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**GENERAL EXTENSION DIVISION**

**WINN-DIXIE CITIES 1965-1966**

**EVENING AND SPECIAL  
CLASSES**

**UNIVERSITY OF MINNESOTA BULLETIN**

# UNIVERSITY OF MINNESOTA

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Continuing Legal Education, Austin Anderson, 212 Center for Continuation Study Building  
Correspondence Study, F. Lloyd Hansen, 251 Nicholson Hall  
Divisional Relations, Beverly Sinniger, 153 Nicholson Hall  
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Municipal Reference Bureau, Orville Peterson, 15 Walter Library  
Off-Campus Classes, Harold Alford, 204 Center for Continuation Study Building  
Radio and Television Broadcasting, Burton Paulu, 1 Eddy Hall  
State Organization Service, William C. Rogers, 167a Social Science Building, West Bank  
World Affairs Center, William C. Rogers, 167a Social Science Building, West Bank

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# Calendar of Evening and Special Classes

## Academic Year, 1965-66

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

1965-1966

September	7-9		Limited class reservations available. See page 14.
September	13	Monday	<i>Fall Semester registration begins.</i> Special registration hours listed on page 5.
September	22	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 12).
September	23-25		All offices closed.
September	27	Monday	<i>Fall Semester classes begin.</i> All offices resume regular office hours listed on page 4.
October	12	Tuesday	Columbus Day, holiday.
November	11	Thursday	Veterans Day, holiday.
November	25	Thursday	Thanksgiving Day, holiday.
December	18	Saturday	Christmas recess begins.
December	25	Saturday	Christmas Day, holiday.
January	1	Saturday	New Year's Day, holiday.
January	3	Monday	Classes resume.
January	24-28		Final examination period.
January	29	Saturday	<i>Fall Semester closes.</i>

### Spring Semester

January	25-27		Limited class reservations available. See page 14.
January	31	Monday	<i>Spring Semester registration begins.</i> Special registration hours listed on page 5.
February	9	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 12).
February	10-12		All offices closed.
February	12	Saturday	Lincoln's Birthday, holiday.
February	14	Monday	<i>Spring Semester classes begin.</i> All offices resume regular office hours listed on page 4.
February	22	Tuesday	Washington's Birthday, holiday.
April	8	Friday	Good Friday, holiday.
May	30	Monday	Memorial Day, holiday.
June	6-10		Final examination period.
June	11	Saturday	<i>Spring Semester closes.</i>

### Special Terms

The opening and closing dates of any class taught on a special term basis are listed below the description of each class. *Registration for these classes should be made during regular office hours at any office during the week before these classes begin.* Late fee goes into effect at midnight Friday of the week before the class begins.

### Fall Quarter

September	7-9		Limited class reservations available. See page 14.
September	13	Monday	<i>Fall Quarter registration begins.</i> Special registration hours listed on page 5.
September	22	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 12).
September	23-25		All offices closed.
September	27	Monday	<i>Fall Quarter classes begin.</i> All offices resume regular office hours listed on page 4.
October	12	Tuesday	Columbus Day, holiday.
November	11	Thursday	Veterans Day, holiday.
November	25	Thursday	Thanksgiving Day, holiday.
December	13-17		Final examination period.
December	18	Saturday	<i>Fall Quarter closes.</i>

### Winter Quarter

December	14-16		Limited class reservations available. See page 14.
December	20	Monday	<i>Winter Quarter registration begins.</i> Regular office hours all offices as listed on page 4.
December	25	Saturday	Christmas Day, holiday.
December	31	Friday	<i>Last day for registration and payment of tuition.</i> Late fee goes into effect at midnight. Mail registrations postmarked after midnight must include late fee (see Mail Registrations, page 12).
January	1	Saturday	New Year's Day, holiday.
January	3	Monday	<i>Winter Quarter classes begin.</i>
February	12	Saturday	Lincoln's Birthday, holiday.
February	22	Tuesday	Washington's Birthday, holiday.
March	14-18		Final examination period.
March	19	Saturday	<i>Winter Quarter closes.</i>

### Spring Quarter

March	8-10		Limited class reservations available. See page 14.
March	14	Monday	<i>Spring Quarter registration begins.</i> Regular office hours all offices as listed on page 4.
March	25	Friday	<i>Last day for registration and payment of tuition.</i> Late fee goes into effect at midnight. Mail registrations postmarked after midnight must include late fee (see Mail Registrations, page 12).
March	28	Monday	<i>Spring Quarter classes begin.</i>
April	8	Friday	Good Friday, holiday.
May	30	Monday	Memorial Day, Holiday.
June	6-10		Final examination period.
June	11	Saturday	<i>Spring Quarter closes.</i>

### 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 recreation classes* is explained on page 172.

## Department of Evening and Special Classes Offices

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

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

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

*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 in Robbinsdale listed in separate bulletin.)

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

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

### Regular Office Hours

*Campus Office:*

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

*Minneapolis 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.)

During Christmas recess, December 18, 1965, through January 2, 1966, the Campus and St. Paul Offices will close Monday through Friday at 5 p.m., except December 29-30-31 when all offices will be open until 8 p.m.

## Registration Office Hours\*

**Note:** At the Campus Office during Fall Quarter and Fall Semester, registration will be held in 211 Nicholson Hall; during Winter and Spring Quarters, registration will be held in 57 Nicholson Hall; during Spring Semester, registration will be held in 57 Nicholson Hall from 12 noon to 4 p.m. on weekdays and in 211 Nicholson Hall from 5 p.m. to 8 p.m. on weekdays and from 9 a.m. to 1 p.m. on Saturday, February 5, 1966.

### Fall Quarter and Semester (September 13-22, 1965)

#### *Campus Office* (211 Nicholson Hall):

Monday through Friday ..... 12 noon to 4 p.m.  
5 p.m. to 8 p.m.  
Saturday (September 18, 1965) ..... 9 a.m. to 1 p.m.

#### *Minneapolis Office:*

Monday through Friday ..... 12 noon to 8 p.m.  
Saturday (September 18, 1965) ..... 9 a.m. to 1 p.m.

#### *St. Paul Office:*

Monday through Friday ..... 12 noon to 8 p.m.  
Saturday (September 18, 1965) ..... 9 a.m. to 1 p.m.

#### *Robbinsdale Office:*

Monday through Friday ..... 8 a.m. to 4 p.m.  
Saturday (September 18, 1965) ..... 9 a.m. to 12 noon

All Offices Closed September 23, 24, and 25.

### Winter Quarter (December 20-31, 1965)

Regular office hours for Campus Office, Minneapolis Office, and St. Paul Office as listed on page 4.

#### *Robbinsdale Office:*

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

### Spring Semester (January 31-February 9, 1966)

Same as Fall Quarter and Semester registration hours for Campus Office, Minneapolis Office, and St. Paul Office. (Robbinsdale Office CLOSED).

Saturday (February 5, 1966) ..... 9 a.m. to 1 p.m.

*On the campus, registration is in 57 Nicholson Hall from 12 noon to 4 p.m. on weekdays; registration is in 211 Nicholson Hall from 5 p.m. to 8 p.m. on weekdays and from 9 a.m. to 1 p.m. on Saturday.*

All Offices Closed February 10, 11, and 12.

### Spring Quarter (March 14-25, 1966)

Regular office hours for Campus Office, Minneapolis Office, and St. Paul Office as listed on page 4.

#### *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 4. Also see instructions for reserving places in limited classes, page 14.

# Department of Evening and Special Classes

## Twin Cities Area

(An index will be found on pages 187-190)

The purpose of the Department of Evening and Special 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

#### 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 10.)

#### Auditors

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

These regulations apply to all classes listed in this bulletin.

#### 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 8.

#### 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 adminis-



trative officer. Its purpose is to interpret and enforce regulations, 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.

### Correspondence Study Courses

A large selection of correspondence study courses is available. Much of the work required for Extension certificates and for some University degrees may be earned through correspondence study. Bulletins are available from any Extension office or from Director, Correspondence Study Department, 254 Nicholson Hall, University of Minnesota, Minneapolis, Minnesota 55455.

### Course Numbering

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

### Credits

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

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

Occasionally a course may carry less degree credit in evening classes than in day classes. If it carries the same course number as 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 41.

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

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

### **Degree Programs**

(See page 41)

### **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 Certificate Programs**

(See page 21)

### **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**

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

### **Grades**

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

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

There is a temporary grade of I (incomplete), assigned when the instructor has insufficient information to permit a permanent grade. It indicates that some required work is unfinished or that the student, though officially registered, did not attend or left with-

out officially canceling. It is strongly urged, therefore, that a student officially cancel any class which he quits attending even after the refund period; otherwise a grade of I (incomplete) will appear on his record. An I which is not turned into a permanent grade within 1 year from the time it is assigned shall become an F at such time as the student indicates his intention of applying his credits to a degree or certificate or other University of Minnesota program, or of transferring his credits to another institution. An extension of time may be permitted for removal of an I grade upon recommendation of the instructor concerned and approval of the Extension Scholastic Committee. If an extension of time is granted, a special examination fee of \$5 will be required.

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

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

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

**Grade 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 10)

## Graduate Credit

For the Master's degree, a graduate student may, upon the approval of his graduate adviser, petition the dean of the Graduate School to have transferred to his graduate record not more than 9 quarter credits in evening courses taught by members of the graduate faculty and numbered 100 and above. For the Specialist Certificate programs in education, the same regulations apply as for the Master's degree. For the Doctor's degree, a maximum of 6 credits in evening courses may be transferred for use in the collateral field of knowledge only, provided the courses are taught by members of the graduate faculty and numbered 100 or above. Please see the *Bulletin of the Graduate School* for fuller explanation. Also see Registering for Graduate Credit, page 13.

## Nonresidents

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

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

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### **Prerequisites**

The purpose of a prerequisite is to establish who is eligible to register for the course. You will find the prerequisite of any course listed at the end of the course description. Usually there is no prerequisite for beginning courses. However, if these courses have two or more parts, these parts must be taken in sequence unless otherwise indicated. Most advanced courses do have prerequisites and cannot be carried satisfactorily unless the student has had the stated previous course or its equivalent. In some instances, mature students who have had a reasonable equivalent of study, training, or experience related to the course desired may be exempted from the prerequisite by the instructor. In such instances the symbol # will appear in the prerequisite listing. If you are in doubt as to your qualifications for a course, but believe you are qualified, register for the course and consult the instructor at the first class session. If the instructor decides that you are not qualified, or that the course does not meet your needs, your class card 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 15). 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.

### **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.
- o 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 14.
- † 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.

### **Television Courses for Credit**

A selection of freshman- and sophomore-level courses is offered for credit by the General Extension Division, using the facilities of KTCA-TV. For further information, see page 177 of this bulletin or telephone the University Television College office, 373-5030.

### **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 post-card 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, University of Minnesota, Minneapolis, Minnesota 55455; telephone 373-2149.

### **Transferring Credits Earned in Extension**

A student wishing to have 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 contact that institution to determine how credits will transfer.

### **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, 52 Nicholson Hall, Minneapolis Campus, telephone 373-3905. This should be done immediately following the close of any registration period. A student who wants help in planning a program is urged to bring his transcript with him when he comes to see an Extension adviser. He may leave it with the adviser for evaluation. See Program Advising, page 20. Obtain transcripts from the registrar of an institution previously attended.

### **Transfers Within the University**

A student who wishes to transfer from day classes to evening classes may do so without going through formal transfer procedures. However, if the student plans to complete a degree program, he should consult an Extension adviser. Please read the sections on Day School Students, page 8, and Degree Programs, page 41.

## **REGISTRATION PROCEDURES**

### **Registration Periods**

The dates for all registration periods are designated in the calendar, beginning on page 2. The registration hours for all periods at all offices are stated on page 5.

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

### **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

## Evening and Special Classes

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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 7).

The description of the course content follows. Such regulations as prerequisites, class size limitations, number of meetings, etc., will be found in the parenthetical statement following the course description. (See Prerequisites, page 10).

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

**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.

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 14.

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 and Special Classes, Room 55 Nicholson Hall, Minneapolis Campus; telephone 373-4871. Normally, such registrations must be made in person.

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

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

Please read the section on Limited Classes, page 14.

### Payment of Fees

The full amount of the tuition and other fees is payable at the time of registration. No arrangements for partial payment can be made. Checks or money orders must be drawn for the exact amount due and made payable to the University of Minnesota. Students in need of special financial assistance see Extension Student Loan Fund, page 19.

*A student is not registered until his fees are paid.*

### 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 55 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 16.

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

A student registering for graduate credit *must request at the time of tallying* that the appropriate class card be stamped "graduate credit requested." This will ensure record of graduate credit on the instructor's grade report which will be filed with the Office of Admissions and Records. Upon completion of a course, or at a later date if more appropriate, the student must then initiate the petition to the dean of the Graduate School. Petition to transfer is limited to credits earned in evening classes since September 1958.

Also see Graduate Credit, page 9.

## *Evening and Special Classes*

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### **Work Load**

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

### **Limited Classes**

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

Students may obtain reservation cards, according to the schedule listed below, at registration offices in advance of the opening of registration periods, and also during the registration periods, 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 cards have not been turned in *and fees paid* by that time, the places will be released.

Schedule for picking up reservation cards:

*Fall Quarter and Semester:* Tuesday through Thursday, September 7-9, 5 to 8 p.m.

*Winter Quarter:* Tuesday through Thursday, December 14-16, 5 to 8 p.m.

*Spring Semester:* Tuesday through Thursday, January 25-27, 5 to 8 p.m.

*Spring Quarter:* Tuesday through Thursday, March 8-10, 5 to 8 p.m.

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

Registration for limited classes may be made by mail, provided the student has picked up the reservation card in person. No reservation cards will be mailed to students. Date of mail registration is determined by the postmark.

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

### **Late Registrations and Additions**

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

Semester classes—during first week \$3.

Quarter classes—during first week \$3.

Special Term classes—during first week \$3.

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

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

These special fees are not included in the privileges of Public 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 following transfer fees:

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

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

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

*Transfers after the periods designated above are not encouraged and normally will not be permitted. If accepted they will be subject to a \$5 transfer fee the second week and a \$10 transfer fee thereafter. No transfers will be allowed in the last 2 weeks of any term.*

*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.

## Cancellations

Any student who drops out or wishes to drop out of classes is urged to make an official cancellation at once, either in person or by writing any Extension office. By so doing, he will receive a refund *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 automatically 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. Official cancellation of registrations must be made in person or by writing any Extension office; telephone calls are not acceptable. *No instructor is authorized to accept cancellation of any registration. The effective date of cancellation will be the day on which the cancellation is received in any Extension office, regardless of the date of last attendance. It is urgent, therefore, that students officially cancel by filling out the appropriate forms at any Extension office whenever they stop attending a class.*

## 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, day, or location of the class is changed by the Extension Division, after a student has registered in it; or when, *in the opinion of the instructor*, the student does not have the necessary prerequisites or the class does not meet the student's needs or the student has already had the equivalent material in

## Evening and Special Classes

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. A \$3 registration fee will be charged for cancellation of classes on or before the first class meeting in any semester, quarter, or special term. The balance of the tuition and special fees will be refunded.

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

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

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

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

The Department of Evening and Special Classes is a self-supporting unit of the University of Minnesota. Its classes are organized for those who request instruction. After the department has thus accepted its obligation to conduct classes and to assume the instructional costs of a full semester, quarter, or special term, *no refunds or re-adjustment 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.

### **Departmental Cancellation of, or Change in, Scheduled Classes**

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

## **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.

All branches of the Armed Services now provide Off-Duty Academic Instruction or Tuition Assistance Programs for military personnel on active duty. There are no application forms necessary for admission to the Evening and Special Classes division. Under these programs, eligible military personnel may be entitled to payment of \$7.50 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 55 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.

### **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).

## **SPECIAL SERVICES FOR STUDENTS**

### **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 5 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

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

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student athletic ticket sale headquarters on campus the week before classes begin. *Paid fee statement is required to purchase ticket.* The ticket sale schedule will be as follows:

- Wednesday, September 22, 9 a.m.-4 p.m.
- Thursday, September 23, 9 a.m.-9 p.m.
- Friday, September 24, 9 a.m.-4 p.m.
- Saturday, September 25, 9 a.m.-2 p.m.
- Monday, September 27, 9 a.m.-9 p.m.
- Tuesday, September 28, 9 a.m.-4 p.m.

All ticket sales will be held in Williams Arena Lobby. Reserved seat season tickets will be issued in Williams Arena Lobby on Thursday and Friday, September 30 and October 1, from 9 a.m. to 4 p.m., and Saturday, October 2, from 9 a.m. to 2 p.m.

Students who want to attend the first home game on Saturday, September 25, must make application on or before this date. Seating will be "first-come, first-served" in the student area for this game only.

Regulations governing purchase, transfer, and cancellation of these tickets are available on request to the Athletic Ticket Office. Extension student ticket holders will be assigned seats in the bowl, at the end of the regular student location. Any regular student wishing to sit with an Extension student will be assigned in the Extension location.

### **Bookstores**

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

#### *Nicholson Bookstore*

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

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

#### *Main Engineering Bookstore*

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

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

#### *West Bank Bookstore*

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

#### *St. Paul Extension Center Bookstore*

5:30 to 8:00 p.m., Monday through Friday, for the first week of Fall, Winter, and Spring Quarters and Fall Semester.

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

#### *Northwest Suburban Extension Center Bookstore (Robbinsdale)*

6 p.m. to 8 p.m., Monday through Thursday, for the first week of Fall, Winter, and Spring Quarters.

## **Coffman Memorial Union**

The facilities of Coffman Memorial Union are open to all students and their guests. Those students who pay the incidental fee are privileged to participate in the programs and use specialized facilities such as the Art Craft Studio. Information on building hours and facilities available may be obtained from the Union Information Desk, first floor, or by calling 373-2403.

## **Convocations**

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

## **English Classes for Foreign-Born Students**

The Department of Evening and Special Classes is now offering a special English class for foreign students (see page 69 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.

## **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.

## **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.

## **Military Deferments**

A student wishing military deferment should ask his local board how many credits he needs to take in order to be eligible for deferment. If a certification of registration is desired, he may come to 56 Nicholson Hall or telephone 373-3939.

## **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.

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

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### **Program Advising and Personal Counseling**

Members of the evening class staff are available at all offices *by appointment* throughout the year for general advisory services on the selection of classes, programs of study, certificate and degree requirements, etc. The Committee on Student Scholastic Standing in the University Campus office assists students in arranging programs of study leading to University degrees, and handles evaluations of transcripts for advanced standing, satisfaction of prerequisites, special examinations, and other academic matters.

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

Special evening meetings are arranged at the beginning of each semester registration for students who may be candidates for degrees in the College of Liberal Arts. Meetings will be held on September 13 and 15 and on January 31, from 7:30 to 10:00 p.m., in 113 and 114 Johnston Hall. All students who have questions about degree programs in CLA are urged to attend one of the meetings.

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

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

### **University Library**

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

### **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).

## II. EXTENSION CERTIFICATE PROGRAMS

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

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

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

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

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

Upon completion of a specified program with at least a C average the student is awarded a certificate. 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.

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

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

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

## *Evening and Special Classes*

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### **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 Professor Leah Lewis, 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 I—Introduction to Art

Psy 1A—Application of Psychology to Living

Comp 1—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



## **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.

## **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) Engl 1B-2B-3B\*\*; (or) either Comp 1 or Engl 1B\*\* and 8 additional credits selected from either Comp 2 or Engl 2B\*\* and Comp 2c,\*\* Engl 4c,\*\* Hum 1, Hum 3, Hum 4

### **Core Requirement (15 credits):**

Soc 15C\*\*—Methods of Police Supervision  
Soc 53—Elements of Criminology  
Pol Adm X\*\*—Methods of Criminal Procedures

6 additional credits in police administration\*\*;  
course materials in preparation

### **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 20, 21, 22—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):

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

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

### Spread Requirement (15 credits):

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

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

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

Accounting  
Child Psychology  
Economics and Finance  
Engineering  
Industrial Relations  
Insurance  
Nursing

Political Science  
Psychology  
Recreation Leadership  
Social Work  
Sociology  
Transportation

## Evening and Special Classes

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### 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  
Econ 1-2—Principles of Economics  
Math 10—College Algebra and Analytic Geometry (or equivalent)  
BFin 56—Corporation Finance  
(or) BFin 76—Financial Management

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

#### Senior Accounting Certificate

(91 credits)

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

#### Requirements:

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

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

## 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, on-campus session during the early fall of each of 2 succeeding years, for which he receives 15 credits. The first sessions are scheduled for 1965 and 1966. 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, by television, or by correspondence study. Credits may also be transferred from other accredited institutions.

**Core Requirement** (15 credits) earned in residence at the Center for Continuation Study:

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  
Pol 58—Governmental Accounting  
Pol 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 or bachelor of science in economics degree. *Anyone who contemplates such a long-range objective, however, should consult an evening class adviser before proceeding further so as to avoid any loss of credits or possible future rejection from the degree program.*

#### Junior Business Administration Certificate

(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 (35 credits):

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  
Math 10—College Algebra and Analytic Geometry (or equivalent)

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

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

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

**Senior Business Administration Certificate**

(90 credits)

The Senior Business Administration Certificate is a continuation of the Junior Certificate, expanding the core and spread 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 credit from other institutions to this certificate program must take a minimum of 30 credits, including 18 credits in economics or business administration courses, at the University of Minnesota.*

**Prebusiness Requirement (35 credits):**

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  
Math 10—College Algebra and Analytic Geometry (or equivalent)

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

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

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

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

**Other Electives:**

- A. Satisfactory completion of the prebusiness degree requirements in either social sciences, natural sciences, or humanistic courses (see items 4, 5, and 6 on page 45).
- B. Additional courses approved by the Committee on Student Scholastic Standing to make a minimum of 90 credits for the certificate. Students contemplating continuing toward a degree from the School of Business Administration should select electives which could become part of the degree program. These students are therefore urged to complete the prebusiness requirements (see page 45).

## Evening and Special Classes

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### Industrial Relations Certificate

(48 credits)

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

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

#### Core Requirement (42 credits):

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

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

#### Electives (any two courses from the following):

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

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

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



## Management of Administrative Services Certificates

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

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

### *Associate in Management of Administrative Services Certificate*

(45 credits)

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

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

#### *Core Requirement (38-39 credits):*

Review of Business English; or Business Correspondence; or Comp 1; or Comm 1; or equivalent

Econ 1-2—Principles of Economics

QA 5—Elements of Statistics

Acct 24-25-26—Principles of Accounting

BLaw 58—Business Law: Contracts

OMgt 99—Office Management—Management of Administrative Services

Math 10—College Algebra and Analytic Geometry (or equivalent)

Psy 1-2—General Psychology

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

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

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### ***Fellow in Management of Administrative Services Certificate***

(90 credits)

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

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

#### ***Core Requirement (47-53 credits):***

Review of Business English and Business Correspondence; or Comp 1-2-3; or Comm 1-2-3; or equivalent	BLaw 58—Business Law: Contracts
Econ 1-2—Principles of Economics	OMgt 99—Office Management—Management of Administrative Services
QA 5—Elements of Statistics	Math 10—College Algebra and Analytic Geometry (or equivalent)
Acct 24-25-26—Principles of Accounting	Psy 1-2—General Psychology
IR 52—Systems of Industrial Relations: Labor Marketing	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	BFin 56—Corporation Finance
Tran 54—Fundamentals of Transportation	Mktg 57—Principles of Marketing

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

Acct 55C—Managerial Costs	Mgmt 80—Administrative Practices
Acct 55D—Analysis of Financial Statements	BLaw 88—Business Law
IR 62—Human Relations in Industry	Prod 110—Systems and Procedures Analysis: Work Measurement; or equivalent
IR 72—Systems of Industrial Relations: Manpower Management	Psy 122-123—Vocational and Personnel Psychology
Mgmt 70—Fundamentals of Management	
BFin 76—Financial Management	

***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	Insurance
OMgt 89B—Tabulating Equipment Applied to Business: Laboratory Supervision I, II, III	Marketing
Pol 68—Administrative Communication	Office Management
Psy 156—Psychology of Advertising	Real Estate
Accounting	Sales Management
Business Finance	Transportation
Economics	English
Production, Management, and Industrial Relations	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 to 39 credits):*

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

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

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

QA 5—Elements of Statistics  
Acct 26—Principles of Accounting  
Ins 53—Risk Management and Insurance  
Econ 67—Money and Banking

BLaw 78, 98—Business Law  
OMgt 79B—Administrative Secretarial Studies  
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 and Special Classes of the General Extension Division offers a variety of certificates for the part-time student who has the ability to carry college-level courses leading to a career both at the professional engineer and engineering technician level. Interested students should study these certificates carefully and select the program best suited to their interests, abilities, present or future employment, and ultimate educational goals.

It is recognized that many capable students would like to complete an engineering degree. Such students should plan to complete the Senior Engineering Science Certificate and apply for admission to the Institute of Technology. Third-year Upper Division degree-credit classes 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 21—Calculus I: Calculus and Analytic  
Geometry

Math 22—Calculus II: Calculus and Analytic  
Geometry

Math 23—Calculus III: Calculus and Analytic  
Geometry

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.

**Alternate Requirements:** If a student has completed Phys 11-12-12A for credit no additional courses are required. If only Phys 11 has been completed for credit, he must take 22-22A.

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†† Institute of Technology nontechnical or biological science electives may be chosen from the following fields: biology, geology, economics, political science, psychology, social science, humanities, history, philosophy, literature, foreign language (except scientific language courses), religion.

## Evening and Special Classes

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### 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 (34 credits):

Math 31—Calculus IV: Calculus and Analytic Geometry

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

MM 35—Statics

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 90—Elementary Engineering Statistics

MM 36—Dynamics

MM 37—Deformable Body Mechanics

GeCh 6—Principles of Solution Chemistry

OrCh 61-62—Elementary Organic Chemistry

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

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†† Institute of Technology nontechnical or biological science electives may be chosen from the following fields: biology, geology, economics, political science, psychology, social science, humanities, history, philosophy, literature, foreign language (except scientific language courses), religion.

**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 the areas of hydraulics, structural, 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 non-technical courses can be included in this requirement.

- |  |   |
|--|---|
| Math 31—Calculus IV: Calculus and Analytic Geometry                  | EE 30-30A—Circuit Analysis; Laboratory                  |
| Math 32—Calculus V: Calculus, Linear Algebra, Differential Equations | Phys 23-23A—General Physics and Laboratory              |
| GeCh 4-5—General Principles of Chemistry                             | Phys 50-50A—Intermediate General Physics and Laboratory |
| MM 35—Statics  | Hydr 101—Fluid Mechanics                                |
| MM 36—Dynamics   | Hydr 104—Fluid Mechanics Laboratory                     |
| MM 37—Deformable Body Mechanics                                      | 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 I              | CE 82—Intermediate Structural Analysis                |
| CE 52—Highways and Pavements II             | CE 83—Elementary Structural Design                    |
| CE 53—Soil Mechanics                        | CE 141—Reinforced and Prestressed Concrete            |
| CE 61—Surveying Instrumentation             | CE 142—Design of Reinforced and Prestressed Concrete  |
| CE 62—Mapping                               | CE 143A—Design of Reinforced and Prestressed Concrete |
| CE 63—Land Survey Systems                   | Hydr 101—Fluid Mechanics                              |
| CE 64—Engineering Surveys                   | CE 160A—Applied Hydraulics                            |
| CE 111—Land Surveying                       | CE 161—Hydrology                                      |
| CE 112—Aerial Surveying and Photogrammetry  |   |
| CE 113—Land Planning and Subdivision Design |   |
| CE 81—Elementary Structural Analysis        |   |

†† Institute of Technology nontechnical or biological science electives may be chosen from the following fields: biology, geology, economics, political science, psychology, social science, humanities, history, philosophy, literature, foreign language (except scientific language courses), religion.

## *Evening and Special Classes*

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### **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

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

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

M/M 36—Dynamics

Elements of Electric Circuits

Elements of Electronics I-II-III

Engl 85—Advanced Technical Communication

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.



**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

## Evening and Special Classes

### **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 mechanical engineers and the skilled worker.

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

*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 21A—Mechanisms: Kinematic Analysis	MM 37—Deformable Body Mechanics
ME 22A—Mechanisms: Dynamic 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, or 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.), the Bachelor of Science in Business (B.S.B.), the Bachelor of Science in Economics (B.S.E.), and the Master of Business Administration (M.B.A.).

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

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

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

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

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

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

The associate in liberal arts degree indicates the successful completion of a 90-credit program devoted largely to general education. The program is basically equivalent to 2 regular academic years of study and is granted by the College of Liberal Arts. Students find this degree desirable as an evidence of liberal arts achievement if they are transferring to a professional school. Extension students may be especially interested in the A.L.A. degree, both because it is more readily completed than the Bachelors' programs and the A.L.A. is a half-way point to many of the 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 the Course Requirements for Admission to the Upper Division of the Arts College. From that list, these distribution requirements must be met: English (A), and at least three of the other four: Foreign Language (B), Social Science (C), Natural Science (D), and Humanities (E). The student must complete 90 credits, at least 45 of which must be earned following admission to the College of Liberal Arts. This constitutes the college residence requirement. Any or all of the first 45 credits may also be taken through correspondence courses.

