuits. 4 certificate credits. \$44 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 wave forms. Magnetic circuits. Lecture and laboratory. (Prerequisite: Math 21A or equivalent or #)

Fall Semester

T 6:00-8:30, Architecture 15

Elements of Electronics I and II form a year (two-semester) sequence in transistor electronics. The exact division of material between the two semesters will depend on the text being used.

EE. Elements of Electronics I. 4 certificate credits. \$44 plus \$5 laboratory fee.

Basic semiconductor physics, p-n junction action. Introduction to diodes and their applications. Practical transistor characteristics. Biasing and stabilization, transistor parameters, small signal amplifiers. Lecture and laboratory. (Prerequisite: Elements of Electrical Circuits or equivalent)

Spring Semester

T 6:00-8:30, Architecture 15

EE. Elements of Electronics II. 4 certificate credits. \$44 plus \$5 laboratory fee.

A continuation of Electronics I. Transistor power amplifiers, direct-current amplifiers. Multistage amplifiers, feedback. Pulse circuits. Design considerations. Lecture and laboratory. (Prerequisite: Elements of Electronics I)

Fall Semester

T 6:00-8:30, Architecture 20

EE. Elements of Electronics III. (To be offered 1968-69)

Symbols explained on page 20.

Course Offerings—Engineering, Physical and Technical Sciences

EE. Refresher Course for Electrical Engineers. No credit. \$44.

Review of electrical engineering fundamentals and applications. (Prerequisite: Bachelor's degree in engineering or physics)

Special Class

(January 3 to March 20)

W 6:00-9:00, Architecture 30

ENGINEERING ENGLISH

John W. Lippert, Lecturer in English

*Engl 85(IT). Advanced Technical Communication. 3 degree credits. \$33.

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: completion of freshman English requirement. Limited to 25 students. Repeated spring semester)

Fall Semester

M 8:15-9:55, Main Engineering 4,
Lippert

Spring Semester

M 8:15-9:55, Main Engineering 4,
Lippert

Engl 86(IT). Advanced Technical Communication. (Not offered 1967-68)

Note—Basic Technical Writing II (below) covers the same written work as Engl 86(IT), without the speech work.

Engl. Basic Technical Writing I-II. 3 certificate credits each semester. \$33 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. Need not be taken in sequence)

Fall Semester

I T 8:15-9:55, Main Engineering 4,
Lippert

Spring Semester

II T 8:15-9:55, Main Engineering 4,
Lippert

Symbols explained on page 20.

* Enrollment space limited; instructions on page 10.

ENGINEERING GRAPHICS

Paul W. Bullen, Assistant Professor of Mechanical Engineering
John N. Clausen, Assistant Professor of Mechanical Engineering
Lewis G. Palmer, Assistant Professor of Mechanical Engineering
Richard D. Springer, Associate Professor of Mechanical Engineering
Joseph Wetzel, Instructor in Civil Engineering

EG 25 replaces 14, 15, and 16 as the basic drawing course required in the Institute of Technology.

EG 4 and 5, which are certificate credit courses, are designed to provide an engineering drawing course sequence more directly applicable to industrial needs than EG 25. 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 1. The Slide Rule. 1½ certificate credits. \$17.

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		Spring Semester	
T	6:00-7:00, Architecture 40, Wetzel	T	6:00-7:00, Architecture 40, Wetzel
T	7:00-8:00, Architecture 40, Wetzel	T	7:00-8:00, Architecture 40, Wetzel

EG 4. Engineering Drawing I. 3 certificate credits. \$33.

Freehand and instrument-drawn multiview and pictorial drawings. Units in sectioning; auxiliary views, isometric and oblique pictorials; elementary dimensioning, point, line, and plane space problems. (No prerequisite. Repeated spring semester)

Fall Semester		Spring Semester	
M	6:00-8:00, Architecture 10	T	6:00-8:00, Architecture 10
W	6:00-8:00, Architecture 10		

EG 5. Engineering Drawing II. 3 certificate credits. \$33.

Freehand and instrument-drawn multiview and pictorial drawings. Units in detail, assembly, welding, piping, and electrical drawings; fastening devices; perspective drawing; intersections and developments; true position dimensioning and tolerancing. (Prerequisite: 4. Repeated spring semester)

Fall Semester		Spring Semester	
T	6:00-8:00, Architecture 10	W	6:00-8:00, Architecture 10

EG 6. Graphic Computation and Data Analysis. 3 certificate credits. \$33.

Basic graphic and graphic-mathematic methods of data handling; determination of empirical equations. Optimum forms of data presentation. Methods of handling complex

Symbols explained on page 20.

* Enrollment space limited; instructions on page 10.

Course Offerings—Engineering, Physical and Technical Sciences

and repetitious calculations through nomographs and graphic mathematics. (Prerequisite: Math 11 or ‡)

Spring Semester

Th 6:00-8:00, Architecture 10

EG 7. Technical Illustration. 3 certificate credits. \$33.

Freehand and instrument pictorial drawings in isometric, dimetric, trimetric, oblique, and perspective. Rendering techniques in line, smudge, stipple, scratchboard, shading sheets, craftint, and airbrush. Production illustration—exploded assemblies. (Prerequisite: 4 or 25)

Fall Semester

W 6:00-8:00, Main Engineering 306

EG 25. Engineering Graphics. 4 degree credits. \$44.

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: Math 21 or †Math 21. Repeated spring semester)

Fall Semester

T 6:00-8:30, Architecture 5

Spring Semester

M 6:00-8:30, Architecture 10

GEOLOGY AND GEOPHYSICS

Richard L. Bartels, Instructor in Geology and Geophysics

Charles L. Matsch, Assistant Professor of Geology and Geophysics

Robert E. Sloan, Associate Professor of Geology and Geophysics

Geo 1. Physical Geology. 4 degree credits. \$44.

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. Students wishing lecture only register for 1E. Repeated spring semester)

Fall Semester

Lect T 6:20-8:00, Pillsbury 110,
Matsch
Lab T 8:10-9:30, Ford 180

Spring Semester

Lect M 6:20-8:00, Pillsbury 110,
Matsch
Lab M 8:10-9:30, Ford 180

Geo 2. Historical Geology. 4 degree credits. \$44.

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. Students wishing lecture only register for 2E. Repeated spring semester)

Fall Semester

Lect M 6:20-8:00, Pillsbury 110, Sloan
Lab M 8:10-9:30, Ford 85

Spring Semester

Lect T 6:20-8:00, Pillsbury 110, Sloan
Lab T 8:10-9:30, Ford 85

Symbols explained on page 20.

Evening Classes

Geo 1E. Physical Geology. 3 degree credits. \$33.

Lecture concurrent with Geo 1, see description above; no laboratory. Not acceptable toward degrees for physical science and engineering majors. (No prerequisite, but high school physics and chemistry advisable. Repeated spring semester)

Fall Semester

T 6:20-8:00, Pillsbury 110, Matsch

Spring Semester

M 6:20-8:00, Pillsbury 110, Matsch

Geo 2E. Historical Geology. 3 degree credits. \$33.

Lecture concurrent with Geo 2, see description above; no laboratory. Not acceptable toward degrees for physical science and engineering majors. (Prerequisite: 1E or 1. Repeated spring semester)

Fall Semester

M 6:20-8:00, Pillsbury 110, Sloan

Spring Semester

T 6:20-8:00, Pillsbury 110, Sloan

Geo 62. Introductory Mineralogy. 5 degree credits. \$55.

Introduction to crystallography, crystal chemistry, and mineralogy. Descriptive and determinative mineralogy. Study of minerals in natural rock systems. (Prerequisite: 1 or 11 or §, one term of college chemistry, Math 15 or equivalent)

Spring Semester

Lect TTh 6:20-7:20, Pillsbury 100,

Bartels

Lab TTh 7:30-9:00, Pillsbury 100

HYDROMECHANICS

(See Civil Engineering, page 201)

INDUSTRIAL ENGINEERING

Sant R. Arora, Assistant Professor of Mechanical Engineering

Ronald J. Mogavero, Assistant Professor of Mechanical Engineering

R. Stanford Nyquist, Assistant Professor of Mechanical Engineering

James L. Reynolds, Instructor in Mechanical Engineering

Your attention is called to the Senior Industrial Engineering Technician program; see page 54.

IE. Industrial Engineering and Management. 5 certificate credits. \$55.

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

M 6:20-9:20, Mechanical Engineering 221

Symbols explained on page 20.

Course Offerings—Engineering, Physical and Technical Sciences

IE. Motion and Time Study. 5 certificate credits. \$55 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

M 6:20-9:20, Mechanical Engineering
208

IE. Manufacturing Cost Analysis. 3 certificate credits. \$33.

A study of sources and uses of cost data to make industrial engineering decisions and to reduce manufacturing costs. Covers basic accounting principles and procedures, accumulation and allocation of costs, and budgeting. (Prerequisite: Math 11 or #)

Fall Semester

Th 6:20-8:00, Mechanical Engineering 102

IE. Corporate Standard Data (C.S.D.) I. 5 certificate credits. \$55.

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. \$55.

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. \$55.

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 scheduling, inventory control, work routing, scheduling of operations, dispatching, analysis of equipment requirements. (Prerequisite: Math 11 or #)

Fall Semester

W 6:20-9:20, Mechanical Engineering 208

Symbols explained on page 20.

Evening Classes

IE. Introduction to Operations Research. 5 certificate credits. \$55.

Formulation, interpretation, and solution of the assignment, transportation, and general linear programming problems. Discussion of problems involving game theory, waiting lines, sequencing, replacement, dynamic and convex programming, and Monte Carlo methods. Applications of these techniques to general industrial problems, and in particular to problems of product mix, distribution, production scheduling, staffing, and simulation. (Prerequisite: Math 11 or $\$$. Inventory and Production Control is recommended but not required)

Spring Semester

W 6:20-9:20, Mechanical Engineering
214

IE. Statistical Quality Control. 5 certificate credits. \$55.

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: Math 11 or $\$$)

Fall Semester

M 6:20-9:20, Mechanical Engineering 110

IE. Advanced Statistical Quality Control. 5 certificate credits. \$55.

Variables acceptance sampling, industrial tests of significance, fundamentals of analysis of variance and design of experiments, linear regression, introduction to sequential analysis of data, some nonparametric statistical methods. (Prerequisite: Statistical Quality Control, or Math 90 or QA 51 or $\$$)

Spring Semester

M 6:20-9:20, Mechanical Engineering
110

MATHEMATICS

Loren E. Argabright, Assistant Professor of Mathematics
Steve S. Barich, Associate Professor of Mechanical Engineering
William A. Dolid, Lecturer in Mathematics
Lawrence R. Harper, Assistant Professor of Mathematics
Richard Hotchkiss, Research Associate in Mathematics
Walter James, Lecturer in Mathematics
Howard B. Jenkins, Associate Professor of Mathematics
Jay A. Leavitt, Assistant Professor of Mathematics
Lawrence A. Liddiard, Research Associate in Mathematics
Edward S. Loye, Associate Professor of Mathematics
Norman G. Meyers, Associate Professor of Mathematics
William D. Munro, Professor of Mathematics
Frank J. Polansky, Assistant Professor of Mathematics
Gaylord P. Schwartz, Lecturer in Mathematics
Burton O. Scott, Lecturer in Mathematics
William Serbyn, Instructor in Mathematics

Symbols explained on page 20.

Course Offerings—Engineering, Physical and Technical Sciences

James G. Swenson, Lecturer in Mathematics

Hubert Walczak, Lecturer in Mathematics

Carroll O. Wilde, Assistant Professor of Mathematics

Your attention is called to the Mathematics and Science Certificate Program, page 35.

Changes in Mathematics Courses and Prerequisites

The Institute of Technology introduced a new 6-quarter mathematics sequence which began in the fall of 1966 with Math 21A and continues in successive quarters with Math 22A, 23A, 31, 32, and 33. The entrance requirement for the Institute of Technology and the prerequisite for Math 21A is 4 years of high school mathematics including solid geometry and trigonometry.

Any student who meets this requirement is eligible to register for Math 21A. 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.

Math 11, Intermediate Algebra, is a combination of the former courses ITM 9 and ITM 11. 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, ITM 11, or Math 11 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.

Mathematics for Nonmajors and Prebusiness Students

Math T, 10A, and 40A 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. Math T and 10A carry no credit in the Institute of Technology. Arts College students who are ready for a full course in calculus should take the IT sequence, Math 21A, 22A, 23A, 31, 32, and 33. If in doubt about your registration for mathematics, please consult an adviser.

Math T. Trigonometry. (Open to prebusiness students and Arts College non-mathematics majors only.) 3 degree credits. \$33.

Students who plan to take several courses in mathematics in evening classes should begin with Math 12, not Math T, which carries no credit in Institute of Technology. A prebusiness or arts course in analytic trigonometry emphasizing identities, equations, and properties of the trigonometric functions; right and oblique triangles without logarithmic

Symbols explained on page 20.

Evening Classes

computation. (Prerequisite: plane geometry, and higher algebra or Math 11, or equivalent. May be taken concurrently with 10. Repeated spring semester)

Fall Semester

T 8:15-9:55, Ford 150

Spring Semester

T 8:15-9:55, Ford 150

Math 5. Basic Mathematics. No credit. \$55.

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 226

Spring Semester

TTh 6:20-7:45, Main Engineering 226

Math 6. Elementary Algebra. Entrance credit. \$66.

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. \$66.

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 303

Spring Semester

MW 6:20-8:00, Main Engineering 303

Math 8. Solid Geometry. Entrance credit. \$33.

Lines, planes, dihedral and polyhedral angles, polyhedrons, surfaces, prisms, cylinders, cones, prismatoids, 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 303

Spring Semester

Th 6:20-8:00, Main Engineering 303

Math 10A. Algebra, Analytic Geometry and Elementary Functions. (Open to prebusiness students and Arts College nonmathematics majors only.) 5 degree credits, \$10, \$15. \$55.

A first course of a 2-semester sequence, 10A-40A, specifically designed for students in the prebusiness administration curriculum and for other students requiring an introduc-

Symbols explained on page 20.

Course Offerings—Engineering, Physical and Technical Sciences

tion to algebra, analytic geometry, elementary functions, and calculus of one and several variables. Students who plan to take several courses in mathematics in evening classes should register for Math 12, not Math 10A, which carries no credit in Institute of Technology.

Inequalities and elementary set theory, functions and graphs, quadratic equations in two variables, conic sections, complex numbers, theory of equations, mathematical induction, general systems of linear equations, combinations, permutations and probability, vectors, lines and planes in space. (Prerequisite: 11 or high school higher algebra, T or high school trigonometry. Repeated spring semester)

Fall Semester

TTh 6:20-7:45, Ford 150

Spring Semester

TTh 6:20-7:45, Ford 150

Math 11. Intermediate Algebra. Entrance credit. \$55.

Fundamental operations, factoring, fractions, functions and graphs, linear equations, exponents and radicals, quadratic equations, ratio and variation, progressions, binomial theorem, logarithms. (Prerequisite: 6 or equivalent. Entrance requirement for Institute of Technology. Repeated spring semester)

Fall Semester

MW 6:00-7:25, MacPhail Center 327
MW 6:20-7:45, Main Engineering 203
TTh 6:00-7:25, StP Ext Center
TTh 6:20-7:45, Main Engineering 203

Spring Semester

MW 6:00-7:25, StP Ext Center
MW 6:20-7:45, Main Engineering 203
TTh 6:20-7:45, Main Engineering 203

Math 12. College Algebra and Trigonometry. Entrance credit. \$55.

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 functions, complex numbers. (Prerequisite: 11 or equivalent. Entrance requirement for Institute of Technology. Repeated spring semester)

Fall Semester

MW 6:00-7:25, StP Ext Center
MW 6:20-7:45, Main Engineering 106
TTh 6:20-7:45, Main Engineering 106

Spring Semester

MW 6:00-7:25, MacPhail Center 327
MW 6:20-7:45, Main Engineering 106
TTh 6:00-7:25, StP Ext Center
TTh 6:20-7:45, Main Engineering 106

Fall Quarter

MW 6:10-8:15, Robbinsdale HS 209

Math 21A. Analysis I: Algebra, Trigonometry, and Analytic Geometry. 5 degree credits. \$55.

Review of elementary algebra, functions and graphs, inequalities, complex numbers, logarithmic and exponential functions, progressions, binomial theorem, polynomial equations, determinants. Trigonometric functions, inverse functions, identities, equations. Elementary analytic geometry, straight line, circle, parabola, translation of axes. Limits, derivative, differentiation, applications. (Prerequisite: 4 years of high school mathematics includ-

Symbols explained on page 20.

Evening Classes

ing trigonometry, or 12. See note on page 213. Repeated winter quarter and spring semester)

	<i>Fall Semester</i>	<i>Winter Quarter</i>	<i>Spring Semester</i>
MW	6:20-7:45, Main Engineering 104	MW 6:10-8:15, Robbinsdale HS 209	MW 6:00-7:25, StP Ext Center
TTh	6:00-7:25, StP Ext Center		MW 6:20-7:45, Main Engineering 104
TTh	6:20-7:45, Main Engineering 104		TTh 6:20-7:45, Main Engineering 104

Math 22A. Analysis II: Analytic Geometry and Calculus. 5 degree credits. \$55.

Differentiation, chain rule, implicit functions, higher order derivatives, applications to geometry, maxima and minima, velocity, acceleration, and rates. Differentials, mean value theorem. Indefinite integral, applications. Definite integral, fundamental theorem, applications to areas, volumes. Differentiation and integration of transcendental functions. (Prerequisite: 21A or 21. Repeated spring semester and spring quarter)

	<i>Fall Semester</i>	<i>Spring Semester</i>
MW	6:00-7:25, StP Ext Center	MW 6:20-7:45, Main Engineering 229
MW	6:20-7:45, Main Engineering 229	TTh 6:00-7:25, StP Ext Center
TTh	6:20-7:45, Main Engineering 229	TTh 6:20-7:45, Main Engineering 229

Spring Quarter

MW 6:10-8:15, Robbinsdale HS 209

Math 23A. Analysis III: Analytic Geometry and Calculus. 5 degree credits. \$55.

Integration, trigonometric substitution, quadratic expressions, integration by parts, partial fractions, other substitutions. Analytic geometry, families of curves, conics, rotation of axes, graphing. Parametric equations, polar co-ordinates. Applications, length of arc, surface area, moments, centroids, moments of inertia. (Prerequisite: 22A or 22. Repeated spring semester)

	<i>Fall Semester</i>	<i>Spring Semester</i>
T	6:00-9:00, Main Engineering 227	T 6:00-9:00, Main Engineering 227
W	6:00-9:00, StP Ext Center	W 6:00-9:00, StP Ext Center
Th	6:00-9:00, Main Engineering 215	

Fall Quarter

MW 6:00-8:05, Main Engineering 227
 MW 6:10-8:15, Robbinsdale HS 223
 (Limited to 35 students*)

Math 30. Fortran Survey and Orientation. 1 degree credit. \$11.