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

## **Bachelor of Arts (B.A.)**

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

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

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

## Evening and Special Classes

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

- 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:
- | Amount presented from high school | Additional amount required in college   |
|-----------------------------------|---|
| None                              | 15 credits in one language  |
| 1 year                            | (a) 10 credits in same language <i>or</i><br>(b) 15 credits in different language                             |
| 2 years in one language           | (a) 5 credits in same language <i>or</i><br>(b) 10 credits in different language                              |
| 3 or more years in one language   | No college requirement if the high school work is validated by the appropriate college department             |
| 2 years in each of two languages  | No college requirement if one language is validated at the 2-year level by the appropriate college department |
- C. Social Science:** At least 15 credits in two or more of the following departments. At least 5 credits must be offered in any one department to count.
- |  |  |
|--|--|
| 1. Anthropology  | 6. Political science                           |
| 2. Economics (except 40)                                   | 7. Psychology                                  |
| 3. Business administration (only Mgmt 1 and QA 5 accepted) | 8. Sociology                                   |
| 4. Geography   | 9. Social science (interdisciplinary programs) |
| 5. History   |  |
- D. Natural Science:** At least 15 credits (of which a minimum of 8 must include laboratory††) from two or more of the following groups. At least 5 credits must be offered in any one department to count.
1. Biological sciences: botany, psychology, zoology, general biology
  2. Physical sciences: astronomy, chemistry, earth sciences (geology), physics, Physical World
  3. Mathematics (except 1, 2, 20, 21)
  4. Orientation in the natural sciences (a student presenting credits in only NSci 1-2 must take his additional work in other than group D2)
- E. Humanities:** At least 15 credits from two or more of the following categories. At least 5 credits must be offered from any one category to count.
- |                       |   |
|-----------------------|---|
| 1. Art                | 7. Mathematics (except 1, 5, T, 20, 21)           |
| 2. English literature | 8. Music  |
| 3. Classics           | 9. Philosophy                                     |
| 4. Foreign literature | 10. Speech and theatre arts (except 6, 6A, 9, 39) |
| 5. History            |   |
| 6. Humanities         |   |
- F. Course in Health:** PubH 2 or 3 or 50 or equivalent.
- G. Electives:** Additional credits to make a total of 90.

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

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†† 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.

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

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

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

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

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

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

- 1. Business and Economics Courses:** Acct 24-25-26, Principles of Accounting; Econ 1-2, Principles of Economics; QA 5, Elements of Statistics (for which the mathematics requirement in item 3 below is a prerequisite). (All courses are 3 credits each in extension.)
- 2. Freshman English:** Engl A-B-C; or Comp 1-2-3; or Comm 1-2-3; or equivalent.
- 3. Mathematics:** Math 10, College Algebra, or equivalent. Depending on background and ability, Math 11 may be prerequisite for Math 10.
- 4. Social Sciences:** 15 credits†† from two or more of the following departments (at least 5 credits must be offered in any one department to meet this requirement): anthropology, geography, history, political science, psychology, and sociology (except Soc 45). SSci 1-2-3 and 5 credits in one of the above departments will satisfy this requirement.
- 5. Natural Science:** A minimum of 8 credits in a single natural science, with laboratory, selected from: biology, botany, chemistry, geology, physics, zoology, NSci 4-5-6 (Physical World). (Biol 1-2, GeCh 4-5, Phys 21-21A, 22-22A, or Geo 1-2 offered in evening classes, will meet this requirement.)
- 6. Humanistic Courses:** A minimum of 5 credits from each of two of the following categories: art, English literature, foreign literature, history, humanities, music, philosophy, speech and theatre arts, a foreign language.††
- 7. Electives:** To complete the minimum of 90 credits required for admission. (These may include some additional business or economics courses, although this is not recommended.) An over-all minimum grade average of C is also required for admission.
- 8. Note:** Students planning to enter the accounting program are required to complete the following courses in addition to those specifically listed above: Comp 27, Math 40 or equivalent.

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†† Courses in history may be used to satisfy the requirements in only one area; 4¼ transfer credits will satisfy any 5-credit requirement.

## Evening and Special Classes

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

1. **Business and Economics Courses:** Acct 24-25-26, Principles of Accounting; Econ 1-2, Principles of Economics; QA 5, Elements of Statistics (for which the mathematics requirement in item 3 below is a prerequisite). (All courses are 3 credits each in extension.)
2. **Freshman English:** Engl A-B-C; or Comp 1-2-3; or Comm 1-2-3; or equivalent.
3. **Mathematics:** Math 21, 22, 23, 31, 32, 33.
4. **Other specific requirements:**
  - EG 25, Engineering Graphics (or equivalent)
  - Phys 21-21A, 22-22A, 23-23A, 50-50A, General Physics
  - GeCh 14-15 (4-5), OrCh 16 or GeCh 6 or Phys 51, Chemistry/Physics
  - MM 35, Statics

### *Degree Requirements*

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

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

A student may receive the B.S.B. degree after completion of a special program in accounting. This involves 180 credits with a C average, and prebusiness requirements as listed above, including Comp 27 and Math 40 or equivalent. (IT prebusiness requirements listed above may also be used, including Comp 27 and Math 21.) Beyond prebusiness, specific accounting program requirements include 42 credit hours of "core group" courses, about 37 credits in additional accounting and business law courses, and 9 credits in courses numbered 50 and above in a department outside of the School of Business Administration and the Department of Economics.

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



## **Master's Degree**

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

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

See Graduate Credit, page 9

# IV. COURSE OFFERINGS

## AGRICULTURE 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 5:40 and 6:00 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 15 to May 3**

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

**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

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Symbols explained on page 10.

## Course Offerings—Agriculture and Veterinary Medicine

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**Hort 61. Home Landscape Planting.** 3 degree credits. \$33 plus \$1 materials fee.

More or less a continuation of the course in Home Landscape Planning; however, a beginning student may take this course without being handicapped. Special emphasis is placed upon the recognition and use of plant materials in 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 17 to April 28**

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

## VETERINARY MEDICINE

**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 6 to April 28**

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

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Symbols explained on page 10.

# ARTS AND SCIENCES

## ANTHROPOLOGY

Vernon R. Helmen, Lecturer in Anthropology  
Claude Stipe, Lecturer in Anthropology

**Anth 1A. Introduction to Anthropology: Prehistoric Man and Culture.** 3 degree credits. \$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 180, Helmen

*Spring Semester*

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

**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)

*Spring Semester*

T 6:20-8:00, Ford 180, Stipe

**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. (Prerequisite: 2A or 100)

*Spring Semester*

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

**Anth 90. Archaeology of North America.** 3 degree credits. \$33.

A survey of the prehistoric archaeology of North America north of Mexico. Emphasis will be placed on analysis of the techniques, methods, and goals of prehistoric archaeology. (Prerequisite: 1A or 100)

*Fall Semester*

T 6:20-8:00, Ford 185, Helmen

**Anth 100. Principles of Cultural Anthropology.** 3 degree credits, §1A or §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. Repeated spring semester. May not be taken for graduate credit)

*Fall Semester*

W 8:15-9:55, Ford 150

*Spring Semester*

Th 6:20-8:00, Ford 285

**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

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Symbols explained on page 10.

## Course Offerings—Arts and Sciences

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 180, Stipe

## ART

### Art Education

(See page 144.)

### History of Art

*Norman W. Canedy, Assistant Professor of Art*

*Eileen Michels, Instructor in Art*

*Hylton Thomas, Professor of Art*

*Donald R. Torbert, Professor of Art*

*Melvin Waldfogel, Associate Professor of Art*

#### 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 spring quarter. For Upper Division credit, register in Art 50)

##### Fall Quarter

M 6:00-8:30, StP Ext Center, Michels  
T 6:20-8:50, Architecture 25, Torbert

##### Spring Quarter

M 6:00-8:30, StP Ext Center, Michels  
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

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

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

A study of the expression in architecture, sculpture, and painting from the 12th to the 17th century, including the Gothic period, the Northern Renaissance, the Italian Renaissance, the High Renaissance, and the Mannerist Period. (No prerequisite. For Upper Division credit, register in Art 57)

##### Winter Quarter

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

#### Art 4. Survey of the History of Art. 3 degree credits. \$33 plus \$2 laboratory fee.

A study of the expression in architecture, sculpture, and painting from the 17th century to the present, including the baroque and rococo periods, neoclassicism, the 19th century, and the movements of Modern Art. (No prerequisite. For Upper Division credit, register in Art 58)

##### Spring Quarter

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

Symbols explained on page 10.

## Evening and Special Classes

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

**Fall Quarter—Spring Quarter**

See course description, day, time, place, and instructor as listed under Art 1.

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

**Fall Quarter**

See course description, day, time, place, and instructor as listed under Art 2.

**Art 57. Survey of the History of Art.** 3 degree credits. \$33 plus \$2 laboratory fee.

**Winter Quarter**

See course description, day, time, place, and instructor as listed under Art 3.

**Art 58. Survey of the History of Art.** 3 degree credits. \$33 plus \$2 laboratory fee.

**Spring Quarter**

See course description, day, time, place, and instructor as listed under Art 4.

**Art 77. Nineteenth-Century Art.** 3 degree credits. \$33 plus \$2 laboratory fee.

Major styles in European painting, primarily France and Germany: neoclassicism, romanticism, realism, impressionism, and postimpressionism. England, Spain, and the United States will also be considered. Parallel developments in sculpture, prints, and architecture. (No prerequisite)

**Fall Quarter**

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

**Art 78. Twentieth-Century Art.** 3 degree credits. \$33 plus \$2 laboratory fee.

A survey of major artists and movements in Europe and America, from Art Nouveau to Pop Art: Matisse and fauvism, Picasso and cubism, Kirchner and the Bridge, constructivism, dada, surrealism, and abstract expressionism. Related developments in sculpture and architecture. (No prerequisite)

**Winter Quarter**

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

**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 with \$)

**Fall Quarter**

W 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 with \$)

**Winter Quarter**

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

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Symbols explained on page 10.

## Course Offerings—Arts and Sciences

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### 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 with #)

#### Spring Quarter

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

### Art 116. Baroque Art in Italy and Spain. 3 degree credits. \$33 plus \$2 laboratory fee.

Protobaroque and early baroque painting: Barocci, the Carracci, Caravaggio. Early baroque architecture in Rome. Bernini and the high baroque fusion of architecture, sculpture, and painting. Illusionistic ceiling painting. Classical tendencies in later 17th century Roman art. Sculpture and painting in Naples, Bologna; architecture and painting in Venice. Piedmontese baroque architecture: Guarini, Juvara. Baroque painting in Spain: El Greco, Velazquez, Zurbaran, Murillo. (No prerequisite. Qualified students may register for graduate credit with #)

#### Fall Quarter

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

### Art 117. Baroque Art in France and England. 3 degree credits. \$33 plus \$2 laboratory fee.

Classicizing baroque art in France: Louis XIV, Versailles, and academic French art. Baroque art in the French provinces. New tendencies in the later 17th century. Late Renaissance and baroque architecture in England: Inigo Jones and Palladianism; Vanbrugh and Wren and the high baroque. The English portrait. (No prerequisite. Qualified students may register for graduate credit with #)

#### Winter Quarter

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

### Art 118. Baroque Art in Flanders and Holland. 3 degree credits. \$33 plus \$2 laboratory fee.

Flemish and Dutch baroque architecture and sculpture. Rubens and classical baroque painting in the North. Van Dyck and the aristocratic portrait. Flemish genre painting. The development of Dutch baroque painting: Hals and the portrait; Vermeer and DeHooch and genre painting; Ruisdael and Cuypp and the Dutch landscape; the minor specialists. Rembrandt and his school. (No prerequisite. Qualified students may register for graduate credit with #)

#### Spring Quarter

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

### Art 148. Modern American and European Architecture. 3 degree credits. \$33 plus \$2 laboratory fee.

Development of modern architecture on the international scene. Later work of the modern pioneers: Wright, Berlage, Behrens, Gropius, Mies, LeCorbusier, and their influence. Modern uses of concrete: Wright, Perret, Nervi, Torroja, Candela, Tange, Saarinen. (No prerequisite. Qualified students may register for graduate credit with #)

#### Fall Quarter

Th 6:20-8:50, Jones 207B, Torbert

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Symbols explained on page 10.

## Evening and Special Classes

**Art 59. Summer Travel Course in European Art.** (Summer 1966). 5 degree credits. Fee (to be announced) includes travel.

Course conducted by Department of Art 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 27 to August 12, 1966, 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, University of Minnesota, Minneapolis, Minnesota 55455.)

General Arts. See page 73.

### Studio Art

*Phyllis Ames, Lecturer in Art*

*Peter Busa, Associate Professor of Art*

*Benjamin A. Gingold, Jr., Lecturer in Art*

*Michael J. Hopkins, Color Consultant*

*Robert Hysell, Instructor in Architecture*

*Leah M. Lewis, Professor of Interior Design*

*Milton Howard, Instructor in Art*

*Jerome Liebling, Professor of Art*

*Malcolm Myers, Professor of Art*

*Richard Randell, Instructor in Art*

*Herman Rowan, Assistant Professor of Art*

*Richard Sussman, Visiting Lecturer in Art*

*Ann Vadnais, 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, Jones 2, Liebling

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

#### Spring Semester

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

Symbols explained on page 10.

\* Enrollment space limited; see instructions on page 14.



## Course Offerings—Arts and Sciences

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

*Spring Semester*

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

**Phot. Color Photography I.** (See page 98)

**Phot. Color Photography II.** (See page 98)

**\*Art 20. Basic Drawing.** 2 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 148, Howard  
T 6:20-8:50, Jones 10  
Th 6:20-8:50, Jones 10

*Spring Semester*

M 6:20-8:50, West Bank Art 148, Howard  
T 6:20-8:50, Jones 10

**\*Art 23. Drawing and Painting.** 2 degree credits. \$33 plus \$3 laboratory fee.

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

*Fall Semester*

T 7:00-9:30, Walker Art Center, Sussman  
Th 6:20-8:50, West Bank Art 148, Rowan

*Spring Semester*

T 7:00-9:30, Walker Art Center, Sussman  
Th 6:20-8:50, West Bank Art 148, Rowan

**\*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. (Prerequisite: 23 or #. Meets concurrently with 33 and 90. Limited to 25 students. Repeated spring semester)

*Fall Semester*

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

*Spring Semester*

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

**\*Art 33. Printmaking.** 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, Jones 202, Myers

*Spring Semester*

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

**\*Art 40. Basic Sculpture I.** 2 degree credits. \$33 plus \$3 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*

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

*Spring Semester*

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

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Symbols explained on page 10.

\* Enrollment space limited; see instructions on page 14.

## Evening and Special Classes

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**\*Art 41. Basic Sculpture II. 2 degree credits. \$33 plus \$3 laboratory fee.**

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

*Spring Semester*

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

**\*Art 45. Ceramic Processes. 2 degree credits. \$33 plus \$3 laboratory fee.**

Introduction to building pottery by hand and forming on the potter's wheel. Experiments with decorative techniques on wet clay and on bisque fired pottery. Primarily concerned with pottery as a creative expression but includes technical considerations of clays, glazes, and kilns. (No prerequisite. Thursday section meets concurrently with 94. Limited to 22 students. Repeated spring semester)

*Fall Semester*

T 6:20-8:50, Holman 134, Vadnais  
Th 6:20-8:50, Holman 134, Vadnais

*Spring Semester*

T 6:20-8:50, Holman 134, Vadnais  
Th 6:20-8:50, Holman 134, Vadnais

**\*Art 51-54-55. Life Drawing. 2 degree credits. \$33 plus \$3 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, Jones 200, Busa

*Spring Semester*

T 6:20-8:50, West Bank Art 148, Rowan  
W 6:20-8:50, Jones 200, Busa

**\*Art 60B-61B-62B. Water Color. 2 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, Jones 10, Ames

*Spring Semester*

M 6:20-8:50, Jones 10, Ames

**Art 65. 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. Repeated spring semester)

*Fall Semester*

Th 6:20-8:50, Jones 200

*Spring Semester*

Th 6:20-8:50, Jones 200

**\*Art 70-71-72. Oil Painting. 3 degree credits. \$33 plus \$3 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, Jones 200, Busa

*Spring Semester*

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

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Symbols explained on page 10.

\* Enrollment space limited; see instructions on page 14.

## Course Offerings—Arts and Sciences

### \*Art 70B-71B-72B. Oil Painting. 3 degree credits. \$33 plus \$3 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, Jones 200, Busa

#### Spring Semester

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

### Art 73. 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. Meets concurrently with Art 65. Repeated spring semester)

#### Fall Semester

Th 6:20-8:50, Jones 200

#### Spring Semester

Th 6:20-8:50, Jones 200

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

### \*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 122, Lewis  
T 6:20-8:00, Johnston 122, Lewis  
Th 6:20-8:00, Johnston 122, Lewis

#### Spring Semester

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

### Art 84A. Interior Design II. 3 degree credits. \$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 126, Lewis  
T 6:20-8:00, Johnston 126, Lewis

### \*Art 90. 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 of etching, lithography, and woodcuts. (Prerequisite: 32 or #. Meets concurrently with 32 and 33. Limited to 25 students. Repeated spring semester)

#### Fall Semester

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

#### Spring Semester

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

Symbols explained on page 10.

\* Enrollment space limited; see instructions on page 14.

## Evening and Special Classes

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### \*Art 94. Ceramic Design. 2 degree credits. \$33 plus \$3 laboratory fee.

Continuation of Art 45. Greater emphasis on wheel throwing. Advanced design problems and introduction to glaze and clay experimentation. Emphasis on the development of personal expression in ceramic medium. (Prerequisite: 45 or #. Meets concurrently with 45. Limited to 22 students. Repeated spring semester)

#### *Fall Semester*

Th 6:20-8:50, Holman 134, Vadnais

#### *Spring Semester*

Th 6:20-8:50, Holman 134, Vadnais

### \*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)

#### *Fall Semester*

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

#### *Spring Semester*

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

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

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

#### *Fall Semester*

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

#### *Spring Semester*

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

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

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

#### *Fall Semester*

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

#### *Spring Semester*

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

### 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. Review of historical style and significant modern work. Discussion of site planning, 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, Architecture 45, Gingold, Hysell, and staff

## ASTRONOMY

(See page 151)

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Symbols explained on page 10.

\* Enrollment space limited; see instructions on page 14.

## BIOLOGY

Walter J. Breckenridge, Professor of Zoology

Norman Kerr, Associate Professor of Zoology

Dwain W. Warner, Associate 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)

*Fall Semester*

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

*Spring Semester*

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

\*Nath 1. **Birds of Minnesota.** No credit. \$33.

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 16 to June 8)

W 6:20-8:00, Museum of Natural History 309,  
Breckenridge and Warner

## CHEMISTRY

(See page 151)

## CHILD PSYCHOLOGY

(See page 146)

## CLASSICS

Theofanis G. Stavrou, Associate Professor of History

Roy A. Swanson, Professor of Classics

**Clas 45. Greek and Roman Mythology.** 3 degree credits. \$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. For graduate credit, register in Clas 145)

*Spring Quarter*

M 5:30-8:00, Folwell 204

**Clas 46. Ancient Literary Criticism.** 3 degree credits. \$33.

Aristotle's *Poetics*, Horace's *Ars Poetica*, and Longinus' *On the Sublime* (in translation), with special attention to Alexandrianism; application of ancient principles of criticism and modern writers (e.g., Sophocles, Catullus, Horace, Racine, Robinson Jeffers), comparison of some ancient and

Symbols explained on page 10.

\* Enrollment space limited; see instructions on page 14.

## Evening and Special Classes

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modern literary standards and critical tenets; study of the ancient and modern *ars poetica* (e.g., Horace, Vida, Boileau, Pope, MacLeish). (Prerequisite: sophomore. For graduate credit, register in Clas 146)

### Fall Quarter

Th 5:30-8:00, Folwell 102, Swanson

### Clas 81. Greek Tragedy in Translation. 3 degree credits. \$33.

Aeschylus, Sophocles, Euripides. Introductory lectures on the origin of European drama as a distinct literary form, on the characteristics of Greek tragedy, and ancient theaters and theatrical conventions. Careful discussion of a number of the tragedies. Emphasis on understanding the problems posed in relation to cultural patterns of the times. (Prerequisite: 9 credits in English literature beyond freshman English, or in a foreign language. No knowledge of Greek or Latin is required. For graduate credit, register in Clas 181)

### Winter Quarter

Th 5:30-8:00, Folwell 102

### Clas 145. Greek and Roman Mythology. 3 degree credits. \$33.

### Spring Quarter

See course description, day, time, place, and instructor as listed under Clas 45. Same class work as Clas 45, but with special independent reading and research assignments. Qualified students may register for graduate credit.

### Clas 146. Ancient Literary Criticism. 3 degree credits. \$33.

### Fall Quarter

See course description, day, time, place, and instructor as listed under Clas 46. Same class work as Clas 46, but with special independent reading and research assignments. Qualified students may register for graduate credit.

### Clas 181. Greek Tragedy in Translation. 3 degree credits. \$33.

### Winter Quarter

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

### Grk 1-2.† Beginning Modern Greek. 5 degree credits each quarter. \$55 each quarter.

A course in modern conversational Greek. Designed for students in the SPAN (Student Project for Amity among Nations) program, the course is for anyone interested in learning to speak Greek. (No prerequisite. Must be taken in sequence)

### Fall Quarter

1 S 9:00 a.m.-1:00 p.m.,  
Folwell 108, Stavrou

### Winter Quarter

2 S 9:00 a.m.-1:00 p.m.,  
Folwell 108, Stavrou

## ECONOMICS

Arthur M. Borak, Professor of Economics

Charles E. Meyerding, Lecturer in Economics

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Symbols explained on page 10.

## Course Offerings—Arts and Sciences

*Ibrahim M. Oweiss, Instructor in Economics*  
*Mohamed A. Selim, Lecturer in Economics*  
*Norman J. Simler, Associate Professor of Economics*  
*Harlan M. Smith, Associate Professor of Economics*  
*John G. Turnbull, Professor of Economics*

*Note—Beginning with winter quarter of 1964-65, the order of the material in the two halves of Econ 1-2 in day classes has been and is the reverse of that in evening classes. The material described for Econ 1 is covered in Econ 2 in day classes and the material described for Econ 2 is covered in Econ 1 in day classes. Therefore, anyone who has taken Econ 1 in a day or evening class and is moving or transferring from the day to the evening programs or from the evening to the day programs should, to complete the course, register for Econ 1 again but with a petition for credit in this second Econ 1.*

**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. 1: Demand and supply, competition and monopoly, and distribution of income. 2: National income, money and banking, business cycles, and international trade. Econ 1-2 or equivalent are prerequisite for most advanced courses in business administration and economics. (No prerequisite for 1; 1 for 2. Must be taken in sequence. Students who have taken 1 in day classes should inquire before registering)

### Fall Semester

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

### 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 8:15-9:55, West Bank CB 130  
 T 6:20-8:00, West Bank CB 120  
 W 6:00-7:40, StP Ext Center, Selim  
 W 6:20-8:00, West Bank CB 130  
 W 7:50-9:30, StP Ext Center, Selim  
 W 8:15-9:55, West Bank CB 130

### Fall Quarter

1 T 6:30-9:00, Robbinsdale  
 HS 217 (*Limited class\**)

### Winter Quarter

2 T 6:30-9:00, Robbinsdale  
 HS 217 (*Limited class\**)

**Econ 62. Labor Economics.** 3 degree credits, §IR 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, Turnbull

Symbols explained on page 10.

\* Enrollment space limited; see instructions on page 14.

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

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**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 and spring quarter)

*Fall Semester*

M 6:00-7:40, StP Ext Center  
T 6:20-8:00, West Bank CB 240  
W 8:15-9:55, West Bank CB 240

*Spring Semester*

M 8:15-9:55, West Bank CB 120

*Spring Quarter*

T 6:30-9:00, Robbinsdale HS 233  
(Limited class\*)

**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)

*Fall Semester*

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

*Spring Semester*

M 6:00-7:40, StP Ext Center  
T 6:20-8:00, West Bank CB 240  
W 8:15-9:55, West Bank CB 240, Meyerding

**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 §)

*Spring Semester*

T 6:20-8:00, West Bank CB 250, Borak

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

**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: IR 52 or Econ 62 or §. Qualified students may register for graduate credit)

*Fall Semester*

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

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Symbols explained on page 10.

\* Enrollment space limited; see instructions on page 14.



## Course Offerings—Arts and Sciences

### 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, Oweiss

### Econ 150A. Current Economic Issues. 3 degree credits. \$33.

Current controversies over economic policy and problems that underlie controversies. Selected topics. (Prerequisite: 65 and 66 or #. Qualified students may register for graduate credit)

#### *Fall Semester*

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

### Econ 157. Business Cycles. 3 degree credits. \$33.

Ups and downs of business: explanations of causes, statistical data on such fluctuations. Relationship of cycles to economic growth. Methods of forecasting. Examination of proposals for economic stabilization. (Prerequisite: 66 and 67 or #. Qualified students may register for graduate credit)

#### *Spring Semester*

Th 8:15-9:55, West Bank CB 240, Smith

### Econ 172. Labor Market Behavior and Regulation. 3 degree credits. \$33.

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

#### *Spring Semester*

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

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

Economic analysis of labor markets and their operation under conditions of both individual and collective bargaining. Implications of labor market operations for resource allocation, wage and price stability, income and employment growth. Wage structures and wage levels. Wage and employment theories and practices. Economic impacts of the union. (Prerequisite: IR 52 or Econ 62, and 65 and 66 or #. Qualified students may register for graduate credit)

#### *Spring Semester*

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

## ENGLISH

### Literature

Avrom H. Fleishman, Assistant Professor of English  
Archibald I. Leyasmeyer, Assistant Professor of English  
Raymond McClure, Assistant Professor of English  
Toni A. McNaron, Assistant Professor of English  
Margaret J. MacInnes, Assistant Professor of General Arts  
Gordon W. O'Brien, Professor of English

Symbols explained on page 10.

## Evening and Special Classes

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Jack Patnode, Lecturer in English

Lee A. Pederson, Assistant Professor of English

Robert C. Rathburn, Associate Professor of Literature and Writing

James L. Scoggins, Assistant Professor of English

Martin A. Steinmann, Jr., Professor of Literature

Engl 1B-2B-3B. Freshman English. (See page 67, 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

*Spring Semester*

22 M 6:20-9:20, Vincent 306, Scoggins

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: Short fiction. 38: Poetry and drama. 39: The novel since Thomas Hardy. (No prerequisite. Need not be taken in sequence)

*Fall Quarter*

37 M 6:20-8:50,  
Vincent 205, Fleishman

*Winter Quarter*

38 M 6:20-8:50,  
Vincent 205

*Spring Quarter*

39 M 6:20-8:50,  
Vincent 205

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

*Fall Quarter*

52 M 6:20-8:50, Nicholson  
216, Rathburn

*Winter Quarter*

53 M 6:20-8:50, Nicholson  
216, Rathburn

*Spring Quarter*

54 M 6:20-8:50, Nicholson  
216, Rathburn

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

55: The reading of plays from Shakespeare's early and middle periods—*Richard II*, *A Mid-summer Night's Dream*, *The Merchant of Venice*, *Much Ado About Nothing*, and two or three 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 Semester*

55 T 6:20-8:00, Vincent 306, McClure

*Spring Semester*

56 T 6:20-8:00, Vincent 306, O'Brien

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Symbols explained on page 10.

## Course Offerings—Arts and Sciences

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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)

<b>Fall Quarter</b>		<b>Winter Quarter</b>		<b>Spring Quarter</b>	
72	W 6:20-8:50, Vincent 309, Patnode	73	W 6:20-8:50, Vincent 309, Patnode	74	W 6:20-8:50, Vincent 309, Patnode

Engl 75. Chaucer. 3 degree credits. \$33.

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)

**Spring Semester**

M 6:20-8:00, Vincent 113, Pederson

Engl 103. Beowulf. 3 degree credits. \$33.

Introduction to the Old English poem, with reading of considerable portions of the text. Time will be available to review the basic grammar and lexicon of Old English. (Prerequisite: 100 [Old English]. Qualified students may register for graduate credit)

**Fall Semester**

M 8:15-9:55, Vincent 113, Pederson

Engl 109, 110. Romantic Poets of the Early Nineteenth Century. 3 degree credits each semester. \$33 each semester.

109: Wordsworth, Coleridge, Scott, etc. 110: Byron, Shelley, Keats, etc. (Prerequisite: 5 credits in literature, exclusive of freshman English. Need not be taken in sequence. Qualified students may register for graduate credit)

**Fall Semester**

109 Th 6:20-8:00, Vincent 301, Scoggins

**Spring Semester**

110 Th 6:20-8:00, Vincent 301, Scoggins

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 Semester**

Th 6:20-8:00, 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)

**Spring Semester**

Th 6:20-8:00, 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)

**Fall Quarter**

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

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Symbols explained on page 10.

## Evening and Special Classes

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### 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, Pederson

### 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, Pederson

### 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

194 M 6:20-8:50, Vincent  
307

#### Winter Quarter

195 M 6:20-8:50, Vincent  
307

#### Spring Quarter

196 M 6:20-8:50, Vincent  
307

## Composition and Communication

Harold J. Alford, Associate Professor of English

James T. Farrell, Lecturer in English

J. Vernon Jensen, Assistant Professor of Communication

Alex Kurak, Assistant Professor of Literature and Writing

Charlotte Kwiat, Instructor in English

Agnes Macdonald, Lecturer in English

Thomas A. Nelson, Jr., Instructor in English

Justin O'Connell, Lecturer in English

William Ridley, Lecturer in English

John A. Sweetser III, Lecturer in English

### 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 I or Comm I. (No prerequisite. Repeated winter and spring quarters)

#### Fall Quarter

M 6:30-9:00, Robbinsdale  
HS 221 (Limited class<sup>o</sup>)  
T 6:20-8:50, Vincent 303  
W 6:20-8:50, Vincent 303  
F 6:00-8:30, StP Ext  
Center

#### Winter Quarter

M 6:30-9:00, Robbinsdale  
HS 221 (Limited class<sup>o</sup>)  
T 6:20-8:50, Vincent 303  
W 6:20-8:50, Vincent 303  
F 6:00-8:30, StP Ext  
Center

#### Spring Quarter

M 6:30-9:00, Robbinsdale  
HS 221 (Limited class<sup>o</sup>)  
W 6:20-8:50, Vincent 303

Symbols explained on page 10.

<sup>o</sup> Enrollment space limited; see instructions on page 14.

**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 a freshman English course at another accredited college or university in the United States, but have a total of less than 9 quarter credits or 6 semester credits in freshman English from that school, you should take Comp 1 but you need not take the placement test. (c) If you have passed Comp X in the last 3 years at the University of Minnesota, you need not take the placement test. (d) If you do not meet any of the three criteria listed above, you must take the placement test at one of the following times and places.