Survey of basic Fortran language. Orientation in use of computer facilities. (Prerequisite: 15 or 21A. Repeated winter and spring quarters)

	<i>Fall Quarter</i>	<i>Winter Quarter</i>	<i>Spring Quarter</i>
T	6:00-6:50, Main Engineering 303	T 6:00-6:50, Main Engineering 303	T 6:00-6:50, Main Engineering 303

Symbols explained on page 20.

* Enrollment space limited; instructions on page 10.

Course Offerings—Engineering, Physical and Technical Sciences

Math 31. Calculus IV: Calculus and Analytic Geometry. 5 degree credits. \$55.

Study of solid analytic geometry and vectors in space involving dot and cross products, planes, quadric surfaces, derivatives of vector functions. Definition of double and triple integrals. Iterated integrals in rectangular, polar, cylindrical, and spherical coordinates. Applications to moments and centroids. Partial differentiation including the chain rule, implicit functions, directional derivative, maxima and minima. (Prerequisite: 23A or 23. Repeated winter quarter and spring semester)

Fall Semester

T 6:00-9:00, Main Engineering 215

Spring Semester

T 6:00-9:00, Main Engineering 215
W 6:00-9:00, StP Ext Center
Th 6:00-9:00, Main Engineering 215

Winter Quarter

MW 6:00-8:05, Main Engineering 227
MW 6:10-8:15, Robbinsdale HS 223

Math 32. Calculus V: Calculus, Linear Algebra, Differential Equations. 5 degree credits. \$55.

Standard topics of infinite series including tests for convergence and divergence. Power series, and Taylor expansions. Introduction to linear algebra. Matrices, determinants, and theorems on systems of algebraic equations. Differential equations involving the standard first order types plus higher order linear equations with constant coefficients. (Prerequisite: 31. Repeated spring semester and spring quarter)

Fall Semester

M 6:00-9:00, Main Engineering 215

Spring Semester

T 6:00-9:00, Main Engineering 320

Spring Quarter

MW 6:00-8:05, Main Engineering 227
MW 6:10-8:15, Robbinsdale HS 223

Math 33. Calculus VI: Calculus, Linear Algebra, Differential Equations. 5 degree credits. \$55.

Functions defined by integrals, differentiation under the integral sign, improper integrals, the Gamma function. Vector field theory, divergence and curl, surface integrals, Green's and Stokes' theorems. Linear systems of differential equations with constant coefficients, matrix methods. Series solutions of differential equations. (Prerequisite: 32. Repeated spring semester)

Fall Semester

T 6:00-9:00, Main Engineering 320

Spring Semester

M 6:00-9:00, Main Engineering 215

Math 40A. Introduction to Calculus of One and Several Variables. (Open to prebusiness students and Arts College nonmathematics majors only.) 5 degree credits, \$40, 42. \$55.

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 40A and must consult an adviser before registering.

Limits and derivative, differentiation of the elementary functions of one and several variables, with applications to rates of change, maxima and minima. Approximations by differentials. Integration with standard forms, applications to area and volume.

Symbols explained on page 20.

Evening Classes

Simple differential equations. (Prerequisite: 10 or 10A and either T or ∇ T or 12 or equivalent)

Spring Semester

TTh 6:20-7:45, Main Engineering 302

Math 60A. Operational Methods for Linear Systems. (Primarily for EE students) 3 degree credits. \$33.

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: 32. Repeated spring semester)

Fall Semester

W 6:00-7:40, Main Engineering 320

Spring Semester

W 6:00-7:40, Main Engineering 320

Math 65. Introduction to Programming Modern Digital Computers. 4 degree credits, \$Math 164-165-166. \$44.

Number systems. Computer organization. Elementary coding techniques. Scaling. Introduction to problem-oriented language. Program organization. Informal laboratory. (Prerequisite: 23 or 23A. Some informal laboratory time is required and will be determined as the class progresses. Repeated spring semester)

Fall Semester

W 6:00-7:40, Experimental Engineering
193

Spring Semester

W 6:00-7:40, Experimental Engineering
193

Math 90. Elementary Engineering Statistics. 3 degree credits. \$33.

Probability, permutations, and combinations. Frequency distributions. Introduction to sampling significance tests, regression charts. (Prerequisite: 23 or 23A. Repeated spring semester)

Fall Semester

W 6:20-8:00, Main Engineering 226

Spring Semester

W 6:20-8:00, Main Engineering 226

Math 147. Vector Analysis. 3 degree credits. \$33.

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: 32. Qualified students may register for graduate credit)

Fall Quarter

Th 6:00-8:40, Main Engineering 227

Math 148. Differential Equations. 3 degree credits, \$Math 150. \$33.

Linear differential and difference equations with constant coefficients, isoclines, phase plane, reduction in order, Picard's method, uniform convergence, series solutions, Bessel functions, Legendre polynomials, introduction to boundary value problems. (Prerequisite: 32 or 106. Qualified students may register for graduate credit)

Winter Quarter

Th 6:00-8:40, Main Engineering 227

Symbols explained on page 20.

Course Offerings—Engineering, Physical and Technical Sciences

Math 149. Determinants and Matrices. 3 degree credits, §Math 142. \$33.

Determinants, matrices, linear equations, vector spaces, quadratic and bilinear forms, characteristic roots, applications to systems of ordinary differential equations. (Prerequisite: 32. Qualified students may register for graduate credit)

Spring Quarter

Th 6:00-8:40, Main Engineering 227

Math 164-165-166.† Theory and Programming of Modern Digital Computers. 3 degree credits each quarter, §Math 65. \$33 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: 32 or § for 164; 164 or § for 165; 165 or § for 166. Qualified students may register for graduate credit)

Fall Quarter

164 M 6:00-8:40,
Architecture 5

Winter Quarter

165 M 6:00-8:40,
Architecture 5

Spring Quarter

166 M 6:00-8:40,
Architecture 5

Math 184. Elementary Numerical Analysis in Engineering. 3 degree credits. \$33.

Finite differences, interpolation, summation of series, numerical integration, Euler-MacLaurin formula and asymptotic expansions. Numerical solutions of systems of algebraic and transcendental equations. Newton's and Graeffe's method. (Prerequisite: 32 or 106. Qualified students may register for graduate credit)

Fall Quarter

T 6:00-8:40, Experimental Engineering 193

Math 185-186. Numerical Analysis in Engineering. 3 degree credits each quarter. \$33 each quarter.

Approximation of functions and least squares. Approximate solution of ordinary and partial differential equations, Moulton's, Runge's, relaxation and iteration methods. Calculation of eigenvalues of matrices and differential problems, Rayleigh-Ritz method. Integral equations. Programming of computers. (Prerequisite: 184 or § for 185; 185 or § for 186. Qualified students may register for graduate credit)

Winter Quarter

185 T 6:00-8:40, Ex-
perimental Engi-
neering 193

Spring Quarter

186 T 6:00-8:40, Ex-
perimental Engi-
neering 193

MECHANICAL ENGINEERING

Fulton Holtby, Associate Professor of Mechanical Engineering

William A. Kleinhenz, Associate Professor of Mechanical Engineering

Thomas E. Murphy, Associate Professor of Mechanical Engineering

K. Ogata, Professor of Mechanical Engineering

Symbols explained on page 20.

Evening Classes

Your attention is called to the Senior Mechanical Engineering Technician program; see page 55.

ME 22 (old 22A). Analysis of Mechanism Systems. 4 degree credits. \$44.

Kinematic analysis of mechanisms based upon constraint equations and Newtonian mechanics. Degrees of freedom of rigid body mechanisms. Geometric analysis. (Prerequisite: Math 32, MM 36 or Phys 21 or equivalent)

Fall Semester

Th 6:20-9:00, Mechanical Engineering 321

ME 23 (old 21A). Mechanical Engineering Systems Analysis. 4 degree credits. \$44.

Determination of response of engineering systems utilizing transfer function representation. Engineering systems analogies. (Prerequisite: 22)

Spring Semester

Th 6:20-9:00, Mechanical Engineering 321

ME 30A-31A (old 30, 31, 32). Thermodynamics. 4 degree credits each semester. \$44 each semester.

Properties, equations of state, and processes of thermodynamic systems and devices. Application of first and second laws correlating energy with heat, work, and mass transfer. Equilibrium and irreversibility. (Prerequisite: Phys 14 or 23, Math 32 or 147 for 30A; 30A for 31A)

Fall Semester

30A T 6:20-9:00, Mechanical Engineering 321

Spring Semester

31A T 6:20-9:00, Mechanical Engineering 321

ME 133. Heat Transmission. 3 degree credits. \$33.

Introduction to conduction, convection, and radiation of heat and their utilization in engineering applications. (Prerequisite: 30A and CE 101 or 103 or Aero 100 or Φ . Qualified students may register for graduate credit)

Fall Quarter

M 6:20-9:00, Mechanical Engineering 321

ME 134. Thermodynamics of Fluid Flow. 3 degree credits. \$33.

Thermodynamic analysis of internal flow of viscous and compressible fluids. Applications to various flow processes and components in engineering systems. (Prerequisite: 31A and CE 101 or Φ . Qualified students may register for graduate credit)

Spring Quarter

M 6:20-9:00, Mechanical Engineering 214

ME 160A. Thermal Environmental Engineering. 4 degree credits. \$44.

Thermodynamic properties of moist air; h-W diagram for moist air; solar radiation; steady-state and periodic heat transmission in structures; water vapor transmission in struc-

Symbols explained on page 20.

Course Offerings—Engineering, Physical and Technical Sciences

tures; effects of thermal environment upon people, processes and materials; thermal loads; thermal environmental control systems. (Prerequisite: 133. Qualified students may register for graduate credit)

Spring Semester

W 6:20-9:00, Mechanical Engineering
106

ME. Machine Design I-II. 5 certificate credits each semester. \$55 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 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: Math 11 or $\$$ for I; I for II)

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. \$55 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: Math 11 or $\$$. Limited to 20 students)

Fall Semester

M 6:20-9:20, Mechanical Engineering 106

ME. Instrumentation and Automatic Control. 5 certificate credits. \$55.

The first part of the course will be concerned with the more common types of automatic controls found in residential and commercial usage. These include two-position or on-off and proportional or throttling type control effects. These fundamental control actions will be studied thoroughly in both lecture and laboratory. Both electrical- and air-operated controls are included. The remainder of the course will deal with industrial instruments and automatic controls. The theory of control will be covered mathematically, descriptively, and graphically. Basic modes of control built into commercial industrial controllers such as proportional, automatic reset, and rate response will be covered in detail. Methods of obtaining these responses such as electrically, hydraulically, or pneumatically will be analyzed. Typical industrial control circuits will be investigated. This will involve analysis of all component parts such as the process measuring means, recording or indicating instrument, controller, and final control elements. (Prerequisite: Math 11)

Fall Semester

M 6:20-9:20, Mechanical Engineering 208, Ogata

ME. Value Engineering. 5 certificate credits. \$55.

An introduction to the principles of value engineering and value analysis. The systematic approach to achieving fulfillment of essential product functions and reliability

Symbols explained on page 20.

* Enrollment space limited; instructions on page 10.

Evening Classes

at lowest possible cost. The value analysis job plan, examples of high and low product value; comparisons of production processes, specific techniques of value improvement. (Prerequisite: Math 11 or #)

Spring Semester

M 6:20-9:20, Mechanical Engineering
302

°ME. Plastics Technology. 5 certificate credits. \$55 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

ME. An Introduction to Gas Turbines. 3 certificate credits. \$33.

Lecture course for persons with a technical background and interest in the modern automotive gas turbine. Topics covered: unit descriptions, compressors, turbines, combustion chambers, fuels, fuel controls, bearings, lubrication, materials, heat exchangers, matching of components and performance. (No prerequisite)

Fall Quarter

Th 6:20-9:00, Mechanical Engineering
221, Murphy

ME. Refresher Course for Mechanical Engineers. No credit. \$44.

This course is designed for practicing engineers, and will consist of lectures and problem sessions. (Prerequisite: BME or equivalent degree or completion of Parts I and II of State Board Examination)

Special Class

(January 3 to March 13)

W 6:00-9:00, Mechanical Engineering 321

MECHANICS AND MATERIALS

Gordon S. Beavers, Assistant Professor of Aeronautical Engineering

Allen A. Blatherwick, Associate Professor of Mechanics and Materials

°MM 35. Statics. 4 degree credits, §old MM 27. \$44.

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. Deformation of structures with axially loaded elements. (Prerequisite: Math 31 or §31, and Phys 11 or 21 or #; 35 may be substituted for 92. Limited to 30 students. Repeated spring semester)

Fall Semester

Th 6:20-8:40, Aeronautical Engineering
215, Blatherwick

Spring Semester

Th 6:20-8:40, Aeronautical Engineering
211, Beavers

Symbols explained on page 20.

° Enrollment space limited; instructions on page 10.

Course Offerings—Engineering, Physical and Technical Sciences

***MM 36. Dynamics.** 4 degree credits, §old MM 28 or §Phys 100 or §Phys 100A. \$44.

Introduction to vector calculus. Kinematics. Application of principles of particle motion. Conservation principles. Dynamics of particle systems and plane rigid bodies. Technical applications. (Prerequisite: Math 32 or ¶32, and Phys 11 or 21 or §. Limited to 30 students)

Fall Semester

Th 6:20-8:40, Aeronautical Engineering
211, Beavers

***MM 37. Deformable Body Mechanics.** 4 degree credits, §old MM 40. \$44.

Introductory treatment of stress and strain at a point. Stress-strain relation in two dimensions. Linear theory of torsion. Bending stresses. Deflection of determinate and indeterminate beams. Instability. (Prerequisite: 35, Math 31 or ¶31 or §; MM 37 may be substituted for 93. Limited to 30 students)

Spring Semester

Th 6:20-8:40, Aeronautical Engineering
215, Blatherwick

METALLURGY

Henry S. Jerabek, Associate Professor of Metallurgy

Met I-II. Physical Metallurgy. 3 certificate credits each semester. \$33 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, but high school chemistry and high school physics are strongly desirable; I for II or §)

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 21-21A. General Physics and Physics Laboratory. 5 degree credits. \$55 plus \$10 laboratory fee.

Classical mechanics. Lecture, quiz, and laboratory exercises in mechanics each week. (Prerequisite: Math 21 or Math 22A or Math 42 or ¶Math 22A or ¶Math 42; Phys 21 and 21A must be taken concurrently)

Fall Semester

MW 6:30-8:30, Physics 170, Harris

Symbols explained on page 20.

* Enrollment space limited; instructions on page 10.

Evening Classes

Phys 22-22A. General Physics and Physics Laboratory. 5 degree credits. \$55 plus \$10 laboratory fee.

Thermodynamics, sound, geometrical and physical optics and laboratory exercises in heat, sound, and optics. Lecture, quiz, and laboratory each week. (Prerequisite: 21 and Math 22 or Math 23A or Math 43 or ¶Math 23A or ¶Math 43; Phys 22 and 22A must be taken concurrently)

Spring Semester

MW 6:30-8:30, Physics 133, Harris

Phys 23-23A. General Physics and Physics Laboratory. 5 degree credits. \$55 plus \$10 laboratory fee.

Electricity and magnetism. Lecture, quiz, and laboratory exercises in electricity and magnetism each week. (Prerequisite: 22 and Math 23 or Math 23A or Math 44 or ¶Math 23A or ¶Math 44; Phys 23 and 23A must be taken concurrently)

Fall Semester

MW 6:30-8:30, Physics 166

Phys 50-50A. Intermediate General Physics and Physics Laboratory. 5 degree credits. \$55 plus \$10 laboratory fee.

Special relativity. Atomic view of matter, electricity, and radiation. Bohr model of atom. X-rays. Introduction to wave nature of matter and radioactivity. (Prerequisite: 6 or 9 or 23, Math 31 or Math 55 or ¶Math 31 or ¶Math 55; Phys 50 and 50A must be taken concurrently)

Spring Semester

MW 6:30-8:30, Physics 166

Phys 51-51A. Intermediate General Physics and Physics Laboratory. 5 degree credits. \$55 plus \$10 laboratory fee.

Elementary nuclear physics. Introduction to wave mechanics and solid state physics. Selected topics in modern physics. (Prerequisite: 50 and Math 32 or ¶Math 32 or Math 106 or ¶Math 106; Phys 51 and 51A must be taken concurrently)

Spring Semester

MW 6:30-8:30, Physics 170

Phys 111. Atomic and Nuclear Physics. 3 degree credits, \$Phys 50 or 51. \$33.

Emphasis on an interpretation of experimental phenomena. Topics include kinetic theory, Maxwell-Boltzmann distribution, special relativity, the nuclear atom, atomic and molecular structure and spectra, black-body radiation, wave mechanics, nuclear physics, modern developments in classical physics, astrophysics, particle physics. (Prerequisite: 107 and 109; Math 32 or 106. Qualified students may register for graduate credit)

Fall Semester

M 6:30-8:15, Physics 145

Symbols explained on page 20.

PHYSICAL EDUCATION

Margaret Dietz, Assistant Professor of Physical Education

H. Robert Giles, Associate Professor of Recreation

Belmar S. Gunderson, Instructor in Physical Education

Mary B. Lampe, Assistant Professor of Physical Education

Robert G. Mowerson, Assistant Professor of Physical Education

Lela June Stoner, Assistant Professor of Physical Education

Roy P. Tutt, Instructor in Physical Education

John Walker, 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 children's physical education classes. It is assumed that the health of adults registering for recreation classes will be equal to the demands of the activities in which they are to participate.

Registration for all children's physical education classes must be made *by mail*. (If you have not received an "Application Form," please telephone—*do not write*—the campus office, telephone 373-3949.) The envelope containing your application must be postmarked *on* or *after* Friday, September 1, 1967 for fall classes, and should be postmarked *no later* than September 8, 1967. Applications for winter classes must be postmarked *on* or *after* Friday, December 8, 1967, and should be postmarked *no later* than December 15, 1967. Applications for spring classes must be postmarked *on* or *after* Friday, March 1, 1968, and should be postmarked *no later* than March 8, 1968.

ACTIVITIES OPEN TO GIRLS

A health examination is required of all girls taking physical education classes. Each girl must bring a letter from her physician *to the first class meeting* stating approval of the activity in which she is registered.