**Fall Quarter**

- 7:00 p.m. Thursday, September 16, Nicholson 213
- 7:00 p.m. Tuesday, September 21, Nicholson 213
- 7:00 p.m. Tuesday, September 21, StP Ext Center 202
- 7:00 p.m. Wednesday, September 22, Robbinsdale HS 231 and 233

**Winter Quarter**

- 7:00 p.m. Wednesday, December 22, Nicholson 211
- 7:00 p.m. Wednesday, December 29, Nicholson 211

**Spring Quarter**

- 7:00 p.m. Wednesday, March 23, 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 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. If you have had a freshman English course at another college, consult an adviser for proper placement. *Registration must be made in person.* Repeated winter and spring quarters)

<b>Fall Quarter</b>		<b>Winter Quarter</b>		<b>Spring Quarter</b>	
1 M	6:30-10:00, Robbinsdale HS 217 (Limited class*)	1 T	6:20-9:50, Vincent 2	1 W	6:20-9:50, Ford 50
		W	6:20-9:50, Vincent 2	2 T	6:20-9:50, Ford 30
T	6:20-9:50, Vincent 2	F	6:00-9:30, StP Ext Center	W	6:20-9:50, Ford 40
W	6:20-9:50, Vincent 2			F	6:00-9:30, StP Ext Center
Th	6:20-9:50, Vincent 6	2 M	6:30-10:00, Robbinsdale HS 217 (Limited class*)	3 M	6:30-10:00 Robbinsdale HS 217 (Limited class*)
F	6:00-9:30, StP Ext Center	T	6:20-9:50, Vincent 6		

(Schedule continued on next page)

Symbols explained on page 10.

\* Enrollment space limited; see instructions on page 14.

**Evening and Special Classes**

<b>Fall Quarter (cont.)</b>			<b>Winter Quarter (cont.)</b>			<b>Spring Quarter (cont.)</b>		
2	T	6:20-9:50, Vincent 6	W	6:20-9:50, Vincent 6	T	6:20-9:50, Vincent 6	W	6:20-9:50, Vincent 6
3	W	6:20-9:50, Vincent 6	Th	6:20-9:50, Vincent 6	Th	6:20-9:50, Vincent 6	F	6:00-9:30, StP Ext Center
			F	6:00-9:30, StP Ext Center	F	6:00-9:30, StP Ext Center		
			3	T	6:20-9:50, Vincent 1			

**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 67, 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*)

<b>Fall Quarter</b>		<b>Winter Quarter</b>		<b>Spring Quarter</b>	
I	W	6:20-9:50, Johnston 115, Jensen	2	W	6:20-9:50, Johnston 115, Jensen
			3	W	6:20-9:50, Johnston 115, Jensen

**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)

<b>Fall Quarter</b>		<b>Winter Quarter</b>		<b>Spring Quarter</b>	
T	6:00-8:30, StP Ext Center, Alford	T	6:00-8:30, StP Ext Center, Alford	T	6:00-8:30, StP Ext Center, 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)

<b>Fall Quarter</b>		<b>Winter Quarter</b>		<b>Spring Quarter</b>	
T	6:20-8:50, Vincent 207, O'Connell	T	6:20-8:50, Vincent 207, O'Connell	T	6:20-8:50, Vincent 207, 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)

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

Symbols explained on page 10.

## Course Offerings—Arts and Sciences

**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)

### Fall Semester

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

### Spring Semester

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

**\*Engl. English for Foreign Students.** No credit. \$28 each term.

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. Limited to 15 students. Repeated winter and spring terms)

### Special Class

(September 30 to December 16)  
Th 6:20-8:25, Vincent 207,  
Kwiat

### Special Class

(January 6 to March 17)  
Th 6:20-8:25, Vincent 207,  
Kwiat

### Special Class

(March 31 to June 9)  
Th 6:20-8:25, Vincent 207,  
Kwiat

**Business English.** (See page 127)

**Engineering English.** (See page 157)

## FAMILY STUDIES

*Wesley R. Burr, Instructor in Family Studies*

*Nathan G. Mandel, Assistant Professor of Family Studies*

*Elizabeth Peterson, Assistant Professor of Family Studies*

*David Torbett, Instructor in Family Studies*

**\*FamS I. 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. Limited to 25 students)

### Spring Semester

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

**\*FamS IA. Dynamics of Marriage and Parenthood.** 3 degree credits. \$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

Symbols explained on page 10.

\* Enrollment space limited; see instructions on page 14.

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

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discussion and study of such important and practical issues as: self-analysis, developmental tasks, team decision-making and problem solving, family philosophy, religion, values, and planning; child training and discipline, sex education, communication, income management, marriage adjustments regarding money, sex, in-laws, and children, etc., and general dynamics of family interaction. Integral parts of the course are: case studies, movies, and student discussion. Students are invited for discussion and personal or family counseling with the instructor. (No prerequisite. Limited to 20 students. Repeated spring semester)

### ***Fall Semester***

M 6:20-8:00, West Bank CB 430, Torbett

### ***Spring Semester***

Th 6:20-8:00, West Bank CB 430, Burr

### **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. Repeated spring quarter)

### ***Special Term—September 27 to December 6***

M 7:00-8:45, 6009 Penn Ave S, Mpls, Peterson

### ***Spring Quarter***

M 7:00-8:45, location to be arranged, Peterson

### **\*FamS. Seminars in Parenthood. No credit. \$22.**

(Prerequisite: FamS 25A or CD 90 either with or without credit. Limited to 30 students)

### ***Special Class***

(January 3 to March 14)

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

## **FRENCH**

*John E. Fadell, Instructor in French*

*Barry T. Hughes, Instructor in French*

*Diana Johnstone, Instructor in French*

*John H. Matthews, Associate Professor of French*

*Henry A. Stavan, Assistant Professor of French*

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

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

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

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Symbols explained on page 10.

\* Enrollment space limited; see instructions on page 14.



## Course Offerings—Arts and Sciences

The two beginning sequences 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.

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

Grammar, pronunciation, reading, and practice in speaking. See note above. (No prerequisite. Repeated spring semester)

*Fall Semester*

T 6:20-9:20, Folwell 104

*Spring Semester*

T 6:20-9:20, Folwell 104

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

Grammar, pronunciation, reading, and practice in speaking. See note above. (Prerequisite: 1 or 1B or old 1C or 1 year high school French. Repeated spring semester)

*Fall Semester*

T 6:20-9:20, Folwell 105

*Spring Semester*

T 6:20-9:20, Folwell 105

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

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

*Fall Semester*

M 6:20-9:20, Folwell 203

*Spring Semester*

M 6:20-9:20, Folwell 203

**Fren 1A-1B. Beginning French.** 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*

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

*Spring Semester*

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

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

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

*Fall Semester*

2A M 6:20-8:00, Folwell 108

*Spring Semester*

2B M 6:20-8:00, Folwell 108

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

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

*Fall Semester*

3A T 6:20-8:00, Folwell 203

*Spring Semester*

3B T 6:20-8:00, Folwell 203

Symbols explained on page 10.

## *Evening and Special Classes*

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### **Fren 25 (old 4). Intermediate French. 5 degree credits. \$55.**

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

*Fall Semester*

M 6:20-9:20, Folwell 103

*Spring Semester*

M 6:20-9:20, Folwell 103

### **Fren 30 (old 20). Introduction to French Literary Texts. 3 degree credits. \$33.**

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

*Fall Semester*

Th 6:20-8:00, Folwell 201, Hughes

*Spring Semester*

Th 6:20-8:00, Folwell 201, Johnstone

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

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

*Fall Semester*

Th 6:20-8:00, Folwell 203

### **Fren 55 (old 54). French Conversation. 3 degree credits. \$33.**

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

*Fall Semester*

T 6:20-8:30, Folwell 201

*Spring Semester*

T 6:20-8:30, 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 204, Johnstone

### **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 204, Hughes

### **Fren 142. Voltaire. 3 degree credits. \$33.**

Voltaire as a thinker, a playwright, a novelist, a poet, and a writer of letters. (No prerequisite. Qualified students may register for graduate credit)

*Spring Semester*

W 6:20-8:00, Folwell 204, Stavan

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Symbols explained on page 10.

## Course Offerings—Arts and Sciences

### Fren 143. Diderot. 3 degree credits. \$33.

Diderot as a philosopher, a novelist, and an art critic. (No prerequisite. Qualified students may register for graduate credit)

#### Fall Semester

W 6:20-8:00, Folwell 204, Stavan

### 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: 30 and one literature course. Qualified students may register for graduate credit)

#### Spring Semester

T 6:20-8:00, Folwell 205, Matthews

### 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: 30 and one literature course. Qualified students may register for graduate credit)

#### Fall Semester

T 6:20-8:00, Folwell 205, Matthews

## French for Graduate Students

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

### Fren 17A. French for Graduate Students. No credit. \$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 equivalent of the French Graduate Reading Examination. Successfully passing this examination fulfills the Graduate School requirement of a reading knowledge of a foreign language. (No prerequisite. Repeated winter and spring quarters)

#### Fall Quarter

M 6:20-8:50, Folwell 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, Assistant 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

Symbols explained on page 10.

\* Enrollment space limited; see instructions on page 14.

## Evening and Special Classes

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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 231, Gates

### **Winter Quarter**

Th 6:30-9:00, Robbinsdale  
HS 231, Gates

### **Spring Quarter**

Th 6:30-9:00, Robbinsdale  
HS 231, Gates

## GEOGRAPHY

*Ronald F. Abler, Instructor in Geography*

*Russell Adams, Assistant Professor of Geography*

*C. Gregory Knight, Instructor in Geography*

*John W. 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 the problems of physical development. (No prerequisite)

#### **Spring Semester**

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

### **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)

#### **Fall Semester**

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

### **Geog 70. Introduction to Cartography. 3 degree credits. \$33.**

Principles of map design, compilation, specification, and drafting. Map symbols. History of cartography. Projections—analysis of construction, properties, and uses. (Prerequisite: 5 credits in geography or #)

#### **Winter Quarter**

W 6:20-8:50, West Bank CB 455, Abler

### **Geog 107. Soviet Union. 3 degree credits. \$33.**

Character of and bases for the regional diversity of physical resources, population, agriculture, manufacturing, and transportation in the U.S.S.R. (No prerequisite. Qualified students may register for graduate credit)

#### **Spring Quarter**

W 6:20-8:50, West Bank CB 435, Adams

### **Geog 117. The Middle East. 3 degree credits. \$33.**

A historical-geographical description of land and people in the changing environment of the Afro-Eurasian bridgelands with an analysis of the location and pattern of its present cultural and physical resources. (No prerequisite. Qualified students may register for graduate credit)

#### **Fall Quarter**

W 6:20-8:50, West Bank CB 435

## GEOLOGY

(See page 159)

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Symbols explained on page 10.

## GERMAN

Edwin F. Menze, Professor of German

Herman Ramras, Professor of German

Wolfgang F. Taraba, Associate Professor of German

Gerhard H. Weiss, Associate 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. A modified version of Ger 1A-2A-3A is one of the courses offered by the University of Minnesota Television College on KTCA-TV, Channel 2. 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: "Active" Approach.** 5 credits per unit. Provides basic experience in speaking, reading, and understanding the German language and its structure through the acquisition of basic patterns of speech and later through the reading and analysis of texts. The course will be reinforced with programmed materials which will be available to students in the language laboratory. The continuation course is Ger 4-5, which is a prerequisite for Upper Division German courses.

**1B-2B-3B. Beginning German.** 5 credits per unit. Provides a foundation for a reading knowledge adequate for cultural and professional purposes; experience in understanding spoken German; an introduction to representative Germans such as Goethe, Heine, Thomas Mann through a variety of German and English texts; an elementary introduction to the nature of linguistic change through comparisons of the common Germanic features of English and German. 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: "Active" 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 above. (No prerequisite for 1A; 1A or 1 year preparatory German for 2A)

*Fall Semester*

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

*Spring Semester*

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

**Ger 3A. Beginning German: "Active" Approach.** 5 degree credits. \$55 plus \$3 laboratory fee.

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

*Fall Semester*

M 6:20-9:20, Folwell 109

Symbols explained on page 10.

## Evening and Special Classes

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**Ger 1B-2B. Beginning German.** 5 degree credits each semester. \$55 plus \$3 laboratory fee each semester.

Grammar, pronunciation, reading. See note on page 75. (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 plus \$3 laboratory fee.

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

*Fall Semester*

M 6:20-9:20, Folwell 104

**Ger 3AE. Beginning German.** 5 degree credits. \$55 plus \$3 laboratory fee.

This is a continuation of the University Television College course taught during 1964-65 on KTCA-TV. Students who completed 10 credits of Beginning German via television may continue with this course, making it possible to earn 15 credits of Beginning German and meet the prerequisite for Ger 4-5, Intermediate German. (Prerequisite: 3A by television)

*Fall Semester*

Th 6:20-9:20, Folwell 106, C Wood

**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 304

**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

## 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

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Symbols explained on page 10.

## Course Offerings—Arts and Sciences

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Graduate German Reading Examination; it is merely the first step toward such an objective.) Ger 17A assumes no knowledge of German on the part of the student. Grammar is reduced to an essential minimum. The course progresses from intensive reading of simple, graded material to selections of moderate difficulty. Vocabulary building and analysis of compound words are emphasized. (No prerequisite. Repeated spring semester)

### *Fall Semester*

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

### *Spring Semester*

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

### **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 60)

## HISTORY

*W. Donald Beatty, Professor of History*  
*Hyman Berman, Associate Professor of History*  
*Harold C. Deutsch, Professor of History*  
*Tom B. Jones, Professor of History*  
*Rodney C. Loehr, Professor of History*  
*Jeanne T. Lupton, Associate Professor of History*  
*Richard R. Marsh, Professor of History*  
*John K. Munholland, Assistant Professor of History*  
*David W. Noble, Associate Professor of History*  
*Darrett B. Rutman, Associate Professor of History*  
*Allan H. Spear, Lecturer in History*  
*Theofanis G. Stavrou, Associate Professor of History*  
*Burton Stein, Associate Professor of History*  
*Romeyn Taylor, 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 re-numbered. 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 Western and world civilization in the

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Symbols explained on page 10.

## Evening and Special Classes

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

		<b>Fall Quarter</b>			<b>Winter Quarter</b>			<b>Spring Quarter</b>
I	M	6:30-9:00, Robbinsdale HS 231, Marsh (Limited class*)	2	M	6:30-9:00, Robbinsdale HS 231, Marsh (Limited class*)	3	M	6:30-9:00, Robbinsdale HS 231, Marsh (Limited class*)
	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 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 achievements of that period. 16: The climax of ancient civilization during the Hellenistic Age 323-133 B.C. and the Roman Imperial Period followed by the decline of Rome and of ancient civilization (to about A.D. 300). The three main topics to be considered are (a) the civilization of the ancient world at its peak, (b) the rise and flowering of Roman culture, and (c) the reasons for the decline of ancient civilization. Special attention will be paid to political institutions, art, literature, economics and society, philosophy, and ancient science. (No prerequisite. 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)

		<b>Fall Quarter</b>			<b>Winter Quarter</b>			<b>Spring Quarter</b>
14	Th	5:30-8:00, West Bank CB 150, Jones	15	Th	5:30-8:00, West Bank CB 150, Jones	16	Th	5:30-8:00, West Bank CB 150, Jones

**Hist 17, 18, 19. History of Asia.** 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. 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)

		<b>Fall Quarter</b>			<b>Winter Quarter</b>			<b>Spring Quarter</b>
17	M	5:30-8:00, West Bank CB 135, Stein	18	M	5:30-8:00, West Bank CB 135, Stein	19	M	5:30-8:00, West Bank CB 135, Stein

**Hist 20, 21, 22. American History.** 3 degree credits each term. \$33 each term.

A survey of the political, economic, and social history of the United States, with emphasis on the forces that resulted in the emergence of modern America. 20: Colonial and early national period. 21: Sectionalism and political development. 22: Modern America. (No prerequisite. Need not be taken in sequence)

		<b>Fall Semester</b>			<b>Spring Semester</b>
20	M	6:20-8:00, West Bank CB 10, Lupton	21	M	6:20-8:00, West Bank CB 10, Lupton

		<b>Fall Quarter</b>			<b>Winter Quarter</b>			<b>Spring Quarter</b>
20	M	7:00-9:30, StP Ext Center	21	M	7:00-9:30, StP Ext Center	22	M	7:00-9:30, StP Ext Center
	W	6:30-9:00, Robbinsdale HS 233 (Limited class*)		W	6:30-9:00, Robbinsdale HS 233 (Limited class*)		W	6:30-9:00, Robbinsdale HS 233 (Limited class*)

Symbols explained on page 10.

\* Enrollment space limited; see instructions on page 14.



## Course Offerings—Arts and Sciences

**Hist 50, 51, 52. Ancient Civilization.** 3 degree credits each quarter. \$33 each quarter.

**Fall Quarter (50)—Winter Quarter (51)—Spring Quarter (52)**

See course description, day, time, place, and instructor as listed under Hist 14, 15, 16. Courses in this sequence carry Upper Division credit. However, credits earned may not be used to satisfy the Upper Division requirement for students majoring in history.

**Hist 53, 54, 55. Civilization of the Modern World.** 3 degree credits each quarter. \$33 each quarter.

**Fall Quarter (53)—Winter Quarter (54)—Spring Quarter (55)**

See course description, day, time, place, and instructor as listed under Hist 1, 2, 3. Courses in this sequence carry Upper Division credit. However, credits earned may not be used to satisfy the Upper Division requirement for students majoring in history.

**Hist 59, 60, 61. History of Asia.** 3 degree credits each quarter. \$33 each quarter.

**Fall Quarter (59)—Winter Quarter (60)—Spring Quarter (61)**

See course description, day, time, place, and instructor as listed under Hist 17, 18, 19. Courses in this sequence carry Upper Division credit. However, credits earned may not be used to satisfy the Upper Division requirement for students majoring in history.

**Hist 80, 81. The United States in the Twentieth Century.** 3 degree credits each semester. \$33 each semester.

Courses are last two 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. 80: Social and intellectual crises of the 1920's; prosperity and depression; the New Deal; the rise of organized labor; from isolation to intervention; the post-war scene. 81: From 1932 to present. (No prerequisite. Need not be taken in sequence)

*Fall Semester*

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

*Spring Semester*

81 Th 6:20-8:00, West Bank CB 145, Noble

**Hist 86, 87, 88. American Colonies.** 3 degree credits each quarter. \$33 each quarter.

86: The European and English background, foundation of colonies, establishment of colonial institutions, 1607-1689. 87: The expansion of the colonies territorially, economically, and culturally, 1689-1750. 88: The colonies in the empire, imperial struggle and its aftermath in revolution and independence, 1750-1776. (No prerequisite. Need not be taken in sequence)

**Fall Quarter**

86 T 5:30-8:00, West Bank  
CB 155, Rutman

**Winter Quarter**

87 T 5:30-8:00, West Bank  
CB 155, Rutman

**Spring Quarter**

88 T 5:30-8:00, West Bank  
CB 155, Rutman

**Hist 93, 94. American Diplomatic History.** 3 degree credits each semester. \$33 each semester.

Courses are first two parts of the sequence 93, 94, 95. 93: American diplomacy, 1776-1848. 94: Period of national development. (No prerequisite. Need not be taken in sequence)

*Fall Semester*

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

*Spring Semester*

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

**Hist 103A, 104A, 105A (old 100, 101, 102). The Ancient Near East.** 3 degree credits each quarter. \$33 each quarter.

103A: The first civilization in the Ancient Near East: sources of knowledge of the past with special attention to archaeology; beginnings of agriculture; advent of civilization in the great river

Symbols explained on page 10.

## Evening and Special Classes

valleys; the Old Kingdom in Egypt; Sumerian period in Mesopotamia; the Egyptian Middle Kingdom; the Age of Hammurabi; characteristics of ancient Near Eastern civilization: literature, art and architecture, law, religion, economics, society, and technology. 104A: The Age of Empires, 1600-1000 B.C.: the New Kingdom (Empire) in Egypt; the Hittite Empire; developments in Syria and Palestine with special attention to the Canaanites, Philistines, and Hebrews; the spread of civilization to Asia Minor and Aegean lands. 105A: 1000-500 B.C.: Phoenicians; Hebrews; the Assyrian Empire; Assyrian civilization; the Age of Nebuchadnezzar; Saite period in Egypt; the Lydian kingdom; contacts between Greece and the Near East; the Persian Empire. (No prerequisite. Need not be taken in sequence, but recommended that 104A be preceded by 103A and 105A by 104A in order that the student may acquire a background for following course. Qualified students may register for graduate credit)

<b>Fall Quarter</b>		<b>Winter Quarter</b>		<b>Spring Quarter</b>	
103A	T 5:30-8:00, West Bank CB 255, Jones	104A	T 5:30-8:00, West Bank CB 255, Jones	105A	T 5:30-8:00, West Bank CB 255, Jones

**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)

<b>Fall Quarter</b>		<b>Winter Quarter</b>		<b>Spring Quarter</b>	
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)

<b>Fall Quarter</b>		<b>Winter Quarter</b>		<b>Spring Quarter</b>	
115E	W 5:30-8:00, West Bank CB 150, Deutsch	116E	W 5:30-8:00, West Bank CB 150, Deutsch	117E	W 5:30-8:00, West Bank CB 150, Deutsch

**Hist 120D, 118D (old 127A, 125A). Central Europe: Poland, Hungary, Czechoslovakia.** 3 degree credits each semester. \$33 each semester.

Courses are first and last parts of the sequence 118D, 119D, 120D. 120D: From 1867 to the present. 118D: Bohemia, Poland, Hungary to the 18th century. (No prerequisite. Qualified students may register for graduate credit)

<b>Fall Semester</b>		<b>Spring Semester</b>	
120D	W 8:15-9:55, West Bank CB 205, Wright	118D	W 8:15-9:55, West Bank CB 205, Wright

**Hist 118F, 119F, 120F (old 125B, 126B, 127B) Modern Russia.** 3 degree credits each quarter. \$33 each quarter.

118F: The nineteenth-century background. 119F: The reign of Alexander III, the reign of Nicholas II, World War I, the fall of the Russian monarchy. 120F: The Russian revolutions and the

Symbols explained on page 10.

## Course Offerings—Arts and Sciences

Soviet regime. (No prerequisite. Need not be taken in sequence. Qualified students may register for graduate credit)

<b>Fall Quarter</b>	<b>Winter Quarter</b>	<b>Spring Quarter</b>
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 121B, 122B (old 115, 116, 117). Expansion of Europe.** 3 degree credits each semester. \$33 each semester.

121B: Era of discovery, commercial empires of Asia, settlement colonies of the Western Hemisphere, 1400-1763. 122B: Later colonization, imperialism, modernization, and nationalism beyond Europe, 1763 to World War II. (No prerequisite. Need not be taken in sequence. Qualified students may register for graduate credit)

<b>Fall Semester</b>	<b>Spring Semester</b>
121B Th 6:20-8:00, West Bank CB 225, Stein	122B Th 6:20-8:00, West Bank CB 225, Stein

**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)

<b>Spring Quarter</b>
M 5:30-8:00, West Bank CB 155, Loehr

**Hist 138A, 136A (old 148A, 146A). History of the South.** 3 degree credits each semester. \$33 each semester.

Courses are the first and last parts of the sequence 136A, 137A, 138A. 138A: Covers the period 1890 to the present. 136A: Covers the period 1607-1840. (No prerequisite. Qualified students may register for graduate credit)

<b>Fall Semester</b>	<b>Spring Semester</b>
138A Th 8:15-9:55, West Bank CB 10, Noble	136A Th 8:15-9:55, West Bank CB 10, Noble

**Hist 139J, 140J, 141J. Race and Nationality in American History.** 3 degree credits each quarter. \$33 each quarter.

Historical role of ethnic minorities in American society. Changing attitudes of white Anglo-Americans toward Negroes, Orientals, and European immigrants and the varying responses of these groups to their minority status. 139J: 1619-1865. 140J: 1865-1914. 141J: 1914 to the present. (No prerequisite. Need not be taken in sequence. Qualified students may register for graduate credit)

<b>Fall Quarter</b>	<b>Winter Quarter</b>	<b>Spring Quarter</b>
139J W 5:30-8:00, West Bank CB 230, Spear	140J W 5:30-8:00, West Bank CB 230, Spear	141J W 5:30-8:00, West Bank CB 230, Spear

**Hist 142C, 143C (old 143B, 144B). History of American Labor.** 3 degree credits each semester. \$33 each semester.

Courses are the first and second parts of the sequence 142C, 143C, 144C. A history and analysis of the role of labor in the development of the United States. Life of the workers, conditions of work, and organization of labor institutions will be described. The political and ideological striv-

Symbols explained on page 10.

## Evening and Special Classes

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ings of labor will be examined broadly. 142C: 1607-1873. 143C: 1873-1917. (No prerequisite. Need not be taken in sequence. Qualified students may register for graduate credit)

### Fall Semester

142C Th 8:15-9:55, West Bank CB 115,  
Berman

### Spring Semester

143C Th 8:15-9:55, West Bank CB 115,  
Berman

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. Colonial economic life from the beginning of settlement to the American Revolution. (No prerequisite. Need not be taken in sequence. Qualified students may register for graduate credit)

### Fall Quarter

143A M 5:30-8:00, West  
Bank CB 140, Loehr

### Winter Quarter

144A M 5:30-8:00, West  
Bank CB 140, 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)

### Fall Quarter

145A Th 5:30-8:00, West  
Bank CB 245, Beatty

### Winter Quarter

146A Th 5:30-8:00, West  
Bank CB 245, Beatty

### Spring Quarter

147A Th 5:30-8:00, West  
Bank CB 245, Beatty

Hist 148E, 149E (old 148E, 149E, 150E). Chinese History, 1279-1949. 3 degree credits each semester. \$33 each semester.

148E: To 1800. 149E: Since 1800. (No prerequisite. Need not be taken in sequence. Students having taken old sequence may receive credit for new 148E only. Qualified students may register for graduate credit)

### Fall Semester

148E Th 6:20-8:00, West Bank CB 105,  
Taylor

### Spring Semester

149E Th 6:20-8:00, West Bank CB 105,  
Taylor

## HUMANITIES

*William Agee, Instructor in Humanities*  
*George Amberg, Professor of Humanities*  
*David Brown, Lecturer in Humanities*  
*C. A. Carr, Lecturer in Humanities*  
*Fred Hallberg, Instructor in Humanities*  
*George Kliger, Instructor in Humanities*  
*Donald Lambert, Instructor in Humanities*  
*Ray Livingston, Lecturer in Humanities*  
*Lynn Loudon, Instructor in Humanities*  
*Margaret MacInnes, Assistant Professor of Humanities*  
*Albert Milgrom, Instructor in Humanities*  
*Mischa Penn, Instructor in Humanities*  
*Eulalia Saplala, Instructor in Humanities*  
*Susan White, Instructor in Humanities*

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Symbols explained on page 10.

## Course Offerings—Arts and Sciences

Some humanities courses are taught at both the Lower and Upper Division levels; students registering under Upper Division numbers will be required to do extra work and perform at a higher level in examinations and papers.

### Hum 1. Humanities in the Modern World I. 3 degree credits. \$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. See note at beginning of humanities section. (No prerequisite. Repeated each term. For Upper Division credit, register in Hum 51)

<i>Fall Semester</i>		<i>Spring Semester</i>	
M	8:15-9:55, Ford 285, Kliger	M	6:20-8:00, Ford 285, Amberg
	<b><i>Fall Quarter</i></b>	<b><i>Winter Quarter</i></b>	<b><i>Spring Quarter</i></b>
T	5:15-7:45, StP Ext Center, Penn	W	5:30-8:00, Ford 285, Hallberg
T	5:30-8:00, Ford 285, Saplala		
W	6:20-8:50, Nicholson 209, MacInnes		
W	6:30-9:00, Robbinsdale HS 231, Carr ( <i>Limited class*</i> )		
Th	5:30-8:00, Ford 115, Brown		

### Hum 2. Humanities in the Modern World II. 3 degree credits. \$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. See note at beginning of humanities section. (No prerequisite. Repeated spring semester. For Upper Division credit, register in Hum 52)

<i>Spring Semester</i>	
M	8:15-9:55, Ford 285, Milgrom
<b><i>Winter Quarter</i></b>	
T	5:15-7:45, StP Ext Center, Penn
W	6:20-8:50, Nicholson 209, MacInnes
W	6:30-9:00, Robbinsdale HS 231, Carr ( <i>Limited class*</i> )
Th	5:30-8:00, Ford 115, White

### Hum 3. Humanities in the Modern World III. 3 degree credits. \$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. See note at beginning of humanities section. (No prerequisite. Repeated spring quarter. For Upper Division credit, register in Hum 53)

<i>Fall Semester</i>		<i>Spring Quarter</i>	
Th	6:20-8:00, Ford 285, Lambert	T	5:15-7:45, StP Ext Center, Lambert
		W	6:20-8:50, Ford 285, Hallberg
		W	6:30-9:00, Robbinsdale HS 231 ( <i>Limited class*</i> )
		Th	5:30-8:00, Ford 115, Brown

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

Symbols explained on page 10.

\* Enrollment space limited; see instructions on page 14.

## Evening and Special Classes

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others. See note at beginning of humanities section. (No prerequisite. Repeated spring semester. For Upper Division credit, register in Hum 54)

### Fall Semester

M 6:20-8:00, Ford 130, Amberg

### Spring Semester

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

### Hum 11. The Greek Heritage. 3 degree credits. \$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. See note at beginning of humanities section. (No prerequisite. For Upper Division credit, register in Hum 61)

### Fall Quarter

T 6:20-8:50, Ford 130, Louden

### Hum 12. Roman and Medieval Heritage. 3 degree credits. \$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. See note at beginning of humanities section. (No prerequisite. For Upper Division credit, register in Hum 62)

### Winter Quarter

T 6:20-8:50, Ford 130, Louden

### Hum 13. The Renaissance and Reformation. 3 degree credits. \$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 Fico della Mirandola, Machiavelli, Castiglione, Luther, Calvin, Loyola, Montaigne, Pascal, Cervantes. Renaissance and baroque art and architecture. See note at beginning of humanities section. (No prerequisite. For Upper Division credit, register in Hum 63)

### Spring Quarter

T 6:20-8:50, Ford 130, Louden

### Hum 21. American Life. 3 degree credits. \$33.

The concept of individualism and the place of the individual in American society as recorded in literature, social thought, and the arts. Readings of varying length from a variety of authors including Franklin, Tocqueville, Thoreau, Whitman, Lewis, and Farrell. Industrial and union folk songs. (No prerequisite)

### Fall Quarter

W 6:20-8:50, Vincent 1, 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, Emerson, Ingersoll, William James, Eliot, and Hemingway. Studies of American religious utopias. Selected religious painting and music. (No prerequisite)

### Winter Quarter

W 6:20-8:50, Vincent 1, Agee

Th 6:00-8:30, StP Ext Center, Agee

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Symbols explained on page 10.