*Swimming for Small Girls.†† No credit. \$16.50 plus \$2 laboratory 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 strokes); Advanced (those

Symbols explained on page 20.

* Enrollment space limited; instructions on page 10.

†† Registration by mail only. See box above.

Evening Classes

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

(January 6 to March 16)

Beginners

S 8:45-9:30, Norris Gym 51, Lampe

S 10:15-11:00, Norris Gym 51, Lampe

Advanced Beginners

S 9:30-10:15, Norris Gym 51, Lampe

Special Class

(March 30 to June 8)

Beginners

S 8:45-9:30, Norris Gym 51, Lampe

Advanced Beginners

S 9:30-10:15, Norris Gym 51, Lampe

Intermediates

S 10:15-11:00, Norris Gym 51, Lampe

ACTIVITIES OPEN TO BOYS

A health examination is required of all boys taking physical education classes. Each boy must bring a letter from his physician *to the first class meeting* stating approval of the activity in which he is registered.

*Swimming for Boys.†† No credit. \$16.50 plus \$2 laboratory fee.

A course in swimming for boys between the ages of 6 and 14 years *who are at least 50 inches tall*. Each boy must furnish his own towel and swimming suit. 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 more strokes; *Advanced Intermediates*—those who can swim 100 yards and demonstrate 4 different strokes; *Competitive Techniques*—same as Advanced Intermediates plus preparation for competitive swimming. (The first meeting will be used for the purpose of reclassifying swimmers where necessary. Each section limited to 20 boys)

Special Class

(March 30 to June 8)

Nonswimmers

S 9:45-10:30, Cooke Hall

Beginners

S 10:30-11:15, Cooke Hall

Advanced Beginners

S 11:15-12:00, Cooke Hall

Intermediates

S 9:45-10:30, Cooke Hall

Advanced Intermediates

S 10:30-11:15, Cooke Hall

Competitive Techniques

S 11:15-12:00, Cooke Hall

Symbols explained on page 20.

* Enrollment space limited; instructions on page 10.

†† Registration by mail only. See box on page 225.

ACTIVITIES OPEN TO BOYS AND GIRLS

A health examination is required of all children taking physical education classes. Each child must bring a letter from his or her physician *to the first class meeting* stating approval of the activity in which he is registered.

*Creative Dance for Boys and Girls.†† No credit. \$16.50 plus \$2 laboratory fee.

A course in creative 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. (Each section limited to 15 children)

Special Class

(January 6 to March 16)

Ages 5-7

S 9:30-10:15, Norris Gym, 151

Ages 8-11

S 10:30-11:15, Norris Gym 151

*Diving for Boys and Girls. No credit. \$16.50 plus \$2 laboratory fee.

A course in beginning diving for boys and girls between the ages of 10 and 16 years. (Prerequisite: Ability to perform a running front dive from the one meter [low] board. Instruction will be limited primarily to the low diving board. Each child must furnish his own suit and towel. Limited to 15 children)

Special Class

(September 30 to December 16)

S 10:00-10:45, Cooke Hall, Walker

ACTIVITIES OPEN TO WOMEN

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.

*Golf (Beginning). No credit. \$22 plus \$3 laboratory 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. (Limited to 20 students)

Special Class

(March 26 to June 4)

T 5:30-6:30, Norris Gym 60, Gunderson

Symbols explained on page 20.

* Enrollment space limited; instructions on page 10.

†† Registration by mail only. See box on page 225.

Evening Classes

°Golf (Intermediate). No credit. \$22 plus \$3 laboratory 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. (Prerequisite: some knowledge of and experience in golf. Each section limited to 20 students)

Special Class

(March 26 to June 4)

T 6:30-7:30, Norris Gym 60, Gunderson
T 7:30-8:30, Norris Gym 60, Gunderson

°Swimming (Beginning and Advanced Beginning). No credit. \$22 plus \$2 laboratory fee.

For those who have had no previous experience in swimming, and for those who are able to float and swim in shallow water. (Limited to 25 students)

Special Class

(September 26 to December 12)

T 6:45-7:45, Norris Gym 51, Stoner

°Swimming (Intermediate). No credit. \$22 plus \$2 laboratory fee.

For those who are able to swim in deep water but wish to perfect their swimming strokes. Instruction in diving is included. (Limited to 25 students)

Special Class

(September 26 to December 12)

T 7:45-8:45, Norris Gym 51, Stoner

ACTIVITIES OPEN TO MEN

°Golf—for Men. No credit. \$22 plus \$3 laboratory fee.

The fundamentals of golf. The first six meetings will be held in the golf gymnasium; the last five meetings will be held, weather permitting, at the University Golf Course. The outdoor schedule is adjusted to light. Students will furnish their own clubs. (Each section limited to 20 men)

Special Class

(March 25 to June 3)

M 6:00-7:00, South Tower Stadium, Tutt
M 7:00-8:00, South Tower, Stadium, Tutt
M 8:00-9:00, South Tower, Stadium, Tutt

Swimming—for Men. No credit. \$22 plus \$2 laboratory fee.

Class and individual instruction for beginners in all swimming strokes, in diving, and in fundamentals of lifesaving.

Special Class

(March 25 to June 3)

M 8:00-9:00, Cooke Hall, Giles

Symbols explained on page 20.

° Enrollment space limited; instructions on page 10.

ACTIVITIES OPEN TO MEN AND WOMEN

*Fencing. No credit. \$22 plus \$3 laboratory fee.

For those who have had no previous experience in fencing. Course includes the basic techniques of fencing offense and defense with some experience in fencing bouts. (Limited to 24 students)

Special Class

(September 26 to December 12)

T 5:45-6:45, Norris Gym 60, Stoner

*Modern Dance. No credit. \$22 plus \$3 laboratory fee.

Course emphasis is on basic techniques and elements of dance movement and individual creativity. (Prerequisite: 16 years or older. Limited to 20 students)

Special Class

(September 26 to December 12)

T 6:45-7:45, MacPhail Center 104, Dietz

*SCUBA—for Men and Women. No credit. \$33 plus \$2 laboratory 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 under water, 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. Each section limited to 18 students)

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 \$1.50 per session. This includes tank refill. Instructor will bring equipment to and from pool.

Special Class

(September 27 to December 13)

W 7:30-9:30, Cooke Hall Pool, Mowerson

Special Class

(March 13 to June 5)

W 7:30-9:30, Cooke Hall Pool, Mowerson

*PEW C12. Water Safety Instruction. 2 degree credits. \$44 plus \$2 laboratory fee.

A review of life saving and water safety techniques, methods and materials for men and 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

Symbols explained on page 20.

* Enrollment space limited; instructions on page 10.

Minneapolis Campus Classes Listed by Quarters

Minneapolis Campus 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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Classes offered at the MacPhail Center, 1128 LaSalle Avenue, Minneapolis, are listed here. Please do not register using this list alone. Look up the classes you want on the pages referred to in the list.

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Classes offered at the St. Paul General Extension Center, at Ninth and Exchange, are listed here. Please do not register using this list alone. Look up the classes you want on the pages referred to in the list.

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Classes offered on the St. Paul Campus are listed here. Please do not register using this schedule alone. Look up the classes you want on the pages referred to in the list.

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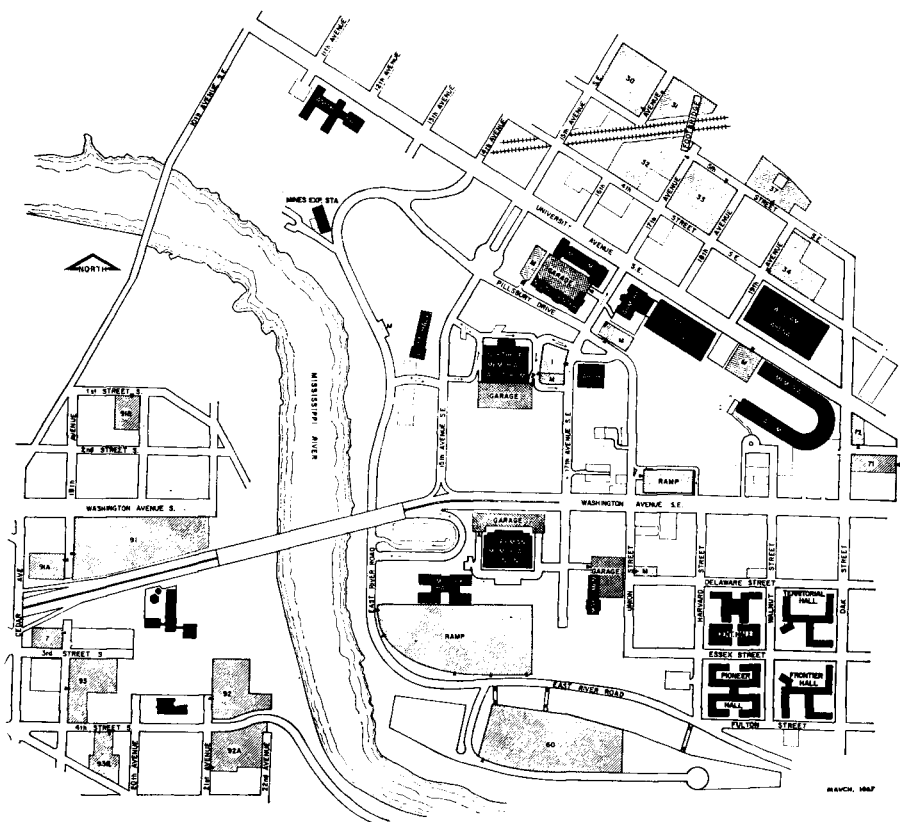
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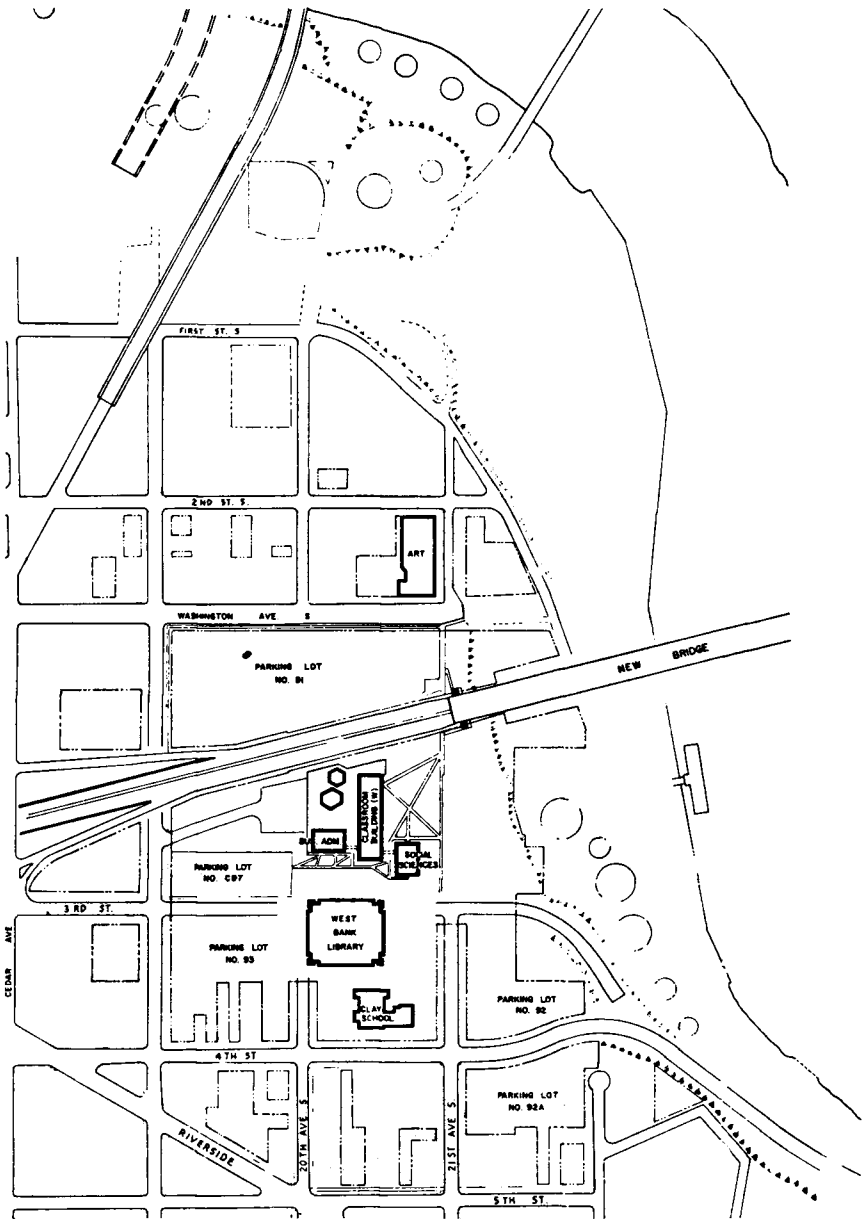
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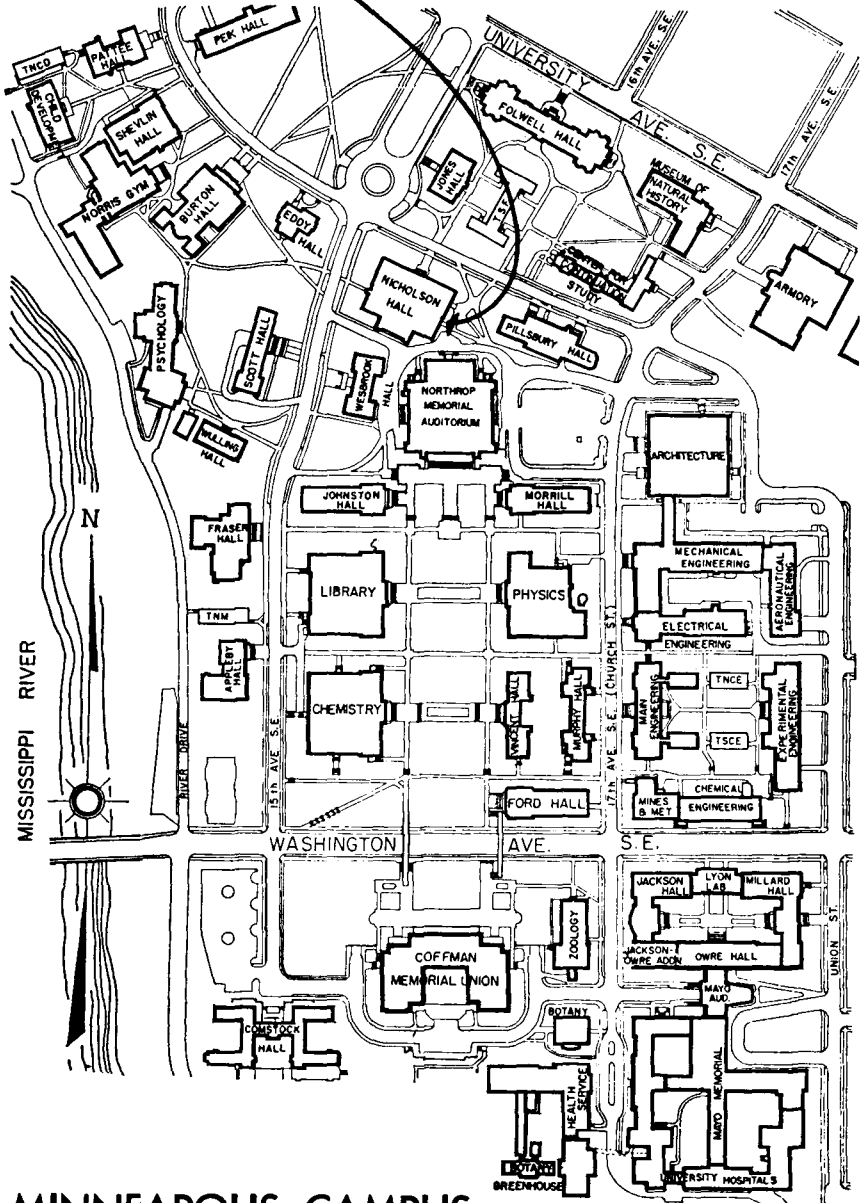


PARKING FACILITIES (Minneapolis Campus)



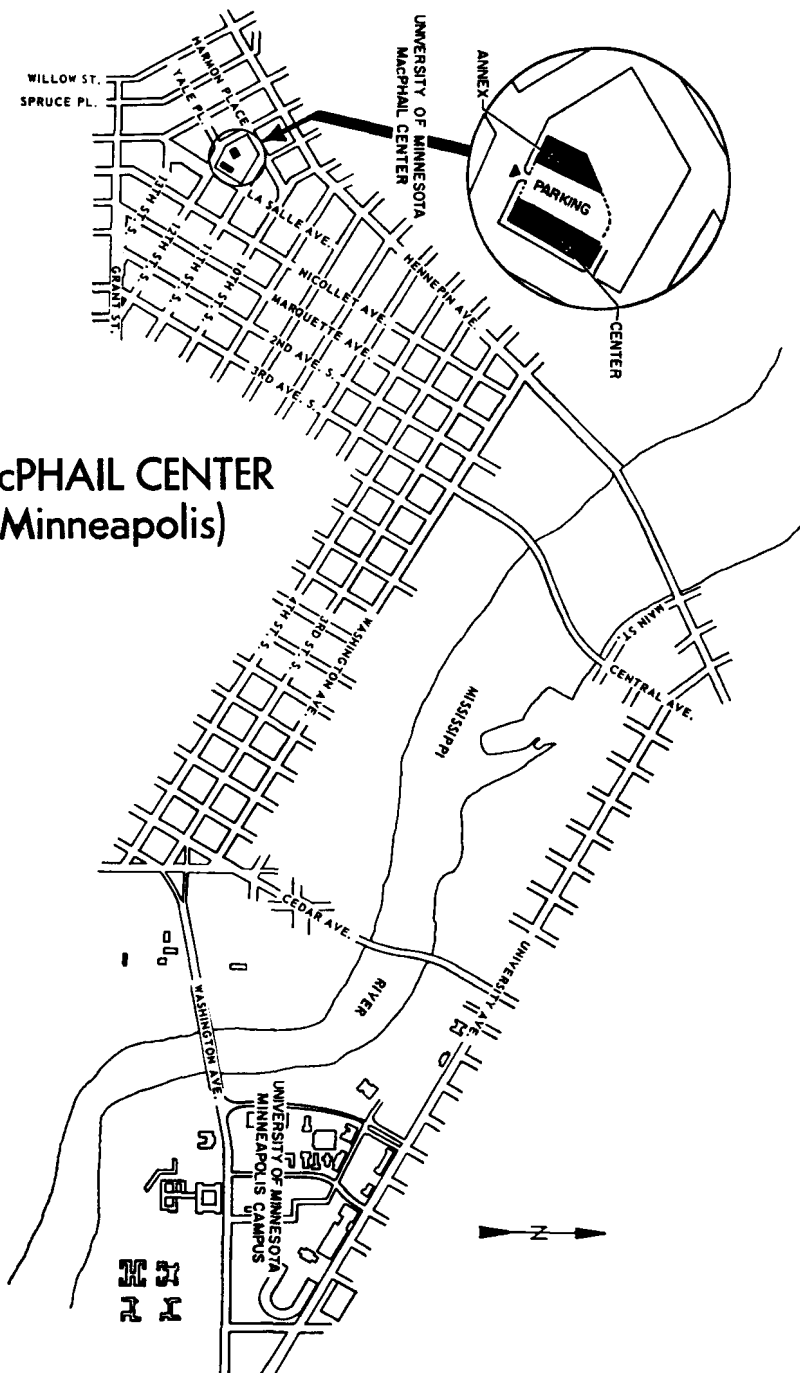
MINNEAPOLIS CAMPUS (WEST)