## Course Offerings—Arts and Sciences

### Hum 23. American Life. 3 degree credits. \$33.

Two major 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 the urban-technological landscapes in painting. The rise of the skyscraper. The architecture of Frank Lloyd Wright. (b) The image of himself and of his society held by the American Negro. Readings of varying length from Washington, DuBois, Ellison, King, and Baldwin. Jazz and the story of "Jelly-Roll" Morton. Negro folk songs and humor. (No prerequisite)

#### *Spring Quarter*

W 6:20-8:50, Vincent I, Agee  
Th 6:00-8:30, StP Ext Center, Agee

### Hum 51. Humanities in the Modern World. 3 degree credits. \$33.

#### *Fall Semester—Spring Semester*

#### *Fall Quarter—Winter Quarter—Spring Quarter*

See course description, days, times, places, and instructors as listed under Hum 1. Courses numbered above 50 carry Upper Division credit and are open only to students at that level.

### Hum 52. Humanities in the Modern World. 3 degree credits. \$33.

#### *Winter Quarter—Spring Semester*

See course description, days, times, places, and instructors as listed under Hum 2. Courses numbered above 50 carry Upper Division credit and are open only to students at that level.

### Hum 53. Humanities in the Modern World. 3 degree credits. \$33.

#### *Fall Semester—Spring Quarter*

See course description, days, times, places, and instructors as listed under Hum 3. Courses numbered above 50 carry Upper Division credit and are open only to students at that level.

### Hum 54. Humanities in the Modern World. 3 degree credits. \$33.

#### *Fall Semester—Spring Semester*

See course description, days, times, places, and instructors as listed under Hum 4. Courses numbered above 50 carry Upper Division credit and are open only to students at that level.

### Hum 61. The European Heritage. 3 degree credits. \$33.

#### *Fall Quarter*

See course description, day, time, place, and instructor as listed under Hum 11. Courses numbered above 50 carry Upper Division credit and are open only to students at that level.

### Hum 62. The European Heritage. 3 degree credits. \$33.

#### *Winter Quarter*

See course description, day, time, place, and instructor as listed under Hum 12. Courses numbered above 50 carry Upper Division credit and are open only to students at that level.

### Hum 63. The European Heritage. 3 degree credits. \$33.

#### *Spring Quarter*

See course description, day, time, place, and instructor as listed under Hum 13. Courses numbered above 50 carry Upper Division credit and are open only to students at that level.

Symbols explained on page 10.

## *Evening and Special Classes*

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### **Hum 131. Proseminar: The Myth of the Hero.** 3 degree credits. \$33.

The universal motif of the hero's journey through trials to fulfillment as sustaining and exemplary to men in all ages. Works and authors to be studied include Sophocles, Arthurian Legends, Dante, Shakespeare, Bunyan, Dostoevski, Conrad, *The Odyssey*, *The King and the Corpse*, *The Hero with a Thousand Faces*. (Prerequisite: 9 credits in humanities program courses or #. May not be taken for graduate credit)

#### **Fall Quarter**

Th 6:20-8:50, Ford 60, Livingston

### **Hum 132. Proseminar: The Way of Woman.** 3 degree credits. \$33.

A tentative exploration of the mystery of the feminine nature as delineated in works of art and literature, including Amor and Psyche, Tristan and Isolde, Madame Bovary, Anna Karenina, and others that depict the variety, richness, and power of woman. (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 Nostalgia for Paradise.** 3 degree credits. \$33.

The longing for the fullness of life, variously conceived as existing in Eden, the Golden Age, Heaven, Utopia, the Workers' Paradise, America A.D. 2000, or the Eternal Now, as a compelling motif in the life of man. Myths, legends, scriptures, Utopian visions, and futuristic projections will be studied. (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 68)

### **Family Studies**

(See page 69)

### **Humanities**

(See page 82)

### **Personal Orientation**

**How to Study** (See page 122)

### **Social Science**

(See page 111)

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Symbols explained on page 10.



## ITALIAN

Silvano B. Garofalo, Instructor in Italian

Livia Pellegrini-Seim, Lecturer in Italian

1A-1B, 2A-2B, 3A-3B. *Beginning Conversational Italian*, carrying 3 degree credits each semester, is the same sequence of courses formerly listed in evening classes as 1A-2A, *Beginning Conversational Italian*, and 3A-4A, *Conversational Italian*.

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

**Ital 1A-1B. Beginning Conversational Italian.** 3 degree credits each semester. \$33 plus \$3 laboratory fee each semester.

An audio-lingual approach to provide a speaking knowledge of Italian. (No prerequisite for 1A; 1A or old 1A or # for 1B)

*Fall Semester*

1A T 6:20-8:00, Folwell 305, Garofalo

*Spring Semester*

1B T 6:20-8:00, Folwell 305, Garofalo

**Ital 2A-2B. Beginning Conversational Italian.** 3 degree credits each semester. \$33 plus \$3 laboratory fee each semester.

An audio-lingual approach to provide a speaking knowledge of Italian. (Prerequisite: 1A or 1B or old 2A or # for 2A; 2A or old 3A or # for 2B)

*Fall Semester*

2A W 6:20-8:00, Folwell 305, Pellegrini-Seim

*Spring Semester*

2B W 6:20-8:00, Folwell 305, Pellegrini-Seim

**Ital 3A-3B. Beginning Conversational Italian.** 3 degree credits each semester. \$33 plus \$3 laboratory fee each semester.

A conversational approach to provide a speaking knowledge of Italian. (Prerequisite: 2A or old 4A or # for 3A; 3A or # for 3B)

*Fall Semester*

3A Th 6:20-8:00, Folwell 305

*Spring Semester*

3B Th 6:20-8:00, Folwell 305

**Ital 50. Intensive Italian.** 5 degree credits. \$55.

This *intensive oral* approach to a course with reading objectives is open to any student who has studied Latin or a Romance language. Satisfactory completion of Ital 50 fulfills the "reading knowledge" required of the Graduate School. Students who wish to continue may take 2B, or 65 or 66 with permission. (No other prerequisite)

*Fall Semester*

M 6:20-9:20, Folwell 305

**Ital 65. Survey of Italian Literature: Dante to Lorenzo de Medici.** 3 degree credits. \$33.

(Prerequisite: 2A or #)

*Fall Semester*

W 6:20-8:00, Folwell 306, Garofalo

Symbols explained on page 10.

## Evening and Special Classes

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**Ital 66. Survey of Italian Literature: The Renaissance.** 3 degree credits. \$33.

(Prerequisite: 2A or 65 or ‡)

*Spring Semester*

W 6:20-8:00, Folwell 308, Carofalo

## JOURNALISM

*Robert Lindsay, Instructor in Journalism*

*William A. Mindak, Associate Professor of Journalism*

*R. Smith Schuneman, Instructor in Journalism*

*Herman J. Sittard, Lecturer in Journalism*

*Phillip J. Tichenor, Assistant Professor of Agricultural Journalism*

*Harold W. Wilson, Associate Professor of Journalism*

**Jour 1. Introduction to Mass Communications.** 3 degree credits. \$33.

The nature, functions, and responsibilities of communication agencies, examined from the point of view of the professional journalist. News, opinion, entertainment, and persuasion functions; specialized communication; aspects of advertising. (Prerequisite: completion of freshman English requirement or ‡; minimum typing 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: 13 or ‡)

*Fall Semester*

T 6:20-8:00, Murphy 311, Mindak

**Jour 53. Picture Editing.** 3 degree credits. \$33.

Criteria for picture selection. Combining word and picture in layouts for company or institutional magazines, newspapers, and general publications. Introduction to TV news film editing. (Prerequisite: 13 or 18 or professional journalistic experience and ‡)

*Spring Semester*

W 6:20-8:00, Murphy 20, Schuneman

**\*Jour 57. Design and Typography: Advertising and Publications.** 3 degree credits. \$33 plus \$5 laboratory fee.

Principles of design and layout. Preparation of layouts for print and film. Photo-type techniques. Appropriate use of typefaces and color. Practice in hand- and photo-composition. (Prerequisite: 18 or ‡. Limited to 20 students)

*Spring Semester*

M 6:20-8:00, Murphy 315, Wilson

**\*Jour 60. Graphic Processes: Advertising and Publications.** 3 degree credits. \$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 302, Wilson

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Symbols explained on page 10.

\* Enrollment space limited; see instructions on page 14.

## Course Offerings—Arts and Sciences

### \*Jour 71 (old 69). Business News and Feature Writing. 3 degree credits. \$33.

Planning and writing feature articles for general, class, and trade publication; marketing; problems of magazine editing; employee publication and industrial journal problems. (Prerequisite: completion of freshman English requirement or §. Limited to 20 students)

#### *Fall Semester*

W 6:20-8:00, Murphy 302, Schuneman

### 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: 13 or §)

#### *Fall Semester*

M 6:20-8:00, Murphy 308, Lindsay

### \*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, post-testing, and creative research findings. (Prerequisite: 18 or §. Limited to 18 students)

#### *Spring Semester*

T 6:20-8:00, Murphy 311, Mindak

### Jour 112. Communication and Public Opinion. 3 degree credits. \$33.

Theories of the communication process and of persuasion and attitude change. Functions of interpersonal and mediated communication in diffusion of information and in opinion formation. (Prerequisite: 15 credits in social sciences. Qualified students may register for graduate credit)

#### *Spring Semester*

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

### 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

## LIBRARY SCIENCE

*David K. Berninghausen, Professor of Library Science*

*Nancy J. Freeman, Instructor in Library Science*

*Edith V. Kromer, Instructor in Library Science*

*Marie P. Samanisky, Lecturer in Library Science*

*Raymond H. Shove, Associate Professor of 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.

Symbols explained on page 10.

\* Enrollment space limited; see instructions on page 14.

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

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For undergraduates in the College of Education and postgraduates admitted to the Minimum Certification Program for School Librarians. (No prerequisite)

### ***Fall Quarter***

T 6:30-9:00, Library 4A, Kromer

**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 6:30-9:00, Library 4A, Kromer

**Lib 101. Library Administration.** 3 degree credits. \$33.

Introduction to principles of library administration, organization, management, and the types of libraries. For graduate students and students admitted to the Minimum Certification Program for School Librarians. (No prerequisite. Qualified students may register for graduate credit)

### ***Winter Quarter***

MW 4:00-5:30, Library 4A, Berninghausen

**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)

### ***Fall Quarter***

MW 4:00-5:30, Library 4A

**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)

### ***Winter Quarter***

TTh 4:00-5:30, Library 4A, 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)

### ***Spring Quarter***

TTh 4:00-5:30, Library 4A, Freeman

**Lib 172. Reading Guidance for Adolescents.** 3 degree credits. \$33.

Reading interests of adolescents and the various kinds of materials that meet these interests. Knowledge of the sources, selection, evaluation, and methods of introducing books to adolescents. For school and children's librarians. (Prerequisite: 104. Qualified students may register for graduate credit)

### ***Fall Quarter***

TTh 4:00-5:30, Library 4A, Kromer

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Symbols explained on page 10.

## Course Offerings—Arts and Sciences

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### Lib 241. Library Mechanization and Systems Analysis. 3 degree credits. \$33.

Application of systems analysis to library operations; principles, problems, and examples of library mechanization. (Prerequisite: ‡. Qualified students may register for graduate credit)

#### Winter Quarter

Th 6:30-9:00, Library 4A

### Lib 242. Introduction to Information Retrieval. 3 degree credits. \$33.

Theory of various methods of subject analysis; methods of data representation, including coding; search strategies. (Prerequisite: ‡. Qualified students may register for graduate credit)

#### Spring Quarter

Th 6:30-9:00, Library 4A

### Lib 253. History of Books and Printing. 3 degree credits. \$33.

Bookmaking in its various forms from earliest times to the present. Evolution of the alphabet; the manuscript book; the invention and spread of printing; the design of the modern book. The aesthetic and technical aspects. (Prerequisite: ‡. Qualified students may register for graduate credit)

#### Spring Quarter

MW 4:00-5:30, Library 4A, Shove

### Lib 277. History of Children's Literature. 3 degree credits. \$33.

Especially for graduate students and postgraduates wishing to continue their library education. (Prerequisite: admission to Graduate School or a fifth-year library degree)

#### Spring Quarter

MW 4:00-5:30, Library 4B, Kromer

## MATHEMATICS

(See page 162)

## MUSIC

*Frank P. A. Benciscutto, Assistant Professor of Music*

*Johannes U. Dahle, Instructor in Music*

*Paul Fetler, Professor of Music*

*Paul W. Freed, Instructor in Music*

*Paul S. Ivory, Associate Professor of Music Education*

*Johannes Riedel, Professor of Music*

*Charles F. Schwartz, Jr., Assistant Professor of Music*

*Richard E. Sieber, Assistant Professor of Music Education*

*Everett L. Sutton, Instructor in Music*

### Applied Music

Individual instruction in music offered by the Department of Music is open to students not able to attend day classes by registration through the General Extension Division. Private lessons are given in piano, organ, voice, violin, trumpet, and all other orchestral instruments.

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Symbols explained on page 10.

## Evening and Special Classes

All applicants for applied music instruction must first, prior to the beginning of a quarter, obtain an "Approval for Registration Form" and fulfill any necessary audition requirements through the Department of Music, 107 Scott Hall. Time and place of lessons are also arranged through the Department of Music office, and final examinations will be taken during 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.

The courses offered, and their fees, will be found in the program of classes for the College of Liberal Arts, in the *Class Schedule*. In addition to the regular tuition and fees, a \$4 registration fee will be charged for each quarter course. The usual fee for late registration will also be charged. For further information, consult any office of the General Extension Division or the office of the Department of Music.

*Note—Individual instruction will also be offered on the same basis at the St. Paul General Extension Center. Full information is available at the Center.*

\*Mus. Piano Playing for Pleasure I-II. 2 certificate credits each semester. \$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

I T 6:30-7:45, Music Education 103, Freed  
I Th 6:30-7:45, Music Education 103, Freed

### Spring Semester

I Th 6:30-7:45, Music Education 103, Freed  
II T 6:30-7:45, Music Education 103, Freed

## Group Performance

*Note—Students must audition for all of the group performance music classes. Auditioning may be arranged with the instructor in advance of the class opening or may be handled at the first session.*

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

TTh 12:30-1:20, Northrop  
Aud 5, Schwartz

### Winter Quarter

TTh 12:30-1:20, Northrop  
Aud 5, Schwartz

### Spring Quarter

TTh 12:30-1:20, 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

Symbols explained on page 10.

\* Enrollment space limited; see instructions on page 14.

## Course Offerings—Arts and Sciences

for 6 quarters of work. Extension students may choose whether or not to attend the MWF daytime section, but must attend the evening section)

<b>Fall Quarter</b>	<b>Winter Quarter</b>	<b>Spring Quarter</b>
40 MWF 2:30-3:20, Northrop Aud, Sieber	41 MWF 2:30-3:20, Northrop Aud, Sieber	42 MWF 2:30-3:20, Northrop Aud, Sieber
T 7:00-9:30, Northrop Aud, Sieber	T 7:00-9:30, Northrop Aud, Sieber	T 7:00-9:30, Northrop Aud, Sieber

### 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)

<b>Fall Quarter</b>	<b>Winter Quarter</b>	<b>Spring Quarter</b>
MWF 11:30-12:20, Northrop Aud 4, Schwartz	MWF 11:30-12:20, Northrop Aud 4, Schwartz	MWF 11:30-12:20, Northrop Aud 4, Schwartz
MWF 1:30-2:20, Northrop Aud 5, Schwartz	MWF 1:30-2:20, Northrop Aud 5, Schwartz	MWF 1:30-2:20, Northrop Aud 5, Schwartz
T 7:30-9:30, Science Building 2, Schwartz	T 7:30-9:30, Science Building 2, Schwartz	T 7:30-9:30, Science Building 2, Schwartz

### 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)

<b>Fall Quarter</b>	<b>Winter Quarter</b>	<b>Spring Quarter</b>
43S TTh 4:30-6:00, Coffey 225, Dahle	44S TTh 4:30-6:00, Coffey 225, Dahle	45S TTh 4:30-6:00, Coffey 225, Dahle

### 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 Beniciscutto, telephone 373-3431, prior to registration. Students may receive credit for 6 quarters of work)

<b>Fall Quarter</b>	<b>Winter Quarter</b>	<b>Spring Quarter</b>
46 Days arranged, 3:30-5:20, Northrop Aud 4, Beniciscutto	47 Days arranged, 3:30-5:20, Northrop Aud 4, Beniciscutto	48 Days arranged, 3:30-5:20, Northrop Aud 4, Beniciscutto

### 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)

<b>Fall Quarter</b>	<b>Winter Quarter</b>	<b>Spring Quarter</b>
MWF 12:30-1:20, Northrop Aud 5, Dahle	MWF 12:30-1:20, Northrop Aud 5, Dahle	MWF 12:30-1:20, Northrop Aud 5, Dahle

Symbols explained on page 10.

## Evening and Special Classes

**Mus 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)

<b>Fall Quarter</b>		<b>Winter Quarter</b>		<b>Spring Quarter</b>	
66	MWF 2:30-3:20, Music Education 200, Schwartz	67	MWF 2:30-3:20, Music Education 200, Schwartz	68	MWF 2:30-3:20, Music Education 200, 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)

<b>Fall Quarter</b>		<b>Winter Quarter</b>		<b>Spring Quarter</b>	
147	M 6:20-8:00, Wullung 7	148	M 6:20-8:00, Wullung 7	149	M 6:20-8:00, Wullung 7

## Music Theory, History, and Literature

**Mus. Enjoying Music.** No credit. \$22 each quarter.

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 either quarter)

<b>Fall Quarter</b>		<b>Winter Quarter</b>	
M	6:20-8:00, Scott 3, Ivory	M	6:20-8:00, Scott 3, Ivory

**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)

<b>Fall Semester</b>		<b>Spring Semester</b>	
T	6:30-8:30, Scott 3	T	6:00-7:50, STP Ext Center, Sutton

**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)

<b>Fall Quarter</b>		<b>Winter Quarter</b>		<b>Spring Quarter</b>	
1T	M 6:20-8:50, Scott 103, Fetler	2T	M 6:20-8:50, Scott 103, Fetler	3T	M 6:20-8:50, Scott 103, Fetler

**Mus 4T-5T-6T. Music Theory.** 3 degree credits each quarter. \$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)

<b>Fall Quarter</b>		<b>Winter Quarter</b>		<b>Spring Quarter</b>	
4T	Th 6:20-8:50, Scott 103, Fetler	5T	Th 6:20-8:50, Scott 103, Fetler	6T	Th 6:20-8:50, Scott 103, Fetler

Symbols explained on page 10.



## Course Offerings—Arts and Sciences

### 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 spring semester)

#### Fall Semester

W 6:00-8:00, Music Education 103

#### Spring Semester

W 6:00-8:00, Music Education 103

### 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. 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

50 T 6:20-8:00, Scott 104,  
Riedel

#### Winter Quarter

51 T 6:20-8:00, Scott 104,  
Riedel

#### Spring Quarter

52 T 6:20-8:00, Scott 104,  
Riedel

### Mus. Folk Music. 3 certificate credits. \$33.

A survey of folk music. American balladry and folk song. Latin American folk music. European folk music. Historical development, ethnic background, musical values. Different material covered each term. (No prerequisite. Students may enter any semester and may receive certificate credit for 4 semesters of work)

#### Fall Semester

T 8:15-9:50, Scott 104, Riedel

#### Spring Semester

T 8:15-9:50, Scott 104, Riedel

### Mus 73-74-75. Introduction to Opera. 2 degree credits each quarter. \$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 73; 73 for 74; 74 for 75. Must be taken in sequence. For nonmusic majors)

#### Fall Quarter

73 W 6:20-8:00, Wulling 7,  
Knowles

#### Winter Quarter

74 W 6:20-8:00, Wulling 7,  
Knowles

#### Spring Quarter

75 W 6:20-8:00, Wulling 7,  
Knowles

## MUSIC EDUCATION

(See page 148)

## NATURAL HISTORY

NatH 1. Birds of Minnesota. (See page 59)

Symbols explained on page 10.

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

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### **NURSING**

*Marilyne Backlund, Assistant Professor of Nursing*  
*Margaret Grainger, Assistant Professor, School of Nursing*  
*Helen Hansen, Assistant Professor, School of Nursing*  
*Marian Town, Instructor, School of Nursing*

Evening courses offered by the School of Nursing do not carry degree credit. The nursing courses described in this bulletin are being offered to assist the registered nurse to gain further understanding of her responsibilities in nursing. They are not the equivalent of nursing courses offered in the curriculum of degree programs of the school.

General education is of value to all nurses and many evening courses listed in the Arts and Sciences section of this bulletin may be taken for credit. Final decision as to the applicability of these credits toward a degree offered by the School of Nursing is the responsibility of the school's Admissions Committee.

Registered nurses who wish to continue their studies in the direction of a degree program in one of the nursing fields are urged to contact the School of Nursing, 125 Owre Hall (telephone 373-3462), and ask for the assistance of an adviser in planning an organized course of study.

#### **Nurs. Nursing Concerns Today. No credit. \$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**

(September 28 to December 14)

T 6:00-8:30, Millard 118, Backlund

#### **Nurs. Clinical Nursing. 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**

(January 4 to March 15)

T 6:00-8:30, Millard 118, Hansen and Town

#### **Nurs. Nursing Unit Administration. No credit. \$33.**

Responsibilities of the head nurse and team leader in the hospital setting; application of basic principles of administration to the nurse-patient relationship; principles of supervision of nursing personnel. (Open to registered nurses)

##### **Special Class**

(March 29 to June 7)

T 6:00-8:30, Millard 118, Grainger

### **PHILOSOPHY**

*Henry Lackner, Instructor in Philosophy*  
*Douglas Lewis, Assistant Professor of Philosophy*  
*Homer E. Mason, Associate Professor of Philosophy*  
*Grover Maxwell, Professor of Philosophy*

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Symbols explained on page 10.

## Course Offerings—Arts and Sciences

*Mischa Penn, Instructor in Humanities*

*Francis V. Raab, Professor of Philosophy*

*D. Burnham Terrell, Professor of Philosophy*

*John Winnie, Instructor in Philosophy*

*Candido P. 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.

### **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**

Th 5:15-7:45, StP Ext Center,  
Zanoni

#### **Winter Quarter**

T 7:00-9:30, Ford 170,  
Winnie

#### **Spring Quarter**

Th 5:15-7:45, Ford 150,  
Winnie

### **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 quarter and spring semester)

#### **Fall Semester**

W 6:20-8:00, Ford 185, Lewis

#### **Spring Semester**

M 6:20-8:00, Ford 180, Terrell  
W 6:20-8:00, Ford 115, Lackner

#### **Fall Quarter**

T 7:00-9:30, Ford 349, Winnie

#### **Winter Quarter**

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 spring semester and spring quarter)

#### **Spring Semester**

T 8:15-9:55, Ford 185

#### **Fall Quarter**

M 5:30-8:00, Ford 85, Raab

#### **Spring Quarter**

Th 5:15-7:45, StP Ext Center, Zanoni

### **Phil 10. Science and Religion. 2 degree credits. \$22.**

Inquiry into the nature of science and religion as currently interpreted, with an attempt to find grounds of conflict and/or reconciliation. (No prerequisite. Repeated spring quarter)

#### **Fall Quarter**

W 6:20-8:00, Ford 55, Penn

#### **Spring Quarter**

M 6:20-8:00, Ford 55, Penn

### **Phil 50A. General History of Philosophy: Greek Philosophy. 3 degree credits. \$33.**

Socrates, Plato, Aristotle. (No prerequisite)

#### **Fall Quarter**

Th 5:30-8:00, Ford 130, Mason

Symbols explained on page 10.

## Evening and Special Classes

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**Phil 52A. General History of Philosophy: Early Modern Philosophy.** 3 degree credits. \$33.

From Descartes through Hume; impact of science; backgrounds of contemporary philosophical problems. (No prerequisite)

**Winter Quarter**

Th 5:30-8:00, Ford 349, Mason

**Phil 107. Philosophy in Modern Literature.** 3 degree credits. \$33.

Survey of basic philosophical ideas in modern civilization as they are expressed in major works of literature. (Prerequisite: major or minor in philosophy or literature, or §. Qualified students may register for graduate credit)

**Fall Semester**

M 8:15-9:55, Ford 160, Terrell

**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 §. Qualified students may register for graduate credit)

**Spring Quarter**

T 5:30-8:00, Ford 349, Mason

**Phil 154. Elements of Symbolic Logic.** 4 degree credits. \$44.

Systematic introduction to modern logic. Topics include dimensions of language; calculus or propositions, classes, and relations; applications to foundations of mathematics. (Prerequisite: 2 or 2A or §. Qualified students may register for graduate credit)

**Spring Semester**

Th 5:40-8:00, Ford 160, 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 \$5 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, but experience or instruction in black and white photography is desirable. Meets concurrently with Color Photography II. 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 \$5 laboratory fee.

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

**Fall Semester**

T 6:20-8:00, Wesbrook 202, Webb

**Spring Semester**

T 6:20-8:00, Wesbrook 202, Webb

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Symbols explained on page 10.

Art 10. Basic Photography I. (See page 54)

Art 11. Basic Photography II. (See page 55)

## PHYSICS

(See page 171)

## POLITICAL SCIENCE

*Dorothy Dodge, Lecturer in Political Science*

*William H. Flanigan, Assistant Professor of Political Science*

*Martin J. Hauser, Instructor in Political Science*

*James E. Jernberg, Assistant Professor of Political Science*

*G. Theodore Mitau, Lecturer in Political Science*

*J. John Penikis, Instructor in Political Science*

*Robert E. Riggs, Associate Professor of Political Science*

*William C. Rogers, Professor of Political Science*

*Thomas M. Scott, Instructor in Political Science*

*John E. Turner, Professor of Political Science*

**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 government (national, state, and local) with special attention to current developments. (No prerequisite for 1 or 2. Need not be taken in sequence; however, both 1 and 2 must be completed to receive credit)

### *Fall Semester*

1 M 6:20-8:00, West Bank CB 410, Scott  
W 7:00-8:40, StP Ext Center, Mitau

### *Spring Semester*

2 M 6:20-8:00, West Bank CB 125, Scott  
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, Robbinsdale  
HS 231

### *Winter Quarter*

B Th 6:30-9:00, Robbinsdale  
HS 231

(Limited class\*)

Symbols explained on page 10.

\* Enrollment space limited; see instructions on page 14.

## Evening and Special Classes

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### 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*

Th 6:20-8:00, West Bank CB 135, Rogers

#### *Spring Quarter*

M 6:30-9:00, Robbinsdale HS 233, Riggs  
(Limited class\*)

### 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*

Th 6:20-8:00, West Bank CB 135, Rogers

### Pol 50. Political Behavior. 3 degree credits. \$33.

An introduction to the study of mass political behavior. The study of political personality, attitude formation and public opinion. Voting behavior, partisanship, and other forms of political participation will be considered. (No prerequisite. For graduate credit, or for undergraduate political science major credit, register in Pol 167)

#### *Fall Semester*

T 8:15-9:55, West Bank CB 115, Flanigan

### Pol 51. Political Behavior. 3 degree credits. \$33.

An introduction to the political behavior of leaders, the theories of political systems, and the role of organizations. The study of groups and elites. Power, bargaining, and planning in the analysis of political leadership. (No prerequisite. For graduate credit, or for undergraduate political science major credit, register in Pol 168)

#### *Spring Semester*

T 8:15-9:55, West Bank CB 115, Flanigan

### Pol 54. Chinese Government. 3 degree credits. \$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. For graduate credit, or for undergraduate political science major credit, register in Pol 154)

#### *Spring Semester*

M 6:20-8:00, West Bank CB 205, Turner

### Pol 55. Government of the Soviet Union. 3 degree credits. \$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. For graduate credit, or for undergraduate political science major credit, register in Pol 143)

#### *Fall Semester*

M 6:20-8:00, West Bank CB 145, Turner

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Symbols explained on page 10.

\* Enrollment space limited; see instructions on page 14.

## Course Offerings—Arts and Sciences

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### **Pol 57. African Government and Politics. 3 degree credits. \$33.**

An introductory survey of the political traditions, constitutional development, and international relations of the emerging African states. (No prerequisite. For graduate credit, or for undergraduate political science major credit, register in Pol 148)

#### *Fall Semester*

T 6:20-8:00, West Bank CB 115, Dodge

### **Pol 79. The American Chief Executive. 3 degree credits. \$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. For graduate credit, or for undergraduate political science major credit, register in Pol 107)

#### *Fall Semester*

T 6:20-8:00, West Bank CB 210, Jernberg

### **Pol 82. European Government and Politics. 3 degree credits. \$33.**

Britain and France. Political institutions in their social setting; problems of power and responsibility, governmental stability; political decision-making, government and the economic order. (No prerequisite. For graduate credit, or for undergraduate political science major credit, register in Pol 141)

#### *Spring Semester*

T 6:20-8:00, West Bank CB 210, Jernberg

### **Pol 84. International Politics. 3 degree credits. \$33.**

State action in international relations; forms of state action; foreign-policy analysis; capabilities analysis. (No prerequisite. For graduate credit, or for undergraduate political science major credit, register in Pol 184)

#### *Spring Semester*

W 6:20-8:00, West Bank CB 210, Hauser

### **Pol 87. International Organization. 3 degree credits. \$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. For graduate credit, or for undergraduate political science major credit, register in Pol 187)

#### *Fall Semester*

W 6:20-8:00, West Bank CB 210, Riggs

### **Pol 95. Diplomacy. 3 degree credits. \$33.**

Nature, functions, historical development of diplomacy; relation to forms of government and power systems. Traditional diplomacy, diplomacy by conference and in international organizations, personal diplomacy, open and secret diplomacy. Essentials of diplomatic usage. Diplomatic agents. (No prerequisite. For graduate credit, or for undergraduate political science major credit, register in Pol 175)

#### *Fall Semester*

M 8:15-9:55, West Bank CB 210, Penikis

### **Pol 96. U.S. Foreign Affairs Administration. 3 degree credits. \$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

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Symbols explained on page 10.

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

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other overseas agencies. (No prerequisite. For graduate credit, or for undergraduate political science major credit, register in Pol 176)

### ***Spring Semester***

M 8:15-9:55, West Bank CB 210, Penikis

**Pol 107. The American Chief Executive.** 3 degree credits. \$33.

### ***Fall Semester***

See course description, day, time, place, and instructor as listed under Pol 79. Qualified students may register for graduate credit.

**Pol 141. European Government and Politics.** 3 degree credits. \$33.

### ***Spring Semester***

See course description, day, time, place, and instructor as listed under Pol 82. Qualified students may register for graduate credit.

**Pol 143. Government of the Soviet Union.** 3 degree credits. \$33.

### ***Fall Semester***

See course description, day, time, place, and instructor as listed under Pol 55. Qualified students may register for graduate credit.

**Pol 148. African Government and Politics.** 3 degree credits. \$33.

### ***Fall Semester***

See course description, day, time, place, and instructor as listed under Pol 57. Qualified students may register for graduate credit.

**Pol 154. Chinese Government.** 3 degree credits. \$33.

### ***Spring Semester***

See course description, day, time, place, and instructor as listed under Pol 54. Qualified students may register for graduate credit.

**Pol 167. Political Behavior.** 3 degree credits. \$33.

### ***Fall Semester***

See course description, day, time, place, and instructor as listed under Pol 50. Qualified students may register for graduate credit.

**Pol 168. Political Behavior.** 3 degree credits. \$33.

### ***Spring Semester***

See course description, day, time, place, and instructor as listed under Pol 51. Qualified students may register for graduate credit.

**Pol 175. Diplomacy.** 3 degree credits. \$33.

### ***Fall Semester***

See course description, day, time, place, and instructor as listed under Pol 95. Qualified students may register for graduate credit.

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Symbols explained on page 10.



## Course Offerings—Arts and Sciences

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**Pol 176. U.S. Foreign Affairs Administration.** 3 degree credits. \$33.

*Spring Semester*

See course description, day, time, place, and instructor as listed under Pol 96. Qualified students may register for graduate credit.

**Pol 184. International Politics.** 3 degree credits. \$33.

*Spring Semester*

See course description, day, time, place, and instructor as listed under Pol 84. Qualified students may register for graduate credit.

**Pol 187. International Organization.** 3 degree credits. \$33.

*Fall Semester*

See course description, day, time, place, and instructor as listed under Pol 87. Qualified students may register for graduate credit.

### Public Administration Courses

*Reynold A. Boezi, Lecturer in Public Administration*

*Leigh E. Grosenick, Lecturer in Public Administration*

*John Jackson, Lecturer in Public Administration*

*Daniel Magraw, Lecturer in Public Administration and Accounting*

*George Warp, Professor of Political Science*

*Lloyd Woodruff, Lecturer in Political Science*

*Your attention is called to the Public Administration Certificate program; see page 25.*

**Pol 58. Governmental Accounting.** 3 degree 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 Semester*

M 6:20-8:00, West Bank CB 115, Magraw

**Pol 60. Organization and Management.** 3 degree credits. \$33.

Study of administrative organization and management, emphasizing formal and informal organization structure, current reorganization theory, policy formulation, planning, decision-making, direction, and responsibility. (No prerequisite. For graduate credit, or for undergraduate political science major credit, register in Pol 131)

*Fall Semester*

T 8:15-9:55, West Bank CB 145, Warp

**Pol 61. Municipal Law and Administration.** 3 degree 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,

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Symbols explained on page 10.

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

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such as personnel, budgeting and finance, research and planning, and public reporting. Emphasis is placed on Minnesota law and practice. (No prerequisite. For graduate credit, or for undergraduate political science major credit, register in Pol 121)

### *Spring Semester*

Th 6:20-8:00, West Bank CB 210, Grosenick

### **Pol 62. Public Personnel Administration. 3 degree 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, conditions of employment; separation; human relations and morale; employee organizations; obligations and responsibilities of public employees; retirement systems. (No prerequisite)

### *Fall Semester*

Th 6:20-8:00, West Bank CB 210, Jackson

### **Pol 63. Public Financial Administration. 3 degree credits. \$33.**

Systems, techniques, and problems of financial organization and management, including revenue administration, budgeting, and control of public expenditures. National, state, and municipal practices. (No prerequisite)

### *Spring Semester*

M 6:20-8:00, West Bank CB 115, Woodruff

### **Pol 66. Problems of Public Administration. 3 degree credits. \$33.**

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

### *Spring Semester*

W 6:20-8:00, West Bank CB 145, Warp

### **Pol 67. Administrative Analysis. (See Acct 145C, Systems and Procedures, page 127) 3 degree credits. \$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)

### *Spring Semester*

T 6:20-8:00, West Bank CB 415, Magraw

### **Pol 68. Administrative Communication. 3 degree credits. \$33.**

Theory and practices of communication within organizations. Identification and analysis of problems, methods, and channels in downward, upward, and horizontal communication. Devices of communication such as interviews, conferences, reports, handbooks, and manuals. (No prerequisite)

### *Fall Semester*

T 6:20-8:00, West Bank CB 440, Woodruff

### **Pol 73. City and County Planning. 3 degree credits. \$33.**

Purpose and nature of planning; organization of planning agencies; citizen participation in planning; the master plan; zoning; housing; urban redevelopment; fiscal planning, the capital budget

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Symbols explained on page 10.

## Course Offerings—Arts and Sciences

and program; planning for various municipal functions; intergovernmental relationships in planning. (No prerequisite)

### Fall Semester

W 6:20-8:00, West Bank CB 440, Boezi

### Pol 76. Business and Government. 3 degree credits. \$33.

Survey of the relation of government to all of the major areas of the economy; policy making and policy decisions are emphasized. (No prerequisite. For graduate credit, or for undergraduate political science major credit, register in Pol 126)

### Spring Semester

Th 6:00-7:40, StP Ext Center

### Pol 121. Municipal Administration. 3 degree credits. \$33.

#### Spring Semester

See course description, day, time, place, and instructor as listed under Pol 61. Qualified students may register for graduate credit.

### Pol 126. Government and the Economic Order. 3 degree credits. \$33.

#### Spring Semester

See course description, day, time, place, and instructor as listed under Pol 76. Qualified students may register for graduate credit.

### Pol 131. Public Administration. 3 degree credits. \$33.

#### Fall Semester

See course description, day, time, place, and instructor as listed under Pol 60. Qualified students may register for graduate credit.

## PORTUGUESE

Russell G. Hamilton, Jr., Assistant Professor of Portuguese

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

### Port 1A-1B. Beginning Portuguese. 3 degree credits each semester. \$33 plus \$3 laboratory fee each semester.

Grammar, pronunciation, reading, and practice in speaking. (No prerequisite for 1A; 1A or ‡ for 1B.)

#### Fall Semester

1A W 6:20-8:00, Folwell 108, Hamilton

#### Spring Semester

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

### Port 50-51. Intensive Portuguese. 5 degree credits each semester. \$55 each semester.

This intensive oral approach to a course with reading objectives is open to any student who has a good knowledge of a Romance language. Satisfactory completion of Port 50 fulfills the "reading knowledge" requirement of the Graduate School. (No other prerequisite for 50; 50 or ‡ for 51)

#### Fall Semester

50 T 6:20-9:20, Folwell 108, Hamilton

#### Spring Semester

51 T 6:20-9:20, Folwell 108, Hamilton

Symbols explained on page 10.

## Evening and Special Classes

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### PSYCHOLOGY

*Russell W. Burris, Associate Professor of Psychological Studies*

*Rene Dawis, Associate Professor of Industrial Relations*

*Harold Gilbertstadt, Associate Professor of Psychology*

*Leslie A. King, Associate Professor of Psychological Studies*

*G. Gordon Kingsley, Professor of Psychological Studies*

*Jesse K. Lair, Instructor in Psychology*

*Howard P. Longstaff, Professor of Psychology*

*James Mack, Instructor in Psychology*

*Clifford E. Macker, Instructor in Psychology*

*Michael J. Maley, Instructor in Psychology*

*Cyril R. Mill, Lecturer in Psychology*

*William A. Myers, Instructor in Psychology*

*Lloyd K. Sines, Assistant Professor of Psychology*

*Donald Stieper, Lecturer in Psychology*

*Marvin E. Trautwein, 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  
Th 8:15-9:55, Nicholson 213, King

##### *Spring Semester*

M 6:20-8:00, Nicholson 213, Kingsley  
Th 8:15-9:55, Nicholson 207, King

#### Psy 1-2.† General Psychology. 3 degree credits each term. \$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, Burris  
Th 7:50-9:30, StP Ext Center, Macker  
2 T 6:20-8:00, Nicholson 211, Sines

##### *Spring Semester*

2 W 6:20-8:00, Nicholson Aud, Burris  
Th 7:50-9:30, StP Ext Center, Macker  
1 T 6:20-8:00, Nicholson 211, Sines

##### *Fall Quarter*

1 T 6:30-9:00, Robbinsdale  
HS 231, Trautwein  
(Limited class\*)

##### *Winter Quarter*

2 T 6:30-9:00, Robbinsdale  
HS 231, Trautwein  
(Limited class\*)

#### \*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

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Symbols explained on page 10.

\* Enrollment space limited; see instructions on page 14.

## Course Offerings—Arts and Sciences

personality traits. Supplies the laboratory science requirement in the Lower Division. (Prerequisite: 1 for 4; 2 and 4 for 5 or ¶1-2. Must be taken in sequence. Sections limited to 36 students)

### Fall Semester

4 T 8:15-9:55, Wesbrook 101, Myers  
W 8:15-9:55, Wesbrook 101, Mack

### Spring Semester

5 T 8:15-9:55, Wesbrook 101, Myers  
W 8:15-9:55, Wesbrook 101, Mack

**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 115, Dawis

### Spring Semester

Th 8:15-9:55, Johnston 114, Dawis

**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, Gilberstadt

### Spring Semester

W 6:20-8:00, Wesbrook 101, Gilberstadt

**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 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)

### Fall Semester

122 M 6:20-8:00, Wesbrook 101, Longstaff

### Spring Semester

123 M 6:20-8:00, Wesbrook 101, Longstaff

**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 ‡ for 125; 125 for 126. Must be taken in sequence. Qualified students may register for graduate credit)

### Fall Semester

125 Th 6:20-8:00, Johnston 115, Dawis

### Spring Semester

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

Symbols explained on page 10.

## Evening and Special Classes

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animal behavior will be considered. (Prerequisite: 2. Repeated spring semester. May not be taken for graduate credit)

*Fall Semester*

Th 8:15-9:55, Westbrook 101, Maley

*Spring Semester*

Th 8:15-9:55, Westbrook 101, Maley

**Psy 144-145.† Abnormal Psychology.** 3 degree credits each semester. \$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)

*Fall Semester*

144 Th 6:20-8:00, Architecture 40, Stieper

*Spring Semester*

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 and 6 credits in economics. Repeated spring semester. Qualified students may register for graduate credit)

*Fall Semester*

Th 6:20-8:00, Burton 125, Lair

*Spring Semester*

Th 6:20-8:00, Burton 125, Lair

**Psy 270. Advanced Psychological Measurement.** 3 degree credits. \$33.

*Fall Semester—Spring Semester*

See course description, day, time, place, and instructor as listed under Psy 70. Students will write reports on advanced psychometric topics. Qualified students may register for graduate credit.

**Child Psychology.** (See page 146)

**Educational Psychology.** (See page 147)

**How to Study.** (See page 122)

## 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

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Symbols explained on page 10.

## ROMANCE LANGUAGES

(See listing under each language: French, page 70; Italian, page 87; Portuguese, page 105; Spanish, page 116)

## SCANDINAVIAN LANGUAGES

*Bjarne E. Landa, Lecturer in Scandinavian*  
*Lillemor Saether, Instructor in Scandinavian*  
*Allen Simpson, Instructor in Scandinavian*

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

### Danish

**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 13; 13 or § for 14)

*Fall Semester*

13 Th 6:20-8:00, Folwell 307, Landa

*Spring Semester*

14 Th 6:20-8:00, Folwell 307, Landa

### Norwegian

**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 1; 1 or § for 2)

*Fall Semester*

1 W 6:20-8:00, Folwell 307, Simpson

*Spring Semester*

2 W 6:20-8:00, Folwell 307, Simpson

**Scan 3-4. Intermediate Norwegian.** (To be offered 1966-67)

### Swedish

**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 7; 7 for § for 8)

*Fall Semester*

7 M 6:20-8:00, Folwell 110, Saether

*Spring Semester*

8 M 6:20-8:00, Folwell 104, Saether

**Scan 9-10. Intermediate Swedish.** (To be offered 1966-67)

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Symbols explained on page 10.

## Evening and Special Classes

### SLAVIC AND ORIENTAL LANGUAGES

*Adele Donchenko, Instructor in Slavic and Oriental Languages*  
*Amy Matsumoto, Instructor in Slavic and Oriental Languages*  
*Tatiana Prokopov, Instructor in Slavic and Oriental Languages*  
*Marilyn Sjoberg, Lecturer in Slavic and Oriental Languages*  
*Danuta Zamojska, Instructor in Slavic and Oriental Languages*  
*Catherine Wang, Instructor in Slavic and Oriental Languages*

The laboratory fee for beginning Slavic and Oriental 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)

*Fall Semester*

1 T 6:20-8:00, Folwell 305½, Wang

*Spring Semester*

2 M 6:20-8:00, Folwell 307, Wang

#### 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, Matsumoto

*Spring Semester*

6 M 6:20-8:00, Folwell 302, Matsumoto

#### 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 106, 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 305½, Donchenko

*Spring Semester*

2 M 6:20-8:00, Folwell 305½, Donchenko

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Symbols explained on page 10.



## Course Offerings—Arts and Sciences

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**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 304, Donchenko

*Spring Semester*

4 T 6:20-8:00, Folwell 304, Donchenko

**Russ 56-57 (old 20-21). Conversation.** 3 degree credits each semester. \$33 each semester.

Systematic development of vocabulary in areas relating to everyday life and practice in the use of spoken Russian. (Prerequisite: 4 or # for 56; 56 for 57)

*Fall Semester*

56 Th 6:20-8:00, Folwell 304, Prokopov

*Spring Semester*

57 Th 6:20-8:00, Folwell 304, Prokopov

**Russ 71-72. (old 50-51). Introduction to Russian Literary Texts.** 3 degree credits each semester. \$33 each semester.

A variety of literary works representing the principal genres are examined through stylistic analyses and literary explications. (Prerequisite: 4 or # for 71; 71 for 72)

*Fall Semester*

71 T 6:20-8:00, Folwell 306, Prokopov

*Spring Semester*

72 T 6:20-8:00, Folwell 302, 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 and Oriental 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 304, Sjoberg

**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 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 305, Sjoberg

## SOCIAL SCIENCE

*Hyman Berman, Associate Professor of History*

*Martin Dolan, Instructor in Social Science*

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Symbols explained on page 10.

## Evening and Special Classes

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Donald Drobac, Instructor in Social Science

Richard Sykes, 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. The student is confronted with problems involved in developing a personality and he is introduced to different interpretations and concepts of personality. He studies personality as shaped by culture and society, and as a shaper of culture and society. Readings include selections from the works of Sigmund Freud, Jean Piaget, Clyde Kluckhohn, Henry Murray, Bronislaw Malinowski, Aristotle, Tolstoy, and others. (No prerequisite. Repeated spring semester. For Upper Division credit, register in SSci 51)

#### Fall Semester

Th 5:45-8:00, West Bank CB 220, Drobac

#### Spring Semester

Th 5:45-8:00, West Bank CB 140, Dolan

### SSci 2. Introduction to Social Science. 4 degree credits. \$44.

*Work* is the basic theme for SSci 2. The student is introduced to the various ways of organizing the work process. He is shown the economic, sociological, and psychological implications of the ways in which work is organized. Many problems of a modern industrial economy and society are discussed, and alternatives are explored. Such problems as business cycles, automation, economic power, and controls are considered. Readings include selections from the works of Plato, Frank Knight, George Orwell, C. Wright Mills, Paul Samuelson, Henry Dickinson, H. G. Wells, and Wilhelm Roepke. (Prerequisite: 1. Repeated spring semester. For Upper Division credit, register in SSci 52)

#### Fall Semester

Th 5:45-8:00, West Bank CB 430, Berman

#### Spring Semester

Th 5:45-8:00, West Bank CB 440, Berman

### SSci 3. Introduction to Social Science. 4 degree credits. \$44.

*Community* is the basic theme for SSci 3. The course centers on the ties that bind people to one another. Various concepts of community are examined; the student explores different ways in which men live together—their institutions, social classes, and groups. Throughout the course questions concerning social ideals are raised. The course enables the student to understand better his involvement and participation in various aspects of community life through a clarification of the basic issues of community. Readings include selections from the works of Ortega, Aldous Huxley, Robert Redfield, Louis Wirth, W. Lloyd Warner, Aristotle, Mussolini, Lenin, John Stuart Mill, Bertrand Russell, Reinhold Niebuhr, and others. (Prerequisite: 1 or 2. For Upper Division credit, register in SSci 53)

#### Fall Semester

Th 5:45-8:00, West Bank CB 105, Dolan

#### Spring Semester

M 5:45-8:00, West Bank CB 430, Sykes

### SSci 51. Introduction to Social Science. 4 degree credits. \$44.

#### Fall Semester—Spring Semester

See course description, day, time, place, and instructor as listed under SSci 1.

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Symbols explained on page 10.

**SSci 52. Introduction to Social Science.** 4 degree credits. \$44.

*Fall Semester—Spring Semester*

See course description, day, time, place, and instructor as listed under SSci 2.

**SSci 53. Introduction to Social Science.** 4 degree credits. \$44.

*Fall Semester—Spring Semester*

See course description, day, time, place, and instructor as listed under SSci 3.

## SOCIAL WORK

*Beulah E. Compton, Associate Professor of Social Work*

*Edward Francel, Professor of Social Work*

*Mayo Newhouse, Associate Professor of Social Work*

### Organized Extension Program in Social Work

In the fall of 1964, the School of Social Work began offering an organized group of courses through the General Extension Division. The program is designed to help the person without the basic professional degree but employed in a social work position to perform the social work tasks he has assumed with greater knowledge and skill. It is assumed that persons taking this program will have decided not to work toward the master of social work, want to increase their present competence as helping persons, have sufficient desire to take on a substantial body of knowledge, and are willing to commit themselves to an organized group of courses over a minimum period of 2 years.

The objectives and content of courses in this program differ from those in the MSW program. The Extension program is shorter, is directed at social workers who are dealing with a wide variety of human problems, and does not have an accompanying field sequence. Courses in this program offer education for practice in the same areas of service as those of the MSW program and draw upon the same basic areas of knowledge, attitudes, and philosophy; but they cannot teach the student to operate from conceptual knowledge within a theoretical framework or guarantee development to a minimum level of skill in practice. Purpose of the program is to impart information and develop knowledge and understanding directed at improved performance of specific social work tasks.

The student will be helped to acquire increased understanding of the people for whom the social services exist, of the social institutions in society—particularly social welfare institutions, of ways of helping people solve problems of social functioning, and of attitudes and philosophy that make the helping process effective.

Credit earned in this Extension program will not be transferable to an MSW graduate program, but may be approved for other graduate programs. *For additional information about the Organized Extension Program in Social Work, please contact Mayo Newhouse, associate professor of social work, 373-4604.*

Students entering this program will take these courses in the first year: either Practical Problems in the Casework Process or in Social Group Work, and Normal Social Functioning. In the second year, students will take The Community and the Social Agency, Social Policy and the Social Work Profession, and Individual Human Rights and the Profession.

The three courses listed below constitute the second-year sequence, offered for 1965-66.

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Symbols explained on page 10.

## *Evening and Special Classes*

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### **\*SW 125. Public Social Policy and the Social Work Profession. 3 degree credits. \$33.**

The broad objective of the course is to provide the student with the opportunity to acquire knowledge and explore attitudes (public, private, and professional) through an over-all exposure to (1) the social welfare services, (2) the health, education, and welfare programs, and (3) the public social policies for which social work carries some responsibility and obligation. (Prerequisite: 149 and 166, or 149 and 176, 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 115, 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*

Th 3:40-5:20, West Bank CB 115, Compton

### **\*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 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 115, Francel

## **SOCIOLOGY**

*John Donohue, Lecturer in Sociology*

*Harvey Farberman, Instructor in Sociology*

*Robert Franz, Instructor in Sociology*

*Arthur L. Johnson, Professor of Sociology*

*Caroline Rose, Lecturer in Sociology*

*Israel Rubin, Instructor in 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*

T 6:00-7:40, StP Ext Center  
T 6:20-8:00, West Bank CB 10, Rubin

#### *Spring Semester*

M 6:20-8:00, West Bank CB 150

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Symbols explained on page 10.

• Enrollment space limited; see instructions on page 14.

## Course Offerings—Arts and Sciences

### 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*

Th 6:20-8:00, West Bank CB 235, Johnson

*Spring Semester*

T 7:00-8:40, StP Ext Center

Th 8:15-9:55, West Bank CB 235, Johnson

### Soc 45. Social Statistics. 5 degree credits, §QA 5, §Psy 70. \$55.

Introduction to statistical methods employed in analyses of social data including methods of measuring central tendency, dispersion, significance of differences, and correlation. (No prerequisite)

*Fall Semester*

M 6:20-9:20, West Bank CB 245, Franz

### 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 of the juvenile court in meeting the problems of delinquency prevention and treatment will be studied. (Prerequisite: 1 and 53 or #)

*Fall Semester*

W 8:15-9:55, West Bank CB 245, Donohue

### Soc 53. Elements of Criminology. 3 degree credits. \$33.

General survey of field of criminology. (Prerequisite: 1 or #. Repeated spring semester)

*Fall Semester*

W 6:20-8:00, West Bank CB 120, Donohue

*Spring Semester*

T 6:00-7:40, StP Ext Center, 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*

M 6:20-8:00, West Bank CB 220, Rose

### Soc 123. Minority Group Relations. 3 degree credits. \$33.

Interaction of social and cultural groups in America. Processes leading to group contact; characteristics and contribution of ethnic groups in the United States; mechanisms and problems of group adjustment. Democratic theory and practice; sources of prejudice; contemporary status of principal minority groups; international implications; trends and proposed solutions. (Prerequisite: 1 or #. Qualified students may register for graduate credit)

*Fall Semester*

W 6:20-8:00, West Bank CB 220, 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 220, Farberman

Symbols explained on page 10.

## Evening and Special Classes

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### Soc 142. Religion as a Social Institution. 3 degree credits. \$33.

(Prerequisite: 1 or #. Qualified students may register for graduate credit)

*Spring Semester*

Th 6:20-8:00, West Bank CB 220, Johnson

### Soc 146. Industrial and Occupational Sociology. 3 degree credits. \$33.

Analyzes the occupational group, the factory, and the business enterprise as social institutions, with particular attention to contrasting functions of formal and informal organization, and to 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)

*Spring Semester*

T 6:20-8:00, West Bank CB 225, Rubin

### Soc 170. Analytical Social Theory. 3 degree credits. \$33.

Examination of major problems of sociological theory (positivistic, rationalistic, idealistic); major theoretical concepts. (Prerequisite: 1 or #. Qualified students may register for graduate credit)

*Fall Semester*

T 6:20-8:00, West Bank CB 235, Farberman

## SPANISH

*William Cooke, Instructor in Spanish*

*Santiago Cúneo, Associate Professor of Spanish*

*Robert F. Estelle, Instructor in Spanish*

*Rodolfo O. Floripe, Associate Professor of Spanish*

*Richard Narváez, Assistant Professor of Spanish*

*Constance Sullivan, Assistant Professor of Spanish*

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

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

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

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

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Symbols explained on page 10.

## Course Offerings—Arts and Sciences

**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 on page 116. (No prerequisite for 1; 1 or 1B or old 1C or 1 year high school Spanish for 2)

*Fall Semester*

1 T 6:20-9:20, Folwell 109  
Th 6:20-9:20, Folwell 109

*Spring Semester*

2 T 6:20-9:20, Folwell 109  
Th 6:20-9:20, Folwell 109

**Span 3. Beginning Spanish.** 5 degree credits. \$55 plus \$3 laboratory fee.

Grammar, pronunciation, reading, and practice in speaking. See note on page 116. (Prerequisite: 2 or 2B or old 2C or 2 years high school Spanish)

*Fall Semester*

M 6:20-9:20, Folwell 303

**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 on page 116. (No prerequisite for 1A; 1A or old 1 for 1B. Repeated spring semester)

*Fall Semester*

1A W 6:20-8:00, Folwell 110, Cúneo  
1B W 6:20-8:00, Folwell 106

*Spring Semester*

1A W 6:20-8:00, Folwell 110  
1B W 6:20-8:00, Folwell 106, Cúneo

**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 116. (Prerequisite: 1 or 1B or old 2 or 1 year high school Spanish for 2A; 2A or old 3 for 2B)

*Fall Semester*

2A M 6:20-8:00, Folwell 207

*Spring Semester*

2B M 6:20-8:00, Folwell 110

**Span 3A-3B. Beginning Spanish.** 3 degree credits each semester. \$33 plus \$3 laboratory fee each semester.

Grammar, pronunciation, reading, and practice in speaking. See note on page 116. (Prerequisite: 2 or 2B or old 4 or 2 years high school Spanish for 3A; 3A for 3B)

*Fall Semester*

3A T 8:15-9:55, Folwell 103

*Spring Semester*

3B T 8:15-9:55, Folwell 103

**Span 25 (old 53). Intermediate Spanish.** 5 degree credits. \$55.

An intensive review of grammar through analysis of a variety of Spanish texts. (Prerequisite: 3 or 3B or old 3C or 3 years high school Spanish. Repeated spring semester)

*Fall Semester*

M 6:20-9:20, Folwell 106, Sullivan

*Spring Semester*

M 6:20-9:20, Folwell 207, Sullivan

Symbols explained on page 10.

## Evening and Special Classes

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**Span 30. Introduction to Spanish and Spanish-American Literary Texts.** 3 degree credits. \$33.

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

*Fall Semester*

T 6:20-8:00, Folwell 106, Cooke

*Spring Semester*

T 6:20-8:00, Folwell 106, Cooke

**Span 55. Conversational Spanish.** 3 degree credits. \$33.

Daily and contemporary affairs are discussed. (Prerequisite: 25 or equivalent)

*Fall Semester*

T 6:20-8:20, Folwell 207, Narváez

**Span 58. Advanced Conversational Spanish.** 3 degree credits. \$33.

(Prerequisite: 55 or equivalent)

*Spring Semester*

T 6:20-8:20, Folwell 207, Narváez

**Span 74. Survey of Literature of Spanish America.** 3 degree credits. \$33.

Survey of the literature of Spanish America. The colonial period. (Prerequisite: 30 or ¶30 or ‡)

*Fall Semester*

W 6:20-8:00, Folwell 304, Floripe

**Span 75. Survey of the Literature of Spanish America.** 3 degree credits. \$33.

Romanticism to Modernismo. (Prerequisite: 30 or ¶30 or ‡)

*Spring Semester*

W 6:20-8:00, Folwell 304, Floripe

**Span 175. Twentieth-Century Spanish Literature: Prose.** 3 degree credits. \$33.

Essays, short stories, and novels. Unamuno, Ortega y Gasset, Baroja, Azorín, Pérez de Ayala, Matute, Cela. (Prerequisite: 65 or 66 or 67 or 74 or 75 or 76 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.

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Symbols explained on page 10.



## Course Offerings—Arts and Sciences

### 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 School requirement of a reading knowledge of a foreign language. (No prerequisite. Repeated winter and spring quarters)

#### Fall Quarter

W 6:20-8:50, Folwell 105,  
Estelle

#### Winter Quarter

W 6:20-8:50, Folwell 105,  
Estelle

#### Spring Quarter

W 6:20-8:50, Folwell 105,  
Estelle

## SPEECH AND THEATRE ARTS

*H. Lee Adey, Assistant Professor of Speech and Theatre Arts*

*Arthur H. Ballet, Professor of Speech and Theatre Arts*

*Leonard Bart, Assistant Professor of Speech and Theatre Arts*

*Frank T. Benson, Assistant Professor of Speech and Theatre Arts*

*Ernest Bormann, Associate Professor of Speech and Theatre Arts*

*Virginia Fredricks, Assistant Professor of Speech and Theatre Arts*

*Albert M. Fulton, Professor of Speech*

*Wendell L. Josal, Associate Professor of Speech and Theatre Arts*

*Maxine Klein, Instructor in Speech and Theatre Arts*

*Merle W. Loppnow, Lecturer in Speech and Theatre Arts*

*Robert Moulton, Associate Professor of Speech and Theatre Arts*

*Robert L. Scott, Professor of Speech and Theatre Arts*

*George L. Shapiro, Associate Professor of Speech and Theatre Arts*

*David W. Thompson, Professor of Speech 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

T 6:20-8:50, Architecture 60,  
Fulton

#### Winter Quarter

T 6:20-8:50, Architecture 60,  
Fulton

#### Spring Quarter

T 6:20-8:50, Architecture 60,  
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 pre-

Symbols explained on page 10.

\* Enrollment space limited; see instructions on page 14.