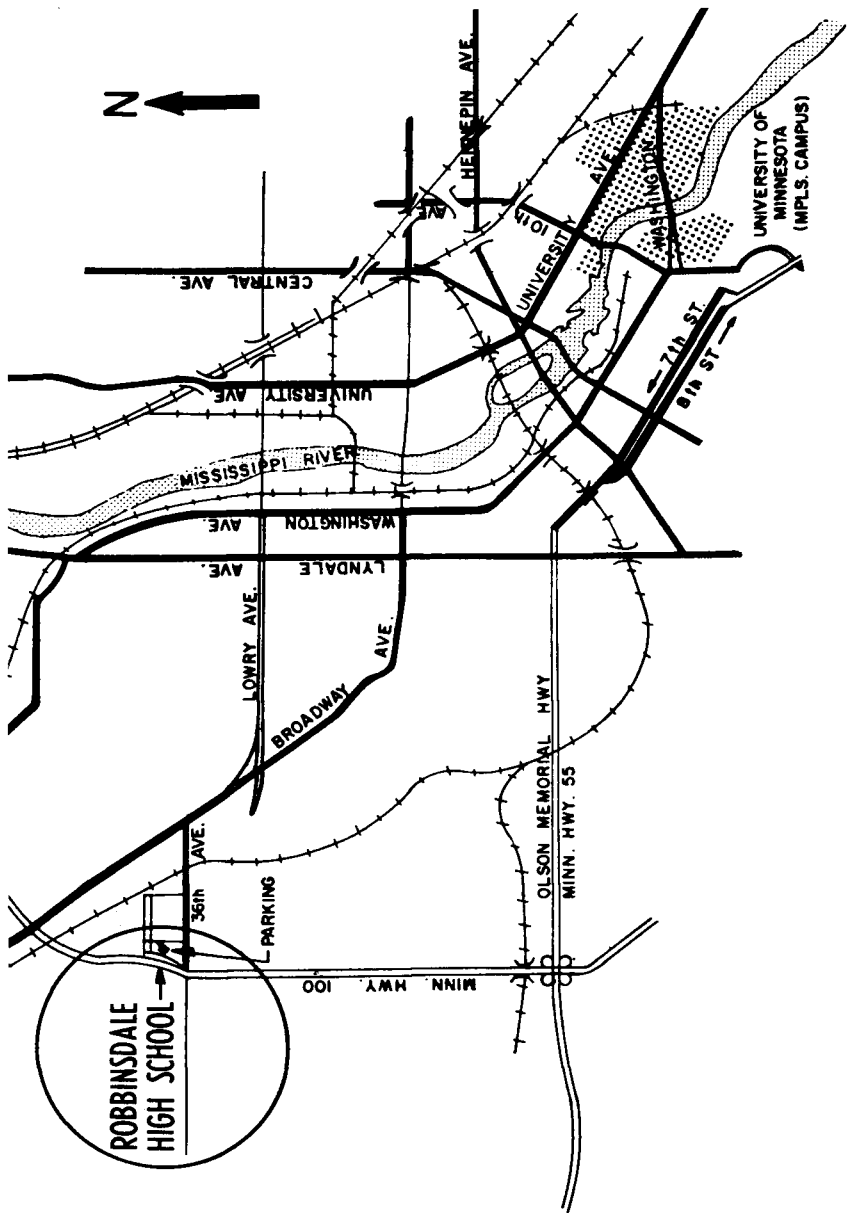
The MAIN OFFICE of the GENERAL EXTENSION DIVISION is located in NICHOLSON HALL. Students should use entrance immediately behind NORTHROP AUDITORIUM.



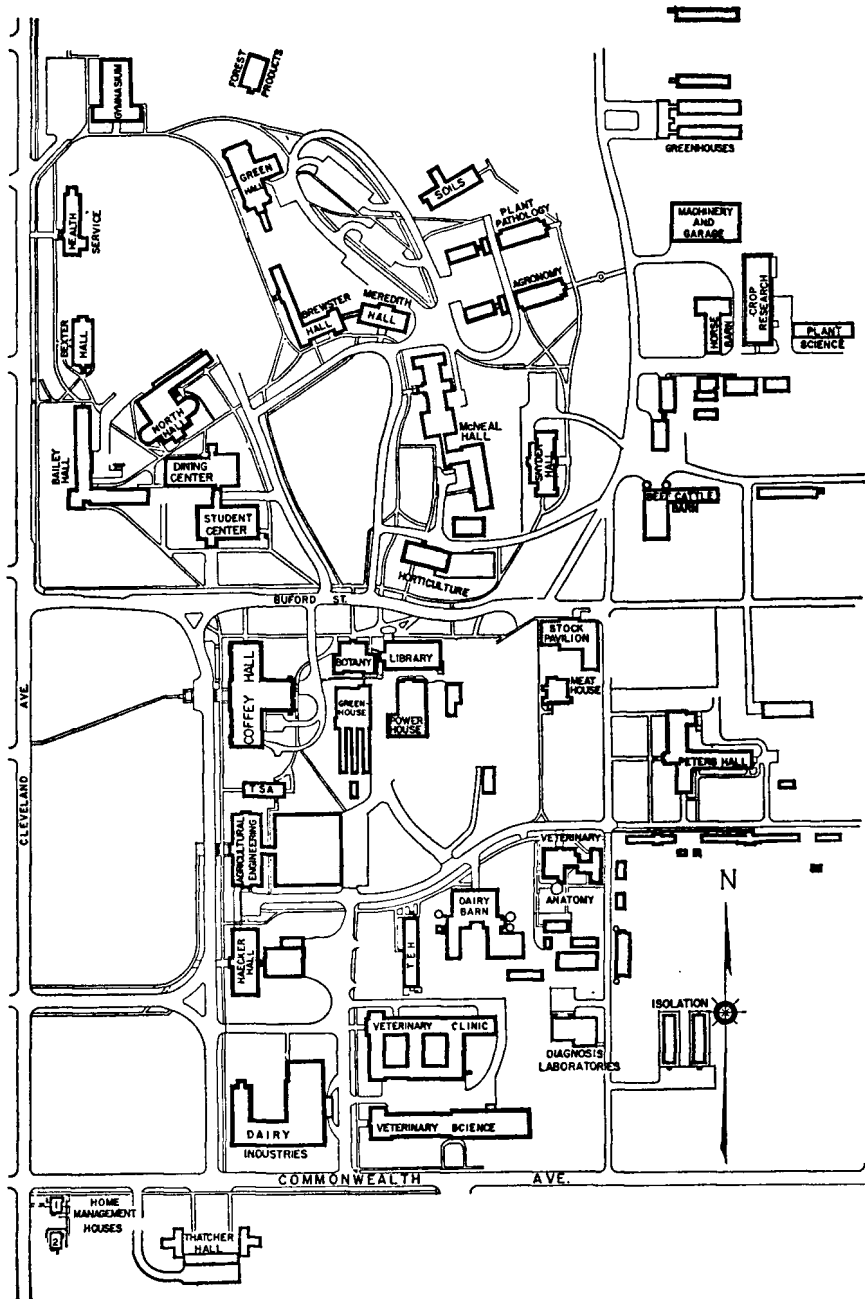
MINNEAPOLIS CAMPUS (EAST)

MacPHAIL CENTER (Minneapolis)