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

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sentation. (No prerequisite for 5X; 5X for 6X. Must be taken in sequence. Credit for 5X without 6X by petition only)

### *Fall Semester*

5X M 6:20-8:00, Folwell 306, Scott  
T 6:00-7:40, StP Ext Center, Bart

### *Spring Semester*

5X T 6:20-8:00, Folwell 306, Shapiro  
6X M 6:20-8:00, Folwell 306, Scott  
T 6:00-7:40, StP Ext Center, 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,  
Bormann

### **Spch 106. Discussion. 3 degree credits. \$33.**

Group techniques in creative problem solving: co-operative thinking, recognition and definition of problems, idea-finding, evaluation of solutions. Practice in planning, preparing for, participating in, and leading various forms of discussion. (Prerequisite: 5 or 5X-6X or ‡. Qualified students may register for graduate credit)

### *Fall Semester*

T 8:15-9:55, Folwell 106, Benson

### **\*Spch. Voice and Diction. 3 certificate credits. \$33.**

A practical and beginning course in training of the speaking voice as an expressive instrument. The emphasis is on understanding and practicing the physical skills, emotional attitudes, and vocal habits necessary for good voice production. Individual attention to common deficiencies in breath control, volume, pitch placement and melody, resonance, articulation, pronunciation, speech rhythm, and phrasing. The course is designed to help both students with mild vocal deficiencies and those with adequate voices who wish to increase their range of expressiveness. (No prerequisite. Limited to 25 students. Repeated spring semester)

### *Fall Semester*

T 6:20-8:00, Folwell 307, Fredricks

### *Spring Semester*

T 6:20-8:00, Folwell 307, Thompson

**English for Foreign Students. (See page 69)**

## **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 view of the highlights of theatre, architecture, scenic design, stagecraft, lighting, costumes, make-up, and special effects. (No prerequisite)

### *Fall Semester*

T 6:20-8:00, Wulling 230, 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.)

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Symbols explained on page 10.

\* Enrollment space limited; see instructions on page 14.

## Course Offerings—Arts and Sciences

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First class meeting Wednesday, September 29, 6:20-8:00; further sessions will be scheduled at that time)

*Fall Semester*

W 6:20-8:00, Scott 19, Adey  
(see note in course description)

**Th 21. Beginning Acting: Creative Approach.** 3 degree credits. \$33.

Creation and presentation of original scenes and skits. Ability to respond to the imaginative situation with individuality and effectiveness is stressed. (Prerequisite: 12 or ¶12)

*Fall Semester*

W 6:20-8:00, Scott 19, Adey

**Th 61. Advanced Acting.** 3 degree credits. \$33.

Characterization, styles of acting, and stage techniques. Presentation of scenes from great plays. (Prerequisite: 21)

*Spring Semester*

W 6:20-8:00, Scott 19, Klein

**Th 75. Play Production in the Secondary School.** 3 degree credits. \$33.

Fundamentals including the analysis and production of selected scenes. Particularly designed for the high school teacher with play production responsibilities. (Prerequisite: 21 and 74 or ¶)

*Spring Semester*

T 6:20-8:00, Scott 19, 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)

*Fall Semester*

M 8:15-9:55, Wulling 130, Loppnow

**Th. Exploring Today's Theatre.** 3 certificate credits. \$33.

This course is designed to acquaint the individual with the many facets of theatre productions, and to enable him to develop his understanding and appreciation of plays in production. It will include trips backstage, attendance at performances in the field of professional, educational, community, and children's theatre. The registration fee does not include theatre tickets. There will be discussions and analyses by available theatre personalities. (No prerequisite)

*Fall Semester*

Th 8:15-9:55, Wulling 130, Josal and Loppnow

**Th. Theatre Dance.** 2 certificate credits. \$33.

A course in dance designed to acquaint actors with dance techniques and to give dancers a knowledge of theatrical performance. Course work will consist of European and American dance techniques, the learning of period dance, musical comedy dance, and one major concert work. (No prerequisite)

*Fall Semester*

T 6:20-8:00, Wesbrook 302, Moulton

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Symbols explained on page 10.

## Evening and Special Classes

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### STUDY SKILLS

Fred M. Amram, Assistant Professor of Oral Communication  
James I. Brown, Professor of Rhetoric  
Theodore L. Campbell, Instructor in Literature and Writing  
John Geier, Assistant Professor of Rhetoric  
William M. Marchand, Instructor in Rhetoric  
Starling W. Price, Instructor in Rhetoric  
Dorothy L. Sheldon, Assistant Professor of Literature and Writing  
Margaret N. Space, Assistant Professor of Psychology  
William A. Stockdale, Assistant Professor of Literature and Writing  
David M. Wark, Assistant Professor of Psychology  
Eugene S. Wright, Associate Professor of Rhetoric

**\*PO 1. How to Study.** 2 degree credits (see course description). \$33 plus \$1 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. (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, Space  
M 8:15-9:55, Eddy 102, Space  
W 6:00-7:40, StP Ext Center, Wark  
W 7:50-9:30, StP Ext Center, Wark

#### Spring Semester

M 6:20-8:00, Eddy 102, Space  
M 8:15-9:55, Eddy 102, Space  
W 6:00-7:40, StP Ext Center, Wark  
W 7:50-9:30, StP Ext Center, Wark

**\*Rhet 47. Efficient Reading.** 3 certificate credits (may be used on degree program by petition: 1 credit in Arts or Bus; 3 credits in GC, Educ, or Ag). \$33 plus \$2 materials fee.

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

#### Fall Semester

M 6:20-8:00, Ford 85, Price  
M 8:15-9:55, Ford 85, Price  
T 6:20-8:00, Ford 85, Geier  
T 8:15-9:55, Ford 85, Geier  
W 6:20-8:00, Ford 85, Wright  
W 8:15-9:55, Ford 85, Wright  
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 85, Price  
M 8:15-9:55, Ford 85, Price  
T 6:20-8:00, Ford 85, Geier  
T 8:15-9:55, Ford 85, Geier  
W 6:20-8:00, Ford 85, Wright  
W 8:15-9:55, Ford 85, Wright  
Th 7:00-8:40, StP Ext Center, Marchand

**\*SSk. Efficient Reading II.** No credit. \$33 plus \$2 materials fee.

A short, intensive course in efficient reading for students, business, and professional people of above-average reading ability, reading at about 500 words-per-minute, normally. A suggested follow-up for Efficient Reading (Rhet 47) or other reading efficiency training, either as an immediate continuation or refresher course. Emphasis on further refinement of reading techniques and skills of particular use in maintaining superior scholastic or professional status. No duplication of material with

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Symbols explained on page 10.

\* Enrollment space limited; see instructions on page 14.

## Course Offerings—Arts and Sciences

Efficient Reading I. Maximum use is made of the perceptoscope, a newly developed remote-control projector with multipurpose training functions. (No prerequisite. Limited to 30 students)

### Special Class

(March 29 to June 7)

T 6:20-8:00, Nicholson 216, Brown

**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 in general. The core of the course consists of the study of 150 word elements which form the basis of thousands of English words. This approach not only enables an individual to enlarge his speaking, writing, and reading vocabulary in a short space of time but also provides him with the means of independently continuing that process indefinitely. Recommended as background for other courses in the communication field. (No prerequisite. Repeated spring semester)

#### Fall Semester

T 6:20-8:00, Nicholson 207, Sheldon  
W 8:15-9:55, Nicholson 207, Stockdale  
Th 6:00-7:50, StP Ext Center, Campbell

#### Spring Semester

T 6:20-8:00, Nicholson 207, Sheldon  
W 8:15-9:55, Nicholson 207, Stockdale  
Th 6:00-7:50, StP Ext Center, Campbell

**\*GC 34. Creative Problem Solving.** 3 degree credits. \$33.

A course organized around a study of creativity and creative problem solving especially designed to meet the needs of people employed in, or preparing for, careers in business and industry. Emphasis will be directed toward making students aware of the need for creative behavior in business, industry, and community affairs, and in the arts. Students will participate in exercises to help them become more sensitive to problems, better able to analyze problems, and to demonstrate some of the techniques which aid in the discovery of unique solutions. Class discussion about the social and emotional blocks to creative behavior will be designed to help students discover and overcome their 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 spring semester)

#### Fall Semester

W 6:20-8:00, Nicholson 107, Amram

#### Spring Semester

Th 6:20-8:00, Nicholson 107, Amram

Symbols explained on page 10.

\* Enrollment space limited; see instructions on page 14.

# BUSINESS ADMINISTRATION

Your attention is called to the Master of Business Administration program on page 47 and to the certificate programs in secretarial training, industrial relations, business administration, accounting, and management of administrative services; see pages 26 to 33.

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.

## ACCOUNTING

Your attention is called to the Accounting Certificate programs; see page 26.

Alvin Arens, Lecturer in Accounting  
J. R. Bentley, 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  
Franklin McCarthy, Lecturer in Accounting  
Ernest J. Pavlock, Lecturer in Accounting  
Leonard A. Rapoport, Lecturer in Accounting  
Jay M. Smith, Jr., Lecturer in Accounting  
Gilbert W. Urban, Lecturer in Accounting

### First-Year Accounting Courses

Acct 24-25-26, Principles of Accounting, is the first-year introductory course. It is designed to meet the needs of three groups of students: (a) those who plan to use accounting information for business management purposes; (b) those who intend to be practicing accountants (and who expect, therefore, to continue with the second-year and advanced accounting courses); (c) those who wish an introduction to the "language of business" as part of a liberal education. It is not designed to train students to be book-keepers.

Persons with prior background or training may receive credit in one or more of these courses by passing an advanced standing examination. *These examinations will be given at the following times in 632 Business Administration Building (West Bank):*

Acct 24 Wednesday, September 15, 7:00 p.m.  
Wednesday, September 22, 7:00 p.m.  
Wednesday, December 22, 7:00 p.m.  
Wednesday, February 2, 7:00 p.m.

Acct 25 Thursday, September 16, 7:00 p.m.  
Thursday, September 23, 7:00 p.m.  
Thursday, February 3, 7:00 p.m.

Acct 26 Friday, September 17, 7:00 p.m.  
Friday, September 24, 7:00 p.m.  
Friday, February 4, 7:00 p.m.

## Course Offerings—Business Administration

The three courses are scheduled on three plans:

- |  |   |
|--|---|
| <p>1. Regular semester class schedule for 3 credits each of 3 semesters for full first-year course.</p>                            | <p>For students who wish regular class periods in order to take two classes the same evening or who do not wish to spend the time necessary for the more concentrated scheduling.</p>             |
| <p>2. Quarter basis, two 75-minute classes or one 2½-hour class each week, 3 credits each quarter, course completed in 1 year.</p> | <p>For students who wish to complete the entire course in 1 year of 3 quarters of 11 weeks each. Students who find this schedule too rapid are in a position to change to the semester basis.</p> |
| <p>3. Combined course, meeting twice weekly in 2½-hour sessions, spring semester only, 1-year course covered in 1 semester.</p>    | <p>For those who wish to concentrate on completion of the course in the spring semester in order to begin advanced courses in the following term.</p>   |

### Acct 24-25-26. Principles of Accounting. 3 degree credits each term, §Acct 55A-55B. \$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; 25 for 26. Must be taken in sequence)

<i>Fall Semester</i>		<i>Spring Semester</i>	
24	T 6:20-8:00, West Bank CB 110 W 6:20-8:00, West Bank CB 110 W 8:15-9:55, West Bank CB 110	24	T 6:20-8:00, West Bank CB 110 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 110 W 8:15-9:55, West Bank CB 120	25	W 6:20-8:00, West Bank CB 155
26	M 6:20-8:00, West Bank CB 120	26	W 8:15-9:55, West Bank CB 120

<i>Fall Quarter</i>		<i>Winter Quarter</i>		<i>Spring Quarter</i>	
24	MW 5:10-6:25, StP Ext Center	25	MW 5:10-6:25, StP Ext Center	24	MW 6:30-7:45, West Bank CB 215
	MW 6:30-7:45, StP Ext Center		MW 6:30-7:45, StP Ext Center	26	MW 6:00-7:15, StP Ext Center
	MW 7:50-9:05, StP Ext Center		TTh 5:30-6:45, West Bank CB 125		TTh 6:30-7:45, West Bank CB 125
	TTh 5:30-6:45, West Bank CB 125		TTh 6:50-8:05, West Bank CB 125		Th 6:30-9:00, Robbinsdale HS 217 ( <i>Limited class*</i> )
	TTh 6:50-8:05, West Bank CB 125		Th 6:30-9:00, Robbinsdale HS 217 ( <i>Limited class*</i> )		
	TTh 8:15-9:30, West Bank CB 125				
	Th 6:30-9:00, Robbinsdale HS 217 ( <i>Limited class*</i> )				

### Acct 24-25-26. Principles of Accounting (Combined). 9 degree credits, §Acct 55A-55B. \$99.

This course covers Acct 24-25-26 complete in 1 semester. (No prerequisite. Registrations will be accepted for the entire course only. Not recommended for people with no accounting experience)

#### *Spring Semester*

MTh	6:20-8:50, West Bank CB 250
MTh	6:00-8:30, StP Ext Center

Symbols explained on page 10.

\* Enrollment space limited; see instructions on page 14.

## Evening and Special Classes

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### Second-Year and Advanced Accounting Courses

**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, Lee

**Acct 89B. Tabulating Equipment Applied to Business (Data Processing Techniques).** 2 degree credits plus 1 certificate credit. \$33.

Covers the general principles and fundamentals of punched card accounting found in business today. Includes current techniques of pre- and post-computer data processing with emphasis on proper management of noncomputer type equipment. For those seeking a better understanding of punched card systems, their application, control and method. (No prerequisite)

*Spring Semester*

M 6:20-8:00, West Bank CB 105

**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: Review of accounting processes, measurement of income, accounting treatment of inventories and plant assets. 105B: Accounting treatment of cash, receivables, investments, intangible assets, liabilities, and applications of actuarial mathematics. 105C: Accounting treatment of stockholders' equity, interpretation and analysis of financial statements. (Prerequisite: 26 and 6 credits in economics for 105A [see page 124 for advanced standing examinations]; 105A and Math 10 or equivalent for 105B; 105A for 105C. Students wishing graduate credit should inquire at time of registration)

*Fall Semester*

*Spring Semester*

105A Th 6:20-8:00, West Bank CB 425,  
McCarthy  
Th 8:15-9:55, West Bank CB 425,  
McCarthy  
105C W 8:15-9:55, West Bank CB 415,  
Pavlock

105B Th 6:20-8:00, West Bank CB 415,  
Arens

*Fall Quarter*

*Winter Quarter*

*Spring Quarter*

105A M 5:15-7:45, StP Ext  
Center, Johnson  
T 6:30-9:00, Rob-  
binsdale HS 221,  
McCarthy  
(Limited class\*)

105B M 5:15-7:45, StP Ext  
Center, Johnson  
T 6:30-9:00, Rob-  
binsdale HS 221,  
Arens  
(Limited class\*)

105C M 5:15-7:45, StP Ext  
Center, Johnson  
T 6:30-9:00, Rob-  
binsdale HS 221,  
Smith  
(Limited class\*)

**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 124 for advanced standing examinations]; 115A for 115B. Students wishing graduate credit should inquire at time of registration)

*Fall Semester*

*Spring Semester*

115A T 6:20-8:00, West Bank CB 415,  
Smith

115B W 6:20-8:00, West Bank CB 425,  
Bentley

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Symbols explained on page 10.

\* Enrollment space limited; see instructions on page 14.



## 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 240, 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 240,  
Rapoport

#### Spring Semester

135B M 8:15-9:55, West Bank CB 240,  
Rapoport

### Acct 145C. Systems and Procedures. (See Pol 67, Administrative Analysis, page 104). 3 degree credits. \$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 Semester

T 6:20-8:00, West Bank CB 415, Magraw

### Acct 185A. Advanced Accounting. 3 degree credits. \$33.

Consolidated statements, fiduciary and fund accounting, partnership accounting. (Prerequisite: 105C or ¶105C. Students wishing graduate credit should inquire at time of registration)

#### Spring Semester

M 6:20-8:00, West Bank CB 415, Budge

## 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

T 6:00-7:40, StP Ext Center, Lippert  
T 8:15-9:55, Main Engineering 4, Lippert  
W 6:20-8:00, Main Engineering 4, Lippert

#### Spring Semester

M 6:20-8:00, Main Engineering 4, Lippert  
W 6:20-8:00, Main Engineering 4, Lippert

Symbols explained on page 10.

## Evening and Special Classes

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### 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

T 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

(See Finance, page 129)

## BUSINESS LAW

*John R. Carroll, Lecturer in Business Law*

*Verne W. Moss, Lecturer in Business Law*

*James D. Olson, Lecturer in Business Law*

*C. Harold Peterson, Lecturer in Business Law*

*William R. Rosengren, Lecturer in Business Law*

*Frederick W. Thomas, Lecturer in Business Law*

*Ross L. Thorfinnson, Lecturer in Business Law*

*James VanValkenburg, Lecturer in Business Law*

*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;

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Symbols explained on page 10.

## Course Offerings—Business Administration

liens and mortgages; wills, probating of estates, and duties of administrators and executors. (No prerequisite for 58; 58 or ¶58 or # for 78; 58 or ¶58 or # for 88; none for 98)

### Fall Semester

58	T	7:50-9:30, StP Ext Center, J. Van-Valkenburg
	W	6:20-8:00, West Bank CB 135, Moss
78	T	6:00-7:40, StP Ext Center, J. Van-Valkenburg
	W	8:15-9:55, West Bank CB 135, Moss
88	T	6:20-8:00, West Bank CB 205, Thomas

### Spring Semester

58	T	6:00-7:40, StP Ext Center, J. Van-Valkenburg
	W	8:15-9:55, West Bank CB 135, Moss
78	T	7:50-9:30, StP Ext Center, J. Van-Valkenburg
	W	6:20-8:00, West Bank CB 135, Moss
88	T	6:20-8:00, West Bank CB 205, Thomas
98	W	6:20-8:00, West Bank CB 415, Carroll
	Th	6:20-8:00, West Bank CB 425, Olson

### Spring Quarter

58	T	6:30-9:00, Robbinsdale HS 233, Rosen-gren ( <i>Limited class*</i> )
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### 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 of the following types: the purchase, sale, rental, or lease of homes and other real property; the making of wills and handling of estates; the preparation of income tax returns; the rights of persons injured in accidents and the liability of persons causing accidents; liability for various other types of tortious conduct; the making of contracts; the sale of personal property; negotiable instruments; the formation and operation of a small business as a sole proprietorship, partnership or corporation; workmen's compensation laws; the rights and responsibilities of husband, wife, parent, and child in their relations with each other, including divorce; the collection of monies through garnishment, attachment, and mechanic's liens; and criminal law. (No prerequisite. Repeated spring semester)

### Fall Semester

Th	6:20-8:00, Johnston 106, Thorfinnson and Peterson
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### Spring Semester

Th	6:20-8:00, Johnston 106, Thorfinnson and Peterson
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## ECONOMICS

(A department of the College of Liberal Arts. See page 60)

## FINANCE

*Ken E. Cooper, Instructor in Finance*  
*J. R. Nelson, Associate Professor of Finance*  
*George Power, Jr., Lecturer in Finance*  
*Peter Rosko, Assistant Professor of Finance*  
*Harold W. Stevenson, Professor of Finance*  
*Ronald F. Wipperm, Assistant Professor of Finance*

### BFin 56. Corporation Finance. 3 degree credits. \$33.

Principles governing the planning, raising, and control of short- and long-term funds for a business enterprise. Cash-flow, valuation, capital structures, investment banking, dividend policy, mergers,

Symbols explained on page 10.

\* Enrollment space limited; see instructions on page 14.

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

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and reorganization. (Prerequisite: Acct 26; not suggested for students who have had Acct 105B. Repeated spring semester)

### ***Fall Semester***

T 6:00-7:40, StP Ext Center  
T 6:20-8:00, West Bank CB 135, Nelson  
T 8:15-9:55, West Bank CB 135, Nelson

### ***Spring Semester***

T 6:00-7:40, StP Ext Center  
T 6:20-8:00, West Bank CB 135

**BFin 66. Investment Fundamentals.** 3 degree credits, §Introduction to Investments or §BFin 116. \$33.

The nature of different types of securities and the characteristics of industrial, utility, and financial enterprises and various government units from the viewpoint of the individual investor. Security analysis and portfolio needs. (Prerequisite: 56. Primarily for business and professional students)

### ***Fall Semester***

T 6:20-8:00, West Bank CB 145

**BFin 72. Capital Markets and Institutions.** 3 degree credits, §BFin 106. \$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)

### ***Spring Semester***

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

**BFin 76. 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 145

**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 Quarter***

M 6:20-8:50, Johnston 114, Power

## **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 Analysts (CFA).*

**CFA Examination I. Investment Principles, B.** 3 certificate credits. \$33.

Financial institutions, investment analysis, financial statements. Discussions and examinations. (Limited to persons registered for the CFA examination)

### ***Spring Semester***

T 6:20-8:00, West Bank CB 245

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Symbols explained on page 10.

## Course Offerings—Business Administration

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### **CFA Examination II. Applied Security Analysis, B. 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 6:20-8:00, West Bank CB 430

### **CFA Examination III. Investment Management Decision-Making, B. 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 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

## **INDUSTRIAL RELATIONS**

*Jack Flagler, Associate Professor of Industrial Relations*

*Herbert G. Heneman, Jr., Professor of Labor Economics and Industrial Relations*

*Thomas A. Mahoney, Professor of Industrial Relations*

*Merrill P. Robinson, Lecturer in Industrial Relations*

*Donald Schwab, Instructor in Industrial Relations*

*Cyrus F. Smythe, Associate Professor of Industrial Relations*

*Richard Woods, Instructor in Industrial Relations*

*Your attention is called to the Industrial Relations Certificate program; see page 30.*

### **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)

*Fall Semester*

M 7:50-9:30, StP Ext Center, Schwab  
W 6:20-8:00, West Bank CB 155, Heneman

*Spring Semester*

W 8:15-9:55, West Bank CB 155, Mahoney

### **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)

*Fall Semester*

Th 6:20-8:00, West Bank CB 215

### **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,

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Symbols explained on page 10.

## Evening and Special Classes

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and morale maintenance. (Prerequisite: 6 credits in Principles of Economics or  $\Phi$ . Repeated spring semester)

### Fall Semester

W 8:15-9:55, West Bank CB 155, Smythe

### Spring Semester

M 7:50-9:30, StP Ext Center, Schwab  
W 6:20-8:00, West Bank CB 250, Mahoney

### 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; current practices in labor relations; and significant trends. (Prerequisite: 52)

### Spring Semester

Th 6:20-8:00, West Bank CB 230, Flagler

### 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  
M 7:50-9:30, StP Ext Center  
T 6:20-8:00, West Bank CB 120

### Spring Semester

M 6:00-7:40, StP Ext Center  
M 6:20-8:00, West Bank CB 110  
M 7:50-9:30, 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  $\Phi$ . Repeated spring semester)

### Fall Semester

M 6:00-7:40, StP Ext Center  
M 6:20-8:00, West Bank CB 450

### Spring Semester

M 6:00-7:40, StP Ext Center  
T 6:20-8:00, West Bank CB 450

### 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  $\Phi$ )

### Fall Semester

T 6:20-8:00, West Bank CB 450, Robinson

## INSURANCE

David M. Barker, Lecturer in Insurance

Bernard C. Bengtson, Lecturer in Insurance

David Blackwell, Lecturer in Insurance

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Symbols explained on page 10.

## Course Offerings—Business Administration

Fred Gedelman, Lecturer in Insurance  
Alfred R. W. Larkin, Lecturer in Insurance  
Philip Larson, Lecturer in Insurance  
Morton C. Mosiman, Lecturer in Insurance  
James Nowak, Lecturer in Insurance  
Raymond Reister, Lecturer in Insurance  
Orem O. Robbins, Lecturer in Insurance  
George W. Ulseth, Lecturer in Business Administration  
Roger Wheeler, Lecturer in 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. Government regulation of insurance. (Prerequisite: 6 credits in Principles of Economics or  $\pm$ . Repeated spring semester)

#### Fall Semester

M 8:15-9:55, West Bank CB 150, Williams

#### Spring Semester

M 8:15-9:55, West Bank CB 150, Williams

### Property and Casualty Insurance Curriculum

The University of Minnesota co-operates with the Insurance Institute of America and the American Institute for Property and Casualty Underwriters, Inc., by offering an educational program that provides the basic courses needed by those who wish to take the examinations of either or both of the institutes. The Insurance Institute of America 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. 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 for Parts A and B, \$33 each quarter. 2 certificate credits for Part C, \$22.

Based on the Part A, Part B, and Part C Topical Outlines of the Insurance Institute of America. Provides a background in property and liability insurance and serves as a preparatory course for the CPCU program. Part A: Economic and social influences of insurance; types of risk and kinds of insurance to meet them; legal principles important to property and liability insurance; historical development of insurance; rate making; types of insurers and their organization; underwriting and re-insurance; analysis of insurance contracts; regulation. Part B: An intensive study of fire and marine insurance contracts. Part C: An intensive study of casualty insurance contracts. Parts B and C are equivalent to Part Adjustment 3 and Part Adjustment 4 of the Program for Adjusters. (It is highly recommended but not required that all parts be taken in sequence)

#### Fall Quarter

A M 5:30-8:00, West Bank  
CB 225, Bengtson

#### Winter Quarter

B M 5:30-8:00, West Bank  
CB 225, Bengtson

#### Special Term—March 21 to May 9

C M 5:30-8:00, West Bank  
CB 225, Bengtson

Symbols explained on page 10.

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

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### **IIA Part Adjustment 1. Principles of Insurance and Property Loss Adjusting. 3 certificate credits. \$33.**

Based on the Part Adjustment 1 Topical Outline of the Insurance Institute of America and designed as a preparatory course for the first examination in the I.I.A. Program for Adjusters. Subjects to be covered include risk and insurance, law and the insurance contract, insurance contract analysis, and adjustment of property losses. (No prerequisite)

#### **Fall Quarter**

M 5:30-8:00, West Bank CB 205, Williams

### **IIA Part Adjustment 2. Principles of Insurance and Liability Claim Adjusting. 3 certificate credits. \$33.**

Based on the Part Adjustment 2 Topical Outline of the Insurance Institute of America and designed as a preparatory course for the second examination in the I.I.A. Program for Adjusters. Subjects to be covered include types of insurers, measurement of risk and rate-making, underwriting and reinsurance, the legal liability hazard, adjustment of liability claims, adjustment of automobile physical damage claims, regulation of insurance companies, and human behavior and adjusting. (No prerequisite)

#### **Special Term—January 3 to May 9**

M 6:20-8:00, West Bank CB 210, Williams

### **IIA. Part Adjustment 6. Liability Insurance Adjusting. 3 certificate credits. \$33.**

Based on the Part Adjustment 6 Topical Outline of the Insurance Institute of America and designed as a preparatory course for the sixth examination in the I.I.A. Program for Adjusters. Subjects to be covered include the concepts of legal duty, breach of legal duty and damages, an introduction to medical knowledge required by the adjuster, a study of adjuster relationships with others, and problems of investigation and evaluation. (Recommended but not required prerequisite: Part Adjustment 2)

#### **Fall Quarter**

T 5:30-8:00, West Bank SSci 633

*Part Adjustment 3 and Part Adjustment 4 are equivalent to IIA Parts B and C described on page 133. Part Adjustment 5, which was offered during Spring Quarter 1965, will be offered again as soon as there is sufficient demand.*

### **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 Casualty Underwriters, Inc. The course will be conducted by a panel of instructors selected from practicing insurance men, co-ordinated and supervised by the University School of Business Administration. (Prerequisite: at least 3 years' general experience or the equivalent in formal study or acceptance of special registration application; consult any Extension office)

#### **Fall Semester**

A M 6:20-8:00, West Bank CB 255,  
Gedelman (co-ordinator)

#### **Spring Semester**

B M 6:20-8:00, West Bank CB 255,  
Gedelman (co-ordinator)

### **CPCU Part II. Insurance Principles and Practices, A-B. (To be offered 1966-67).**

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Symbols explained on page 10.



## Course Offerings—Business Administration

**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 Casualty 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 255,  
Turnbull

### Spring Semester

B W 6:20-8:00, West Bank CB 255,  
Turnbull

**CPCU Part IV. Law, A-B.** (To be offered 1966-67)

**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. 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 255,  
Williams

### Spring Semester

B W 8:15-9:55, West Bank CB 255,  
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—H. Winston Noren, 1611 Park Avenue, 339-4585

St. Paul—David York, 1005 Pioneer Building, 225-4616

**CLU Part I. Fundamentals of Life and Health Insurance, A-B.** 3 certificate credits each semester. \$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)

### Fall Semester

A M 4:00-6:00, 20 Washington Ave S,  
Nowak

### Spring Semester

B M 4:00-6:00, 20 Washington Ave S,  
Nowak

Symbols explained on page 10.

## Evening and Special Classes

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**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)

*Fall Semester*

A W 4:30-6:30, 3701 Wayzata Blvd,  
Mosiman

*Spring Semester*

B W 4:30-6:30, 3701 Wayzata Blvd,  
Mosiman

**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)

*Fall Semester*

A M 4:00-5:40, StP Ext Center, Wheeler  
W 4:30-6:30, 3701 Wayzata Blvd, Reister

*Spring Semester*

B M 4:00-5:40, StP Ext Center, Wheeler  
W 4:30-6:30, 3701 Wayzata Blvd, Reister

**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 M 4:00-5:40, StP Ext Center  
T 4:30-6:30, 3701 Wayzata Blvd, Barker

*Spring Semester*

B M 4:00-5:40, StP Ext Center  
T 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

*Nicholas A. Glaskowsky, Jr., Professor of Management and Logistics*

*Elvin L. Peterson, Lecturer in Management*

*Allen R. Solem, Professor of Management*

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Symbols explained on page 10.

## Course Offerings—Business Administration

### \*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)

#### Spring Semester

M 6:20-8:00, West Bank CB 245  
M 8:15-9:55, West Bank CB 425, 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 relationships to achieve organizational objectives. (Prerequisite: current or anticipated management responsibility. Repeated spring semester)

#### Fall Semester

Th 8:15-9:55, West Bank CB 215, Glaskowsky

#### Spring Semester

Th 6:20-8:00, West Bank CB 215, Glaskowsky

### 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)

#### Fall Semester

W 6:20-8:00, West Bank CB 125, Solem

## MARKETING

*John Faricy, Lecturer in Marketing*

*Robert S. Hancock, Professor of Marketing*

*Donald V. Harper, Associate Professor of Marketing and Transportation*

*Robert J. Holloway, Professor of Marketing*

*Willis Kerns, Lecturer in Marketing*

*Edwin H. Lewis, Professor of 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 frameworks 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  
W 6:20-8:00, West Bank CB 145  
W 8:15-9:55, West Bank CB 145  
Th 6:00-7:40, StP Ext Center

#### Spring Semester

M 6:20-8:00, West Bank CB 145  
W 6:20-8:00, West Bank CB 125  
W 8:15-9:55, West Bank CB 125

Symbols explained on page 10.

\* Enrollment space limited; see instructions on page 14.

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

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### **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 415

### **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 BA 468

### **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 6:20-8:00, West Bank BA 468

### **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*

T 6:20-8:00, West Bank CB 105

## **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 31.*

### **OMgt 36. Office Procedures. 3 degree credits. \$33.**

Editing and revising correspondence; communications; basic indexing and filing problems; intra-office relationships. (Prerequisite: 34 [advanced typing] or #)

#### *Fall Semester*

W 6:20-8:00, Vincent 209, Zellers

### **OMgt 79A. Administrative Secretarial Studies. 3 degree 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

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Symbols explained on page 10.

## Course Offerings—Business Administration

### 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 115, Northcott

### OMgt 99. Office Management—Management of Administrative Services. 3 degree credits. \$33.

Application of management principles to the administrative services of the enterprise including communications; records; procedures analysis and methods study; forms design and control; personnel; quantity and quality standards; equipment selection; work flow; layout and environment; organization and control of administrative services in an automated office. (Prerequisite: 6 credits in Principles of Economics or equivalent)

#### Spring Semester

T 6:20-8:00, West Bank CB 115, Northcott

## PRODUCTION

Gary W. Dickson, Assistant Professor of Production

Thomas R. Hoffmann, Associate 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  
M 8:15-9:55, West Bank CB 435, Peterson

#### Spring Semester

M 6:20-8:00, West Bank CB 435, Dickson  
T 6:00-7:40, StP Ext Center, Hoffmann

## QUANTITATIVE ANALYSIS

Gary M. Andrew, Instructor in Quantitative Analysis

Duane J. Berkley, Lecturer in Statistics

Gordon B. Davis, Associate Professor of Accounting

Donald Olson, Lecturer in Statistics

Donald D. Pirner, Lecturer in Quantitative Analysis

### 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. Repeated spring semester)

#### Fall Semester

M 6:20-8:00, West Bank CB 110, Bernat  
T 6:20-8:00, West Bank CB 225, Bernat  
T 8:15-9:55, West Bank CB 225, Bernat  
W 6:20-8:00, West Bank CB 140, Parlin  
Th 6:20-8:00, West Bank CB 205, Kim

#### Spring Semester

M 6:20-8:00, West Bank CB 220, Parlin  
T 6:20-8:00, West Bank CB 230, Kim  
W 6:20-8:00, West Bank CB 140, Hildyard

Symbols explained on page 10.

## Evening and Special Classes

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### 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

T 6:20-8:00, West Bank CB 245, Firner  
W 8:15-9:55, West Bank CB 105, Hildyard

#### Spring Semester

T 8:15-9:55, West Bank CB 225, Firner  
W 6:20-8:00, West Bank CB 245, Andrew

### 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 105, Olson

### \*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: 5 and Math 10 or equivalent. Limited to 25 students. Repeated spring semester)

#### Fall Semester

T 6:20-8:50, West Bank CB 93, Davis

#### Spring Semester

T 6:20-8:50, West Bank CB 93, Davis

### 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 240, Berkley

#### Spring Semester

M 6:20-8:00, West Bank CB 240, Berkley

### \*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 student develops a much

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Symbols explained on page 10.

\* Enrollment space limited; see instructions on page 14.

## Course Offerings—Business Administration

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 93, Davis

### *Spring Semester*

T 9:05-9:55, West Bank CB 93, Davis

## REAL ESTATE

The University of Minnesota co-operates with the National Association of Real Estate Boards and with the Real Estate Boards of St. Paul and Minneapolis in a program of educational training leading toward competence in the professional aspects of real estate practice. Instructing staff for each course will be made up of a number of practicing realtors in the Twin Cities. Co-ordinator for the Real Estate Boards: Bernard G. Rice, 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)

#### *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 commercial properties; and primary phases of insurance procedures in the average real estate office. (No prerequisite)

#### *Fall Semester*

T 6:20-8:00, West Bank CB 425, Rice  
(co-ordinator)

### **RE. Real Estate Sales Brokerage.** 3 certificate credits. \$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 235, 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 235, Rice  
(co-ordinator)

### **RE. Principles of Commercial and Industrial Real Estate.** 3 certificate credits. \$33.

Operating techniques of the commercial or industrial office; shopping centers—location and construction factors; trends in industrial land and building; office sites and buildings—financing, yield, and promotion; apartment land and buildings—income statements and pricing; leasing—all types—

Symbols explained on page 10

## Evening and Special Classes

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and property management; real estate investments; and business opportunities. (Prerequisite: open to professional appraisers; or persons experienced in real estate; or completion of two or more of the above RE courses)

### Fall Semester

M 6:20-8:00, West Bank CB 215, Rice  
(co-ordinator)

Real Estate Law (BLaw 98, Business Law). (See page 128)

## SALESMANSHIP

*Steele S. Stanchfield, Lecturer in Salesmanship*

**Sal. Salesmanship.** 3 certificate credits. \$33.

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

### Fall Semester

M 6:20-8:00, West Bank CB 230, Stanchfield  
F 6:00-7:40, StP Ext Center, Stanchfield

### Spring Semester

M 6:20-8:00, West Bank CB 230, Stanchfield  
F 6:00-7:40, StP Ext Center, Stanchfield

## TRANSPORTATION

*Nicholas A. Glaskowsky, Jr., Professor of Management and Logistics*  
*Donald V. Harper, Associate 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 415, Harper

### Spring Semester

M 6:20-8:00, West Bank CB 425, Harper

**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 230, Glaskowsky

**Tran 174. Traffic Management.** 3 degree credits. \$33.

Managerial problems associated with the shipper's use of transportation services. Problems concerning organization for traffic management, transportation pricing, service alternatives, documentation, routing, consolidation, equipment utilization, warehousing, government regulation, use of private

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Symbols explained on page 10.



## Course Offerings—Business Administration

transportation, and others. (Prerequisite: 54 or 154. Qualified students may register for graduate credit)

### Spring Semester

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

### 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 4. Qualified students may register for graduate credit)

### Spring Semester

Th 8:15-9:55, West Bank CB 140, 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.*

### 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 CB 440, 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 CB 440, 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

M 6:20-8:00, West Bank BA 837, Nightingale

Symbols explained on page 10.

# EDUCATION

*Prospective Teachers:* Persons interested in undergraduate programs preparing them to teach in elementary or secondary schools should make an appointment through the General Extension Division with an adviser in the College of Education. Most professional education courses must be taken in day school, when schools are in session for observation. However, all programs in the College of Education emphasize the preparation of the teacher in general education and in the teaching subjects. Many evening offerings listed in the Arts and Sciences section of this bulletin may be taken by prospective teachers for later use toward degree programs in the College of Education.

*Teachers-in-Service:* Many courses in academic fields are available for teachers through evening class registration. Attention is called particularly to offerings listed under Arts and Sciences in this bulletin. Professional education courses available through evening classes are limited because of an extensive offering in the late afternoon and Saturday morning hours as part of the day school program of the College of Education.

*Renewal of Teaching Certificates:* Former teachers wishing to renew certificates should check with the State Department of Education concerning their individual requirements. Those who need an additional 8 quarter credits may select courses in education pertinent to their teaching level (elementary or secondary) or courses in the major teaching field. Secondary teachers are especially urged to emphasize current work in the teaching subject itself.

## ART EDUCATION

*Judith Cooper, Instructor in Art Education*

*Clifton A. Gayne, Jr., Professor of Art Education*

*Theron Hegg, Instructor in Art Education*

*Gopal Mitra, 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**

Th 6:20-8:50, Wulling 240, Gayne

### **Spring Quarter**

F 6:00-8:30, StP Ext Center, Olson

**ArEd 18. Design Activities for Elementary Education.** 3 degree credits. \$33 plus \$2 materials fee.

Relationships between art and nature. Problems in inventions, arrangement and decoration, color, lettering, poster, and bulletin board displays. (No prerequisite. Repeated winter quarter)

### **Fall Quarter**

F 6:00-8:30, StP Ext Center,  
Olson

### **Winter Quarter**

Th 6:20-8:50, Wulling 240,  
Gayne

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Symbols explained on page 10.

**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)

<b>Winter Quarter</b>		<b>Spring Quarter</b>	
F	6:00-8:30, StP Ext Center, Olson	Th	6:20-8:50, Wulling 240, Gayne

\***ArEd 80. Contemporary Crafts.** 3 degree credits. \$33.

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)

<b>Fall Quarter</b>		<b>Spring Quarter</b>	
T	6:20-8:50, Wulling 120, Cooper	T	6:20-8:50, Wulling 120, Cooper

**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)

<b>Winter Quarter</b>	
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.

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, 207 Center for Continuation Study, 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.

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Symbols explained on page 10.

\* Enrollment space limited; see instructions on page 14.

## Evening and Special Classes

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### 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

*Richard Dubanoski, Lecturer in Child Psychology*

*Arthur J. Gallese, Lecturer in Child Psychology*

*Robert Klein, Lecturer in Child Psychology*

*Murray K. Reed, Lecturer in Child Psychology*

*Robert Willoughby, Lecturer in Child Psychology*

*Carolyn Zahn, 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 6:20-8:00, Johnston 105, Klein  
W 7:50-9:30, StP Ext Center, Willoughby

#### *Spring Semester*

T 6:20-8:00, Johnston 115, Dubanoski  
W 7:50-9:30, StP Ext Center, Zahn

### CPsy 81. Adolescent Psychology. 3 degree credits. \$33.

Social, physical, mental, emotional, and personality development during adolescence. (Prerequisite: Psy 2. Repeated spring semester. For graduate credit, register in CPsy 132)

#### *Fall Semester*

M 8:15-9:55, Johnston 105, Reed

#### *Spring Semester*

M 7:50-9:30, StP Ext Center, Willoughby  
T 6:20-8:00, Johnston 105, Klein

### CPsy 132. Adolescent Development. 3 degree credits. \$33.

#### *Fall Semester—Spring Semester*

See course description, days, times, places, and instructors as listed under CPsy 81. Qualified students may register for graduate credit.

### CPsy 140. Behavior Problems. 3 degree credits. \$33.

Types, origin, development, and treatment of behavior difficulties in normal children. (Prerequisite: 80 or equivalent. Qualified students may register for graduate credit)

#### *Spring Semester*

M 8:15-9:55, Johnston 115, Reed

### CPsy 143. Problems of Mental Deficiency. 3 degree credits. \$33.

Diagnosis, care, training; social and vocational problems. (Prerequisite: 80 or equivalent. Qualified students may register for graduate credit)

#### *Fall Semester*

M 6:20-8:00, Johnston 105, Gallese

### 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 majoring in clinical psychology. (Prerequisite:

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Symbols explained on page 10.

12 credits in child psychology, psychology, educational psychology, or sociology. Qualified students may register for graduate credit)

Spring Semester

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

## CURRICULUM AND INSTRUCTION

Clarence H. Boeck, Professor of Education

Neville P. Pearson, Associate Professor of Education

**EdCI 103. Teaching of Science in the Elementary School.** 3 degree credits. \$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, 206 Westbrook Hall, University of Minnesota, Minneapolis, Minnesota 55455.*

**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 10.

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

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### **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 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: junior class level 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 122, Borow

## **MUSIC EDUCATION**

*Robert L. Borg, 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

### **\*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

## **MUSIC**

(See page 91)

## **PHYSICAL EDUCATION**

(See page 172)

## **THEATRE**

**Th 75. Play Production in the Secondary School. (See page 120)**

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Symbols explained on page 10.

\* Enrollment space limited; see instructions on page 14.

# ENGINEERING; PHYSICAL AND TECHNICAL SCIENCES

*Your attention is called to the Engineering Science and Engineering Technician Certificate programs; see page 34.*

## AERONAUTICS

*Sam R. Hamilton, Aeronautical Ground Instructor*

### Ground School Courses for Air Pilots—General Information

The University Ground School offers several different courses at various times throughout the entire year (12 months). Each course is designed to meet the needs of pilots who are preparing for one of the following Federal Aviation Agency written and oral examinations: Private Pilot Certificate, Commercial Pilot Certificate, Flight Instructor Certificate, Instrument Rating, and Airline Transport Pilot Certificate.

Upon satisfactory completion of the Basic Ground School course, the University Extension Division awards F.A.A. Private-Pilot School Graduation Certificates and 4 Extension certificate credits; and the Department of Aeronautics and Engineering Mechanics, Institute of Technology, awards 3 degree credits if the student has also taken 3 hours of dual flight instruction from any certificated flight instructor and presents either a pilot certificate or logbook or a written statement from the flight instructor, to substantiate this. (It is NOT necessary that the flight instruction be taken at the University of Minnesota.)

The University Ground School meets all requirements of, and is certificated by, the F.A.A. as an Approved Basic and Advanced Ground School, and as such offers to its students all of the privileges extended by the F.A.A. to such approved schools. It is to the flight student's advantage to complete the ground-school studies and F.A.A. written examinations as early as possible in his or her flight training program, as there is a 2-year time limit, following the completion of an F.A.A. written examination, before the related flight test must be passed.

In addition to the 50-hour basic course (described below), special accelerated short courses (described below) are offered from time to time, depending upon the demand, for pilots who have completed the basic course and who are now preparing for the F.A.A. written and oral examinations for the Instrument Rating or the Airline Transport Pilot Certificate. In this way it is possible to satisfy pilots' ground-school requirements in the shortest possible time and at minimum expense.

Most classes meet on Tuesdays and Fridays, starting at 7 p.m., in 209 Aeronautical Engineering building on the Minneapolis Campus of the University. The director and principal instructor for all courses is Sam R. Hamilton.

Specific information regarding starting dates, class meeting schedules, tuition fees, and class load limits can be obtained from airport bulletin boards, or by calling the General Extension Division, telephone 373-3930, or by calling Mr. Hamilton at 698-2559. Persons who need any further information regarding the different courses or who wish to be personally notified when a specific course is to be started should contact Mr. Hamilton.

### Basic Ground School Course

This 7-week course, which is open to all pilots and prospective pilots, regardless of their educational or flight experience background, is designed primarily to prepare for the Federal Aviation Agency's written and oral examinations for certification as a private pilot, but, in addition to this, through extra meetings, the course also prepares for the commercial pilot written and oral examinations and for the more difficult parts of the flight instructor and instrument rating written and oral examinations.

The course consists of at least 50 hours of group and individual instruction on air navigation, radio aids, meteorology, flight theory and analysis of flight maneuvers, aircraft and engine operation, federal aviation regulations, aircraft instruments, and other subjects pertaining to the safe, efficient, and economical operation of aircraft.

The class meets twice a week, on Tuesdays and Fridays, at 7 p.m., for 7 weeks, in 209 Aeronautical Engineering building on the Minneapolis Campus of the University. The tuition fee is \$44 and registration can be accomplished either in the classroom or at any University Extension Division office. Students who are interested in degree credit should register for Aero 9 (Basic Ground School and

## Evening and Special Classes

Flying), and must furnish the instructor, Sam R. Hamilton, certification of eligibility for degree credit, as described under "Ground School General Information."

Starting dates for the course are posted on airport bulletin boards from time to time throughout the entire year (12 months), or can be obtained by calling the General Extension Division, telephone 373-3930, or by calling Mr. Hamilton at 698-2559. Persons who wish to be personally notified when the next basic course is to be offered should contact Mr. Hamilton.

### **Accelerated Advanced Ground School Courses**

From time to time, depending upon the demand, the University Ground School offers special short courses preparing for the Federal Aviation Agency's written and oral examinations for the Instrument Rating and the Airline Transport Pilot Certificate. These accelerated courses are open to pilots who have completed the basic course described above, and who now need only a further short course of instruction. The principal instructor is Sam R. Hamilton.

Specific information regarding starting dates, class meeting schedules, tuition fees, and class load limits can be obtained from airport bulletin boards, or by calling the General Extension Division, telephone 373-3930, or by calling Mr. Hamilton at 698-2559. Persons who need any further information regarding these special short courses or who wish to be personally notified when a specific course is to be started should contact Mr. Hamilton.

## **ARCHITECTURE**

*Paul Andersen, Professor of Structural Engineering*

*Ralph Rapson, Professor and Head of Architecture*

The first two courses listed below are for architects planning to take the State Architectural Examination in 1966. They will be scheduled for the winter or spring of 1966, so as to precede the examination dates. Please telephone the Department of Evening Classes, 373-3195, for information after January 15, 1966.

Each course will consist of eight sessions, meeting for 2½ hours 1 night a week. Students may register for the entire course for \$44, or may select any two sessions for a fee of \$16. Instruction is provided by the School of Architecture.

### **Arch. Basic Refresher Course in Architecture. No credit. \$44 (see note above).**

See description above. This series covers: Examination C, History and Theory of Architecture, two sessions; Examination G, Structural Design, two sessions; Examination I, Building Equipment, two sessions; Review, two sessions.

### **Arch. Second Refresher Course in Architecture. No credit. \$44 (see note above).**

See description above. This series covers: Examination D, Site Planning, two sessions; Examination E, Architectural Design, two sessions; Examination F, Building Construction, one session; Examination H, Professional Administration, one session; Review, two sessions.

### **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 3 to March 19)

M 6:30-9:00, Architecture 55, Andersen

### **Art. Home Design and Planning. (See page 58)**

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Symbols explained on page 10.



## 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 133, 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 133, Kaufmanis

## CHEMISTRY

*Robert L. Hansen, Lecturer in Chemistry*

*Wesley N. Herr, Associate Professor of Chemistry*

*Nicholas Kowanko, Lecturer in Chemistry*

*Paul Toren, Lecturer in Chemistry*

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

### General Chemistry

**GeCh 4-5.† General Principles of Chemistry.** 5 degree credits each semester. \$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 equilibrium. (Prerequisite: elementary algebra. Higher algebra and trigonometry strongly recommended. Students attend twice a week)

*Fall Semester*

4 Lab T 6:20-9:20, Chemistry 325, †† Herr  
Lect Th 6:20-8:00, Chemistry 325, Herr

*Spring Semester*

5 Lab T 6:20-9:20, Chemistry 325, †† Herr  
Lect Th 6:20-8:00, Chemistry 325, Herr

**GeCh 6. Principles of Solution Chemistry.** 4 degree credits. \$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

Symbols explained on page 10.

†† First class meeting, only, in room 325 Chemistry.

## Evening and Special Classes

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relates to aqueous solution chemistry, and general chemical phenomena interrelated with structure. (Prerequisite: 5 or 15 or 25. Students attend twice a week)

### Fall Semester

Lect T 6:20-8:00, Chemistry 325, Herr  
Lab Th 6:20-9:30, Chemistry 210, Herr

## Analytical Chemistry

AnCh 46A. Introduction to Analytical Chemistry I. 4 degree credits. \$44 plus \$5 laboratory fee.

Lecture and laboratory work related to equilibria involved in analytical processes, properties, and formation of precipitates, methods of separation. An introduction to electrochemical methods is given. (Prerequisite: GeCh 5 or 25 or ¶5 or ¶25)

### Fall Semester

Lab M 6:20-9:30, Chemistry 310, Toren  
Lect Th 6:20-8:00, Chemistry 315, Toren

AnCh 47A. Introduction to Analytical Chemistry II. 4 degree credits. \$44 plus \$5 laboratory fee.

Lecture and laboratory work dealing with theoretical fundamentals of volumetric processes in general, including an introduction to physical methods of end point detection. (Prerequisite: 46A)

### Spring Semester

Lab M 6:20-9:30, Chemistry 310, Toren  
Lect Th 6:20-8:00, Chemistry 315, Toren

## Organic Chemistry

OrCh 61-62.† Elementary Organic Chemistry. 5 degree credits each semester. \$55 plus \$5 laboratory fee each semester.

Discussion of important classes of organic compounds, both aliphatic and aromatic, together with some heterocyclic compounds. Laboratory work includes the preparation of typical substances. (Prerequisite: 12 to 15 credits in chemistry. Students attend twice a week)

### Fall Semester

61 Lab M 6:20-10:00, Chemistry 390,  
Hansen  
Lect W 6:20-8:00, Chemistry 325,  
Hansen

### Spring Semester

62 Lab M 6:20-10:00, Chemistry, 390,  
Hansen  
Lect W 6:20-8:00, Chemistry 325,  
Hansen

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 Bowers, Professor of Hydraulic Engineering  
Jesse Fant, Associate Professor of Civil Engineering

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Symbols explained on page 10.

## **Course Offerings—Engineering, Physical and Technical Sciences**

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Your attention is called to the Senior Civil Engineering Technician program; see page 37.

**CE 51-52. Highways and Pavements.** (To be offered 1966-67)

**CE 53. Elements of Soil Mechanics.** (To be offered 1966-67)

**CE 61. Surveying Instrumentation.** 4 degree credits, §old CE 18. \$44.

Measurements of length by tape, electronic methods, and stadia; of angle by transit and theodolite; of elevation by level; of direction by astronomic observations. Adjustments of instruments. Adjustments of traverses, triangulation, and level nets. (Prerequisite: Math 21 or equivalent. Some extra class periods held Saturday mornings for those without instrument experience)

### **Fall Semester**

W 6:20-9:20, Main Engineering 316, Fant

**CE 62. Mapping.** 2 degree credits, §old CE 20. \$22.

Map types and applications of use. Topographic map production by stadia, cross-section, and photogrammetric methods. The study of photographs and photogrammetric plotting equipment for interpretative, measurement, and mapping projects. (Prerequisite: sophomore or §. Recommended that students stay after class to make full use of photogrammetric equipment)

### **Spring Quarter**

M 6:20-8:00, Main Engineering 316

**CE 63. Land Survey Systems.** 2 degree credits, §old CE 20. \$22.

Land survey systems in the United States; U. S. Public Land Survey, metes and bounds surveys, state record surveys. Rules, regulations, and court decisions for the proper surveying procedure to locate property lines from title descriptions. (Prerequisite: sophomore or §)

### **Fall Quarter**

M 8:15-9:55, Main Engineering 316, Fant

**CE 64. Engineering Surveys.** 4 degree credits, §old CE 19. \$44.

Elements of route surveying; simple, compound, and spiral curves; vertical curves; grades, earthwork, areas, volumes, and mass diagram. Design of alignment, geometrics, and grades for highways. Analysis of design problems with computer programming. (Prerequisite: 61. Some extra class hours held Saturday mornings for those without available instruments for field problems)

### **Spring Semester**

W 6:20-9:20, Main Engineering 316, Fant

**CE 81 (old CE 31). Elementary Structural Analysis.** (To be offered 1966-67)

**CE 82 (old CE 32). Intermediate Structural Analysis.** (To be offered 1966-67)

**CE 83 (old CE 33). Elementary Structural Design.** (To be offered 1966-67)

**CE 111. Land Surveying.** (To be offered 1966-67)

**CE 112. Aerial Surveying and Photogrammetry.** (To be offered 1966-67)

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Symbols explained on page 10.

## *Evening and Special Classes*

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**CE 113. Land Planning and Subdivision Design.** (To be offered 1966-67)

**CE 141. Reinforced and Prestressed Concrete.** 3 degree credits. \$33.

Elastic and ultimate strength design of reinforced and prestressed concrete beam and column elements. Investigation of bond and shear stresses. (Prerequisite: 33. Qualified students may register for graduate credit)

**Fall Quarter**

T 6:20-9:00, Experimental Engineering 193, Andersen

**CE 142. Design of Reinforced and Prestressed Concrete I.** 3 degree credits. \$33.

Application of principles of reinforced concrete design to floor systems, complete building frames, footings, and retaining walls. Application of prestressed concrete to design of building elements. (Prerequisite: 130 and 141. Qualified students may register for graduate credit)

**Winter Quarter**

T 6:20-9:00, Experimental Engineering 193, Andersen

**Hydr 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 27 or 35, and Math 26A, or #. May not be taken for graduate credit)

**Fall Quarter**

Th 6:20-8:50, Experimental Engineering 193

**CE 160A. 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: Hydr 101 or 103, and 104; laboratory time is scheduled in the class' hours. Qualified students may register for graduate credit)

**Winter Quarter**

MTh 6:20-8:50, Experimental Engineering 193, Bowers

**CE 161. Hydrology.** 3 degree credits. \$33.

A study of basic data and methods available for analysis of precipitation and runoff, including stream flow, groundwater infiltration, unit graphs, flood frequencies, flood routing, and probable maximum floods. (Prerequisite: Hydr 101 or 103. Qualified students may register for graduate credit)

**Spring Quarter**

Th 6:20-8:50, Experimental Engineering 193,  
Bowers

**Arch. Refresher Course in Structural Design for Architects.** (See page 150)

## **ELECTRICAL ENGINEERING**

*Paul A. Cartwright, Associate Professor of Electrical Engineering*

*Kenneth Erpelding, Lecturer in Electrical Engineering*

*Sidney C. Larson, Associate Professor of Electrical Engineering*

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Symbols explained on page 10.

## Course Offerings—Engineering, Physical and Technical Sciences

David Lo, Lecturer in Electrical Engineering  
 Johnson Luh, Lecturer in Electrical Engineering  
 Terry Smay, Lecturer in Electrical Engineering

Students working toward a Bachelor's degree in electrical engineering are probably aware that the Institute of Technology has reduced the total credit requirement for its undergraduate engineering degrees. In so doing, certain courses have been redrawn. Students who have already started in the program should follow the chart below in planning for 1965-66. (Students entering the program should follow the requirements as listed in the *Bulletin of the Institute of Technology*.)

Sequence last taken	Should take, 1965-66
EE 61-62-63	{ EE 74-75-76 { EE 30A-31A
EE 71-72-73	{ EE 111-112-113
EE 81-82-83	{ Math 60A
EE 104-105-106	{ EE 111-112-113 { EE 114-115-116

**EE 30-31. Circuit Analysis.** 3 degree credits each semester, §EE 61-62. \$33 each semester.

Steady-state and transient response of linear passive circuits under d-c excitation; steady-state response to sinusoidal excitation; instantaneous and average power. Response of linear passive circuits to step, impulse, and exponential forcing functions. Complex frequency; natural and forced response. Magnetically coupled circuits. (Prerequisite: Phys 14 or Phys 23 or ¶Phys 14 or ¶Phys 23, Math 26A or Math 26B or Math 31 or ¶Math 26A or ¶Math 26B or ¶Math 31 for 30; 30 for 31; ¶30A-31A strongly recommended)

<i>Fall Semester</i>			<i>Spring Semester</i>		
30	M	6:00-7:40, Architecture 30	31	M	6:00-7:40, Architecture 60

**EE 30A-31A. Electrical Engineering Laboratory.** 1 degree credit each semester. \$11 plus \$10 laboratory fee each semester.

Laboratory to accompany EE 30-31. (Prerequisite: ¶30-31)

<i>Fall Semester</i>			<i>Spring Semester</i>		
30A	M	7:50-9:30, Electrical Engineering Labs	31A	M	7:50-9:30, Electrical Engineering Labs
	W	6:00-7:40, Electrical Engineering Labs		W	6:00-7:40, Electrical Engineering Labs
	W	7:50-9:30, Electrical Engineering Labs (for EE 74-75 registrants only)		W	7:50-9:30, Electrical Engineering Labs (for EE 75-76 registrants only)

**EE 74-75-76. Electromagnetic Fields.** 4 degree credits each quarter. \$44 each quarter.

Electrostatic, magnetostatic, and electromagnetic field theory based upon the fundamental experimental laws and leading to applications of Maxwell's equations. (Prerequisite: Phys 14 or Phys 23, Math 26A or ¶Math 26A or Math 33 or ¶Math 33 with # for 74; 74 for 75; 75 for 76. Students attend twice a week)

<i>Fall Quarter</i>			<i>Winter Quarter</i>			<i>Spring Quarter</i>		
74	M	6:00-8:40, Architecture 50	75	M	6:00-8:40, Architecture 50	76	M	6:00-8:40, Architecture 50
	W	6:00-7:40, Architecture 50		W	6:00-7:40, Architecture 50		W	6:00-7:40, Architecture 50

Symbols explained on page 10.

## Evening and Special Classes

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**EE 111-112-113. Circuits and Fields.** (Offered last time 1965-66). 3 degree credits each quarter. \$33 each quarter.

Lumped linear circuits in the transient and steady state; application of transform techniques in transient analysis; general multiport network analysis. Fields, energy, and forces with application to electromagnetic and electromechanical devices. (Prerequisite: 63, 73, and Math 60A or ¶Math 60A or equivalent for 111; 111 for 112; 112 for 113)

<b>Fall Quarter</b>			<b>Winter Quarter</b>			<b>Spring Quarter</b>		
111	M	6:00-8:40, Architecture 35	112	M	6:00-8:40, Architecture 35	113	M	6:00-8:40, Architecture 35

**EE 114-115-116. Electrical Engineering Laboratory.** 2 degree credits each quarter. \$22 plus \$10 laboratory fee each quarter.