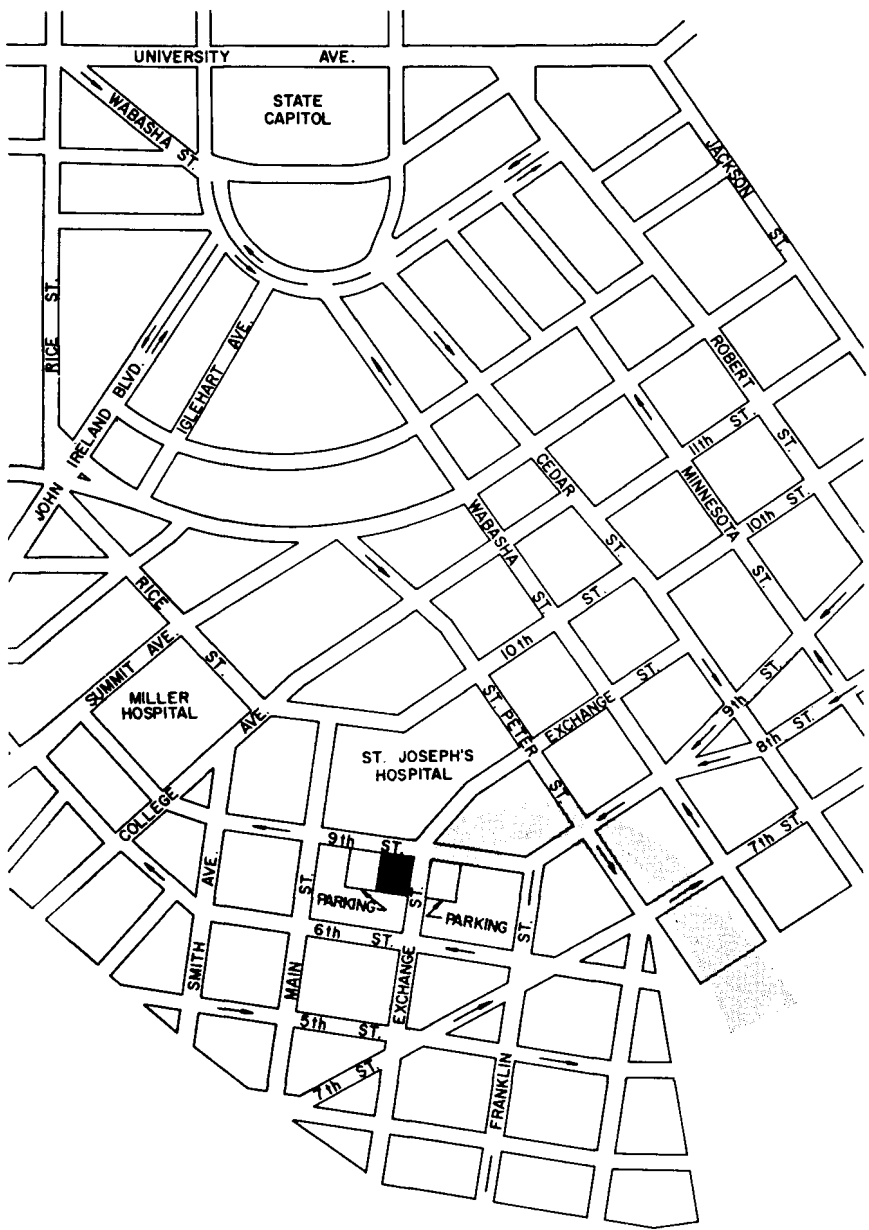




NORTHWEST SUBURBAN EXTENSION CENTER (Use South Entrance)



ST. PAUL CAMPUS



ST. PAUL EXTENSION CENTER

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We wish to help you register for evening classes in the simplest and easiest manner possible. *The simplest procedure is to register by mail.* However, all registrations must be on official registration forms. Complete and mail the attached card now. It is understood that registration can be only for the current term involved.

PLEASE NOTE—Students may *not* secure registration forms for limited classes through the mail.* Please refer to the Mail Registration section in this bulletin for a detailed explanation of mail registration procedures. Request the number and kinds of registration forms by accurately filling in and mailing the attached card.

DEPARTMENT OF EVENING CLASSES—GENERAL EXTENSION DIVISION—UNIVERSITY OF MINNESOTA

Please send registration forms for the following numbers and kinds of classes:*

Number of Semester Classes _____

Number of Quarter Classes _____

Number of Special Term Classes _____

Number of Special Classes _____

* Students registering for limited classes must secure a limited class reservation card at an evening class office. Registration forms will be mailed out the week prior to registration. Please consult the *Evening Class Bulletin* for days, dates, and hours at which limited class reservation cards can be secured.

Name

Street Address

City State Zipcode

Home Telephone _____

Business Telephone _____

Ext. _____

PLEASE PRINT

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**Department of Evening Classes
57 Nicholson Hall
University of Minnesota
Minneapolis, Minnesota 55455**

We wish to help you register for evening classes in the simplest and easiest manner possible. *The simplest procedure is to register by mail.* However, all registrations must be on official registration forms. Complete and mail the attached card now. It is understood that registration can be only for the current term involved.

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Name

Street Address

City State Zipcode

Home Telephone _____

Business Telephone _____

Ext. _____

PLEASE PRINT

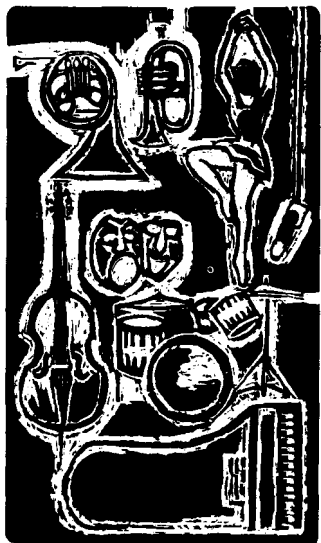
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57 Nicholson Hall
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in cooperation with the University Department of Music

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Minneapolis, Minnesota 55455

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For program bulletin
Telephone: 373-5030

UNIVERSITY OF MINNESOTA TELEVISION

1 Eddy Hall
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Minneapolis, Minnesota 55455

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Art History	Sociology
History	Political Science

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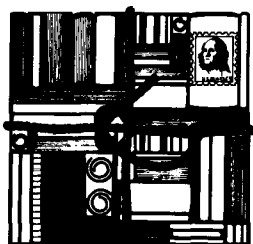
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Minneapolis, Minnesota 55455

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CORRESPONDENCE STUDY DEPARTMENT

254 Nicholson Hall
University of Minnesota
Minneapolis, Minnesota 55455

Educational opportunities of the General Extension Division

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373-3810**
- CIVIL DEFENSE EDUCATION, 105 Clay School 373-4850**
- CONFERENCES AND INSTITUTES, 131 Nolte Center for Continuing
Education 373-3151**
- CONTINUATION MEDICAL EDUCATION, 1342 Mayo 339-7311
Ext. 2748**
- CONTINUING BUSINESS EDUCATION, 1235 Business Administra-
tion 373-3680**
- CONTINUING EDUCATION IN ART, 316 Nolte Center for Con-
tinuing Education 373-5147**
- CONTINUING EDUCATION IN DENTISTRY, 310 Owre Hall
373-2535**
- CONTINUING EDUCATION IN ENGINEERING AND SCIENCE,
214 Nolte Center for Continuing Education 373-5057**
- CONTINUING EDUCATION FOR WOMEN, 308 Nolte Center for
Continuing Education 373-5166**
- CONTINUING LEGAL EDUCATION, 338 Nolte Center for Continu-
ing Education 373-5386**
- CONTINUING PHARMACY EDUCATION, 115 Appleby Hall 373-
3186**
- COUNSELING, 154 Nicholson Hall 373-3905**
- DRAMA ADVISORY SERVICE, 320 Wesbrook Hall 373-4947**
- LABOR EDUCATION SERVICE, 423 Business Administration Building
373-3662**
- MUNICIPAL REFERENCE BUREAU, 314 Social Sciences Building
373-2321**
- OFF-CAMPUS CLASSES, 315 Nolte Center for Continuing Education
373-5166**
- PARENT AND FAMILY LIFE EDUCATION, 231 Nolte Center for
Continuing Education 373-3685**
- SPECIAL COURSES, 315 Nolte Center for Continuing Education 373-
5166**
- STATE ORGANIZATION SERVICE, 2001 Riverside Avenue 373-3750**
- WORLD AFFAIRS CENTER, 122 Social Sciences Building 373-3799**

Educational opportunities of the General Extension Division

BUILDING ABBREVIATIONS

- A, Armory
AE, Aeronautical Engineering
AgEng, Agricultural Engineering (St. Paul Campus)
Arch, Architecture
ArtB, Art Building (2020 Washington Avenue South)
- BA, Business Administration Building (West Bank)
Bu, Burton Hall
- C, Chemistry
CB, Classroom Building (West Bank)
CII, Cooke Hall
CMU, Coffman Memorial Union
CofH, Coffey Hall (St. Paul Campus)
- E, Main Engineering
Ex, Experimental Engineering
- FolH, Folwell Hall
ForH, Ford Hall
- III, Haecker Hall (St. Paul Campus)
HolB, Holman Building (2035 University Avenue)
Hr, Horticulture (St. Paul Campus)
- J, Jones Hall
JohH, Johnston Hall
- Lib, Walter Library
- MacP, MacPhail Center (1125 LaSalle Avenue, Minneapolis)
- McNH, McNeal Hall (St. Paul Campus)
ME, Mechanical Engineering
MH, Millard Hall
MinMet, Mines and Metallurgy
MNII, Museum of Natural History (Auditorium)
MurH, Murphy Hall
MusEd, Music Education
- NGW, Norris Gymnasium for Women
NH, Nicholson Hall
NMA, Northrup Memorial Auditorium
- Owre, Owre Hall
- P, Pillsbury Hall
PeikH, Peik Hall
Ph, Physics
- RIIS, Northwest Suburban Extension Center, Robbinsdale High School (5214-37th Avenue North)
- ScH, Scott Hall
SciB, Science Classroom Building
SocSci, Social Sciences Building (West Bank)
StP Ext Center, St. Paul General Extension Center (9th and Exchange)
- VetC, Veterinary Clinic (St Paul Campus)
VH, Vincent Hall
- WeH, Westbrook Hall
WuH, Wulling Hall