Experimental studies in electrical engineering. (Prerequisite: 83, 104 and ¶111 for 114; 114 for 115; 115 for 116. Students attend twice a week)

<b>Fall Quarter</b>			<b>Winter Quarter</b>			<b>Spring Quarter</b>		
114	W	6:00-9:45, Electrical Engineering Labs	115	W	6:00-9:45, Electrical Engineering Labs	116	W	6:00-9:45, Electrical Engineering Labs

*The following courses carry certificate credit and are offered as part of the Senior Electrical Engineering Technician program, see page 38.*

**EE. Elements of Electric Circuits.** 5 certificate credits. \$55 plus \$5 laboratory fee.

Fundamentals of direct and alternating current circuits. Network theorems. Network analysis—singlephase and polyphase. Transient analysis. Frequency response of networks; power and energy concepts. Nonsinusoidal waveforms, nonlinear circuit elements, nonlinear circuit analysis methods. Electric and magnetic fields. Magnetic circuits. Lecture and laboratory. (Prerequisite: Math 13A or §)

*Fall Semester*

T 6:00-9:00, Architecture 15

**EE. Elements of Electronics I.** 5 certificate credits. \$55 plus \$5 laboratory fee.

Electronic emission, conduction through vacuum and gases. Characteristics of vacuum and gas tubes. Photosensitive devices, electronic control circuits. Amplifier circuits, feedback; oscillators. Applications of vacuum and gas tube devices. Lecture and laboratory. (Prerequisite: Elements of Electric Circuits)

*Spring Semester*

T 6:00-9:00, Architecture 15

**EE. Elements of Electronics II.** 5 certificate credits. \$55 plus \$5 laboratory fee.

Semiconductor devices and their circuit application; conduction in semiconductors, transistor characteristics and equivalent circuits; transistor amplifiers, oscillators, and multivibrators. Tunnel diodes. Lectures, problems, and laboratory. Knowledge of circuit analysis using complex numbers is required. (Prerequisite: Elements of Electronics I or §)

*Fall Semester*

Th 6:00-9:00, Architecture 15

**EE. Elements of Electronics III.** 5 certificate credits. \$55 plus \$5 laboratory fee.

Terminal course of the certificate credit electronics sequence. Digital and analogue computer circuits—operational amplifiers, binary systems, memory units. Application of electronic instruments

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Symbols explained on page 10.

## Course Offerings—Engineering, Physical and Technical Sciences

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to measurements and instrumentation, transducers. Lecture and laboratory. (Prerequisite: Elements of Electronics II)

### Spring Semester

Th 6:00-9:00, Architecture 15

### 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

(February 16 to May 4)

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

T 8:15-9:55, Main Engineering 4, Lippert

### \*Engl 86(IT). Advanced Technical Communication. 3 degree credits. \$33.

Technical and business letter writing combined with conference and interview technique for engineers, technical men, and those in the business and sales end of the technical industries. Letters include inquiry, reply, conference setup, adjustment, letter report, recommendation, and supervisory types (also job application, public relations, sales, and employee relations as the class may elect). Consideration of the technical magazine article. Speech work includes both planning and setting up, participating in, and following up conferences, and technical and supervisory interviews. (Prerequisite: 85[IT]. Limited to 25 students)

#### Spring Semester

M 8:15-9:55, Main Engineering 4, Lippert

### Engl. Basic Technical Writing I-II. 3 certificate credits each semester. \$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 for I; I for II)

#### Fall Semester

I W 8:15-9:55, Main Engineering 4, Lippert

#### Spring Semester

II W 8:15-9:55, Main Engineering 4, Lippert

## ENGINEERING GRAPHICS

Paul W. Bullen, Assistant Professor of Mechanical Engineering

John N. Clausen, Assistant Professor of Mechanical Engineering

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Symbols explained on page 10.

\* Enrollment space limited; see instructions on page 14.

## Evening and Special Classes

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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	
W	6:00-8:00, Architecture 10	T	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 drawing; 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 and repetitious calculations through nomographs and graphic mathematics. (Prerequisite: Math 11 or ‡)

Spring Semester	
Th	6:00-8:00, Architecture 10, Staff

**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, Staff

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Symbols explained on page 10.

\* Enrollment space limited; see instructions on page 14.



## Course Offerings—Engineering, Physical and Technical Sciences

### 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 13A or Math 21 or ¶Math 21. Repeated spring semester)

#### Fall Semester

T 6:00-8:30, StP Ext Center

#### Spring Semester

M 6:00-8:30, Architecture 10, Staff

## GEOLOGY AND GEOPHYSICS

Robert E. Sloan, Associate Professor of Geology and Geophysics

Charles L. Matsch, Instructor in Geology and Geophysics

### Geo 1. Physical Geology. 4 degree credits, §old Geol 1, A. \$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, TSF 153

#### Spring Semester

Lect M 6:20-8:00, Pillsbury 110, Matsch  
Lab M 8:10-9:30, TSF 153

### Geo 2. Historical Geology. 4 degree credits, §old Geol 2, B. \$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, Main Engineering 18

#### Spring Semester

Lect T 6:20-8:00, Pillsbury 110, Sloan  
Lab T 8:10-9:30, Main Engineering 18

### Geo 1E-2E. Physical Geology and Historical Geology. 3 degree credits each semester. \$33 each semester.

Lecture concurrent with Geo 1 and 2, see descriptions above; no laboratory. Not acceptable toward degrees for physical science and engineering majors. (No prerequisite for 1E; 1E or 1 for 2E)

#### Fall Semester

1E T 6:20-8:00, Pillsbury 110, Matsch  
2E M 6:20-8:00, Pillsbury 110, Sloan

#### Spring Semester

1E M 6:20-8:00, Pillsbury 110, Matsch  
2E T 6:20-8:00, Pillsbury 110, Sloan

### Geo 62. Mineralogy and Lithology. 5 degree credits, §old Geol 23, 24. \$55.

Introduction to crystallography, crystal chemistry, and mineralogy. Descriptive and determinative mineralogy. Classification of rocks. Textural, structural, and mineralogical variations of rocks and some ores. (Prerequisite: 1, or old Geol 1 and A, and 4 credits of chemistry)

#### Spring Semester

Lect TTh 6:20-7:20, Pillsbury 100, Staff  
Lab TTh 7:30-9:00, Pillsbury 100

## HYDROMECHANICS

(See Civil Engineering, page 154)

Symbols explained on page 10.

## Evening and Special Classes

### 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 39.*

#### **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. Repeated spring semester)

*Fall Semester*

M 6:20-9:20, Mechanical Engineering 214

*Spring Semester*

T 6:20-9:20, Mechanical Engineering 208

#### **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

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Symbols explained on page 10.

## Course Offerings—Engineering, Physical and Technical Sciences

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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

### 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

### IE. Design and Analysis of Experiments I. 5 certificate credits. \$55.

One-factor experiments, design constructed to reduce experimental error, analysis of variance, estimation and comparison of effect, orthogonal contrasts, components of variance, fixed random, and mixed models, incomplete block designs, introduction to general factorial experiments. (Prerequisite: ME 99 or Math 90 or #)

### Fall Semester

W 6:20-9:20, Mechanical Engineering 102

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Symbols explained on page 10.

## Evening and Special Classes

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### IE. Design and Analysis of Experiments II. 5 certificate credits. \$55.

Two or more factor experiments, designs involving crossed, nested, and mixed classifications; qualitative and quantitative factors; experiments, block confounding, fractional factorial experiments. (Prerequisite: Design and Analysis of Experiments I or  $\ddagger$ )

Spring Semester

W 6:20-9:20, Mechanical Engineering 102

## MATHEMATICS

*Steve S. Barich, Assistant Professor of Mechanical Engineering*

*Kenneth Berg, Instructor in Mathematics*

*William G. Chaplin, Lecturer in Mathematics*

*William J. A. Culmer, Associate Professor of Agricultural Engineering*

*William A. Dolid, Lecturer in Mathematics*

*Immanuel C. Fischer, Professor of Engineering*

*Paul G. Gilberg, Instructor in Mathematics*

*Laurence R. Harper, Assistant Professor of Mathematics*

*Richard Hotchkiss, Instructor in Mathematics*

*Eric Jaede, Instructor in Mathematics*

*Walter James, Lecturer in Mathematics*

*Howard B. Jenkins, Assistant Professor of Mathematics*

*Lawrence A. Liddiard, Instructor in Mathematics*

*Edward S. Loye, Associate Professor of Mathematics*

*Norman Meyers, Assistant Professor of Mathematics*

*William D. Munro, Associate Professor of Mathematics*

*Frank J. Polansky, Assistant Professor of Mathematics*

*Gaylord P. Schwartz, Lecturer in Mathematics*

*Burton O. Scott, Lecturer in Mathematics*

*James G. Swenson, Lecturer in Mathematics*

*James E. Thompson, Assistant Professor of Mathematics*

*Jon Tolle, Instructor in Mathematics*

*Hubert Walczak, Lecturer in Mathematics*

*Dennis Wernberg, Instructor in Mathematics*

*David L. Woodruff, Instructor in Mathematics*

### Changes in Mathematics Courses and Prerequisites

The Institute of Technology introduced a new 6-quarter mathematics sequence which began in the fall of 1964 with Math 21 and continued in successive quarters with Math 22, 23, 31, 32, and 33. The entrance requirement for the Institute of Technology and the prerequisite for Math 21 is 4 years of high school mathematics including solid geometry and trigonometry.

Any student who meets this requirement is eligible to register for Math 21. However, if it has been some time (2 years or more) since he took his last mathematics course, the student is strongly advised to register for Math 12 or even Math 11.

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.

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Symbols explained on page 10.

## Course Offerings—Engineering, Physical and Technical Sciences

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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, 10, and 40 are offered for the benefit of prebusiness students and Arts College nonmathematics majors only. They are not designed for the student who wishes to continue with Institute of Technology advanced mathematics courses or for Arts College mathematics majors. Math T and 10 carry no credit in the Institute of Technology. If in doubt about your registration for mathematics, please consult an adviser.

**Math T. Trigonometry.** (Open to prebusiness students and Arts College nonmathematics 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 computation. (Prerequisite: plane geometry, and higher algebra or Math 11, or equivalent. May be taken concurrently with 10)

#### Fall Semester

T 8:15-9:55, Ford 115

**Math 5. Basic Mathematics.** No credit. \$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 206

#### Spring Semester

TTh 6:20-7:45, Main Engineering 206

**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

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Symbols explained on page 10.

## Evening and Special Classes

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### Math 8. Solid Geometry. Entrance credit. \$33.

Lines, planes, dihedral and polyhedral angles, polyhedrons, surfaces, prisms, cylinders, cones, prisms, 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 10. College Algebra and Analytic Geometry. (Open to prebusiness students and Arts College nonmathematics majors only). 5 degree credits. \$55.

A course for students requiring only some analytic geometry and college algebra without trigonometry, or whose background does not include logarithms. Students who plan to take several courses in mathematics in evening classes should register for Math 12, not Math 10, which carries no credit in Institute of Technology. Functions and graphs, quadratic equations, progressions, inequalities, complex numbers, theory of equations, permutations and combinations, probability, systems of equations, determinants, graphing of linear and quadratic equations, conics in standard position, logarithms. (Prerequisite: higher algebra or Math 11 or equivalent. Repeated spring semester)

#### Fall Semester

TTh 6:20-7:45, Ford 150

#### Spring Semester

TTh 6:20-7:45, Ford 185

### 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. (Prerequisites: 6 or equivalent. Entrance requirement for Institute of Technology. Repeated spring semester)

#### Fall Semester

MW 6:20-7:45, Main Engineering 205  
TTh 6:00-7:25, StP Ext Center  
TTh 6:20-7:45, Main Engineering 205

#### Spring Semester

MW 6:00-7:25, StP Ext Center  
MW 6:20-7:45, Main Engineering 205  
TTh 6:20-7:45, Main Engineering 205

### 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 6:20-7:45, 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 211  
(Limited class\*)

### Math 21. Calculus I: Calculus and Analytic Geometry. 5 degree credits. \$55.

Review of algebra, inequalities. Elementary analytic geometry, functions, graphs, lines. Introduction to differential and integral calculus, slopes, tangents, rates, areas. Formal development of differentiation, limits, continuity. Differentiation of algebraic functions, applications. Differential.

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Symbols explained on page 10.

\* Enrollment space limited; see instructions on page 14.

## Course Offerings—Engineering, Physical and Technical Sciences

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(Prerequisite: 4 years of high school mathematics, including trigonometry, or 12. See note on page 162. Repeated winter quarter and spring semester)

	<b>Fall Semester</b>		<b>Winter Quarter</b>		<b>Spring Semester</b>
MW	6:20-7:45, Main Engineering 104	MW	6:10-8:15, Robbinsdale HS 211 (Limited class*)	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 22. Calculus II: Calculus and Analytic Geometry.** 5 degree credits. \$55.

Review of analytical trigonometry. The definite integral, fundamental theorem, indefinite integral, area, work. The conic sections, translation and rotation of axes. Calculus of trigonometric, inverse trigonometric, exponential, logarithmic and hyperbolic functions. (Prerequisite: 21 or 13A. See note on page 162. Repeated spring semester and spring quarter)

	<b>Fall Semester</b>		<b>Spring Semester</b>
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
			<b>Spring Quarter</b>
		MW	6:10-8:15, Robbinsdale HS 211 (Limited class*)

### **Math 23. Calculus III: Calculus and Analytic Geometry.** 5 degree credits. \$55.

Review of theory of equations and complex numbers. Parametric equations, arc length, curvature. Polar co-ordinates. Formulas and methods of integration, substitutions, integration by parts, rational functions. Applications of integration, volumes, areas, first moments, and mass centers. (Prerequisite: 22 or 24A. Repeated spring semester)

	<b>Fall Semester</b>		<b>Spring Semester</b>
T	6:00-9:00, Main Engineering 215	T	6:00-9:00, Main Engineering 215
Th	6:00-9:00, Main Engineering 215	W	6:00-9:00, StP Ext Center

### **Math 26A. Calculus IV: Differential Equations and Calculus.** (Offered last time Fall 1965) 5 degree credits. \$55.

Further study of limits, L'Hospital's rule. Sequences, series, Taylor's formula. Convergence absolute and conditional, improper integrals, power series, expansion of functions. Differential equations; equations of first order; standard methods of solutions; linear equations with constant coefficients application; simultaneous equations, integration by series, numerical methods. (Prerequisite: 25A)

	<b>Fall Semester</b>
M	6:00-9:00, Main Engineering 215

### **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 co-ordinates. Applications to moments and centroids. Partial differentiation including the chain rule, implicit functions, directional derivative, maxima and minima. (Prerequisite: 23)

	<b>Spring Semester</b>
T	6:00-9:00, Main Engineering 227
Th	6:00-9:00, Main Engineering 215

Symbols explained on page 10.

\* Enrollment space limited; see instructions on page 14.

## *Evening and Special Classes*

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**Math 32. Calculus V: Calculus, Linear Algebra, Differential Equations.** (To be offered Fall 1966)

**Math 33. Calculus VI: Calculus, Linear Algebra, Differential Equations.** (To be offered Spring 1967)

**Math 40. Introduction to Calculus.** (Open to prebusiness students and Arts College non-mathematics majors only) 5 degree credits. \$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 40 and must consult an adviser before registering.* Functions and limits, differentiation of algebraic, trigonometric, exponential, and logarithmic functions with applications to velocity and acceleration, maxima and minima, approximations by differentials. Integration with standard forms with application to area, volume, simple differential equations. (Prerequisite: 10 and either T or ¶T or equivalent, or 12)

*Spring Semester*

TTh 6:20-7:45, Ford 175

**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: 26A. Repeated spring semester)

*Fall Semester*

W 6:00-7:40, Main Engineering 227

*Spring Semester*

W 6:00-7:40, Main Engineering 227

**Math 65. Introduction to Programming Modern Digital Computers.** 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: 26A or ¶26A. 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 24. Repeated spring semester)

*Fall Semester*

W 6:20-8:00, Mines and Metallurgy 116

*Spring Semester*

W 6:20-8:00, Mines and Metallurgy 116

**Math 147. Vector Analysis.** 3 degree credits, \$old Math 152. \$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: 25A. Qualified students may register for graduate credit)

*Fall Quarter*

Th 6:00-8:40, Main Engineering 227

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Symbols explained on page 10.



## Course Offerings—Engineering, Physical and Technical Sciences

### 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: 26A or 80. Qualified students may register for graduate credit)

#### Winter Quarter

Th 6:00-8:40, Main Engineering 227

### 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: 25A. 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: 26A 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: 26A or 27 or 32 or 106. Qualified students may register for graduate credit)

#### Fall Quarter

T 6:00-8:40, Main Engineering 203

### 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, Main Engineering 203

#### Spring Quarter

186 T 6:00-8:40, Main Engineering 203

## 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

Symbols explained on page 10.

## Evening and Special Classes

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*K. Ogata, Professor of Mechanical Engineering*

*Ephraim Sparrow, Professor of Mechanical Engineering*

Your attention is called to the Senior Mechanical Engineering Technician program; see page 40.

### **ME 21A (old 21, 22). Mechanisms: Kinematic Analysis. 4 degree credits. \$44.**

Analysis of motion transfer in mechanisms by use of constraint equations and vector analysis. An analysis of the kinematic capability of various mechanisms to fulfill specific design objectives. (Prerequisite: Math 32 or 147, MM 35; or completion of courses in integral and differential calculus and sophomore-level college physics)

#### *Fall Semester*

T 6:20-9:00, Mechanical Engineering 106

### **ME 22A (old 22, 23). Mechanisms: Dynamic Analysis. 4 degree credits. \$44.**

The influence of mechanism inertia on energy transfer. Elimination of unbalance in rigid body mechanisms. Gyroscopic phenomena applied to mechanism design. (Prerequisite: 21A)

#### *Spring Semester*

T 6:20-9:00, Mechanical Engineering 106

### **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 Th 6:20-9:00, Mechanical Engineering 321

#### *Spring Semester*

31A Th 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: 31, and Hydr 101 or 103 or Aero 100 or #)

#### *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: 32 and Hydr 103 or #)

#### *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 structures; effects of thermal environment upon people, processes and materials; thermal loads; thermal environmental control systems. (Prerequisite: 133)

#### *Spring Semester*

M 6:20-9:00, Mechanical Engineering 106

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Symbols explained on page 10.

## Course Offerings—Engineering, Physical and Technical Sciences

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### 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 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

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Symbols explained on page 10.

\* Enrollment space limited; see instructions on page 14.

## Evening and Special Classes

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### 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 5 to March 16)

W 6:00-9:00, Mechanical Engineering 321

## MECHANICS AND MATERIALS

Allan A. Blatherwick, Associate Professor of Mechanics and Materials

Carl N. DeSilva, Associate Professor of Engineering Mechanics

### \*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 25A or 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 6:20-8:30, Aeronautical Engineering 215,  
Blatherwick

#### Spring Semester

Th 6:20-8:30, Aeronautical Engineering 313,  
DeSilva

### \*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 26A or ¶26A or 27, and Phys 11 or 21 or ‡. Limited to 30 students)

#### Fall Semester

Th 6:20-8:30, Aeronautical Engineering 313,  
DeSilva

### \*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 25A or 31 or ¶31 or ‡; MM 37 may be substituted for 93. Limited to 30 students)

#### Spring Semester

Th 6:20-8:30, 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; I for II)

#### Fall Semester

I T 6:20-8:00, Mines and Metallurgy 116,  
Jerabek

#### Spring Semester

II T 6:20-8:00, Mines and Metallurgy 116,  
Jerabek

Symbols explained on page 10.

\* Enrollment space limited; see instructions on page 14.

## Course Offerings—Engineering, Physical and Technical Sciences

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### PHYSICS

*J. Merle Harris, Associate Professor of Physics*

**Phys 13-13A. General Physics and Physics Laboratory for Engineers.** (Offered last time Fall 1965) 5 degree credits. \$55 plus \$10 laboratory fee.

Wave motion, sound, geometrical and physical optics; lecture and laboratory each week. (Prerequisite: 12 and Math 23 or ¶23 or 25A or 44 or ¶44; 13 and 13A must be taken concurrently)

*Fall Semester*

MW 6:30-8:30, Physics 166, Harris

**Phys 14-14A. General Physics and Physics Laboratory.** (Offered last time Spring 1966) 5 degree credits. \$55 plus \$10 laboratory fee.

Electricity and magnetism and laboratory exercises in electricity and magnetism. Lecture, quiz, and laboratory each week. (Prerequisite: 13 and Math 26A or ¶26A or 31 or ¶31 or 55 or ¶55; 14 and 14A must be taken concurrently)

*Spring Semester*

MW 6:30-8:30, Physics 166, Harris

**Phys 21-21A (old 11). 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 ¶21 or 42 or ¶42; 21 and 21A must be taken concurrently)

*Fall Semester*

MW 6:30-8:30, Physics 170

**Phys 22-22A (old 12-12A). 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 ¶22 or 24A or 43 or ¶43; 22 and 22A must be taken concurrently)

*Spring Semester*

MW 6:30-8:30, Physics 133

**Phys 23-23A. General Physics and Physics Laboratory.** (To be offered 1966-67)

**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 14 or 23 and Math 31 or ¶31 or 55 or ¶55; 50 and 50A must be taken concurrently)

*Fall Semester*

MW 6:30-8:30, Physics 133

**Slide Rule.** (See page 158)

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Symbols explained on page 10.

# PHYSICAL EDUCATION AND RECREATION

*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, Instructor in Physical Education*  
*Roy P. Tutt, Instructor in Physical Education*  
*Robert Webster, 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 recreation 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 recreation 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 3, 1965 for fall classes, and should be postmarked no later than September 10, 1965. Applications for winter classes must be postmarked *on or after* Friday, December 10, 1965, and should be postmarked no later than December 17, 1965. Applications for spring classes must be postmarked *on or after* Friday, March 4, 1966, and should be postmarked no later than March 11, 1966.

## ACTIVITIES OPEN TO GIRLS

A health examination is required of all girls taking recreation 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. \$10 plus \$2 equipment fee.

A course in swimming for girls between the ages of 6 and 12 years. Each girl must bring a written permit for swimming from her own doctor; no one will be allowed in the pool without permit. First meeting will be for the purpose of classifying swimmers into the following groups: Beginners; Advanced Beginners (those who swim with ease in shallow water); Intermediates (those who swim with ease in deep water); Advanced Intermediates (those who swim with ease but wish to improve strokes); Advanced (those who wish to learn advanced strokes—both synchronized and speed—and

†† Registration by mail only. See box above.

## Course Offerings—Physical Education and Recreation

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 8 to March 19)

#### 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

(April 2 to June 11)

#### 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

**\*Tournament Tennis—for Girls (Junior and Senior High). No credit. \$13 plus \$2 equipment fee.**

This class is designed for girls who have better-than-average skill and interest in tournament tennis. The class includes both group and individual instruction and coaching. (Students must furnish own rackets and balls for out-of-doors play. Limited to 20 students)

*Note—Students who register for this class must show evidence of having had previous instruction or having engaged in tournament play.*

### Special Class

(March 30 to June 8)

W 5:30-6:30, Norris Gym 151, Gunderson

## ACTIVITIES OPEN TO BOYS

A health examination is required of all boys taking recreation classes. Each boy must bring a letter from his physician *to the first class meeting* stating approval of the activity in which he is registered.

**Swimming for Boys.†† No credit. \$10 plus \$2 equipment fee.**

A course in swimming for boys between the ages of 6 and 12 years who are at least 50 inches tall. Each boy must furnish his own towel 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; *Advanced*. The first meeting will be used for the purpose of reclassifying swimmers where necessary.

### Special Class

(April 2 to June 11)

#### Nonswimmers

S 9:00-9:45, Cooke Hall, Webster

S 9:45-10:30, Cooke Hall, Webster

#### Beginners

S 10:30-11:15, Cooke Hall, Webster

#### Advanced Beginners

S 11:15-12:00, Cooke Hall, Webster

#### Intermediates

S 9:45-10:30, Cooke Hall, Mowerson

\* Enrollment space limited; see instructions on page 14.

†† Registration by mail only. See box, page 172.

## Evening and Special Classes

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### Special Class

(April 12 to June 11)

Advanced Intermediates

S 10:30-11:15, Cooke Hall, Mowerson

Advanced

S 11:15-12:00, Cooke Hall, Mowerson

## ACTIVITIES OPEN TO BOYS AND GIRLS

A health examination is required of all children taking recreation classes. Each child must bring a letter from his 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. \$10 plus \$2 equipment fee.

A course in creative rhythmic movement for children between the ages of 5 and 11 years. Classes are divided by age groups. A leotard is the preferred costume, but shorts and blouse or similar apparel is acceptable. Tights with feet are not acceptable. (Each section limited to 15 children)

### Special Class

(April 2 to June 11)

Ages 5-7

S 9:30-10:15, Norris Gym 151

Ages 8-11

S 10:30-11:15, Norris Gym 151

## 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)—for Women.** No credit. \$13 plus \$2 equipment fee.

For those who have no previous experience. Class and individual instruction in the fundamentals of golf. Discussion of rules, golf etiquette, and terminology. As much instruction as possible to be given in the spring at University Golf Course, weather permitting. Students furnish own clubs for outdoor play, and two golf balls. (Each section limited to 20 students)

### Special Class

(March 29 to June 7)

T 5:30-6:30, Norris Gym 60, Gunderson

**\*Golf (Intermediate)—for Women.** No credit. \$13 plus \$2 equipment fee.

A review of the fundamentals (as listed for Beginning Golf) with the work of the class planned to meet individual needs. Students furnish own clubs for outdoor play, and two golf balls. (Prerequisite: some knowledge of and experience in golf. Each section limited to 20 students)

### Special Class

(March 29 to June 7)

T 6:30-7:30, Norris Gym 60, Gunderson

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\* Enrollment space limited; see instructions on page 14.

†† Registration by mail only. See box, page 172.



## Course Offerings—Physical Education and Recreation

### \*Swimming (Beginning)—for Women. No credit. \$13 plus \$2 equipment fee.

For those who have had no previous experience in swimming. (Each section limited to 25 students)

#### **Special Class**

(September 28 to December 14)

T 5:45-6:45, Norris Gym 51, Stoner

### \*Swimming (Advanced Beginning)—for Women. No credit. \$13 plus \$2 equipment fee.

For those able to float and swim slightly but who are not yet at home in deep water. (Each section limited to 25 students)

#### **Special Class**

(September 28 to December 14)

T 6:45-7:45, Norris Gym 51, Stoner

### \*Swimming (Intermediate)—for Women. No credit. \$13 plus \$2 equipment fee.

For those who are able to swim in deep water but wish to perfect their swimming strokes. Instruction in diving is included. (Each section limited to 25 students)

#### **Special Class**

(September 28 to December 14)

T 7:45-8:45, Norris Gym 51, Stoner

### \*PEW C12. Water Safety Instruction. 1½ degree credits. \$40 plus \$2 equipment fee.

A review of life saving and water safety techniques, methods and materials for women who plan to supervise or lifeguard on a waterfront or teach courses in water safety. Students must hold a current American Red Cross Senior Life Saving or Water Safety Instructor Certificate to be eligible for the course. A certificate of Water Safety Instructor will be given to those who complete the necessary requirements. (Prerequisite: minimum age 18 and Senior Life Saving Certificate. Limited to 25 students)

#### **Spring Quarter**

T 5:30-8:30, Norris Gym 58, Stoner

Tournament Tennis for Girls. (See page 173)

## ACTIVITIES OPEN TO MEN

### \*Golf—for Men. No credit. \$13 plus \$3 equipment 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 and a minimum of five golf balls. (Each section limited to 20 men)

#### **Special Class**

(March 28 to June 6)

M 6:00-7:00, South Tower, Stadium, Tutt

M 7:00-8:00, South Tower, Stadium, Tutt

\* Enrollment space limited; see instructions on page 14.

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

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**Swimming—for Men.** No credit. \$13 plus \$2 equipment fee.

Class and individual instruction for beginners in all swimming strokes, in diving, and in fundamentals of lifesaving.

**Special Class**

(March 28 to June 6)

M 8:00-9:00, Cooke Hall, Giles

## **ACTIVITIES OPEN TO MEN AND WOMEN**

**Scuba—for Men and Women.** No credit. \$29 plus \$2 equipment fee.

The course covers all of the techniques and safety features of scuba. Upon satisfactory completion of this course, the student will be certified by the National Association of Underwater Instructors and will receive a certificate and wallet card so stating. (Prerequisites: ability to swim 440 yards free style, float as motionless as possible for 10 minutes, tread water without hands for 3 minutes, swim 75 feet underwater, recover 10-pound object in 10 feet of water from surface dive, tow a quiescent victim 50 yards, and be at least 15 years of age.)

*Equipment:* Upon a rental basis, tank and regulator can be obtained for \$1 per session per unit used. If tank, mask, fins, and snorkel are all required, rental will be \$1.50 per session. This includes tank refill. Instructor will bring equipment to and from pool.

**Special Class**

(September 29 to December 15)

W 7:30-9:30, Cooke Hall Pool, Mowerson

**Squash Rackets—for Men and Women.** No credit. \$13 plus \$3 equipment fee.

For those who have had no experience or limited experience. Equipment furnished.

**Special Class**

(September 27 to December 13)

M 7:00-8:00, Cooke Hall 215, Tutt

## OTHER EDUCATIONAL SERVICES OF THE GENERAL EXTENSION DIVISION . . .

### University of Minnesota Television College

The University of Minnesota Television College will offer courses in 10 subject areas for the 1965-66 academic year. Courses are taught by University of Minnesota faculty and may be viewed in the evenings over KTCA, Channel 2.

The courses are selected from the freshman and sophomore curriculums and may be taken for credit by anyone who feels capable of undertaking college-level work. Courses carry resident credit at the University and may be used, where appropriate, on a degree program when a student has been admitted to a college of the University; credits are transferable. Tuition is \$11 per credit. Credits are quarter credits. Persons who wish to watch the courses without registering may obtain course outlines for \$2 a course, if they wish.

Each course consists of two televised lectures and a lecturer-discussion or laboratory session each week. The lecture-discussions are held in study centers located in high schools throughout the metropolitan and surrounding areas; laboratory sessions are held on the University's Minneapolis Campus. Only students who pay tuition may attend the lecture-discussions or the laboratory sessions.

The following courses will be offered:

Anth 1A, Prehistoric Man and Culture; Anth 2A, Cultural Anthropology; Biol 1-2, General Biology; Econ 1-2, Principles of Economics; Engl 37, 38, 39, Modern Literature; Fren 1-2-3, Beginning French; Geo 1, Physical Geology; Geo 2, Historical Geology; Ger 1A-2A-3A, Beginning German: "Active" Approach; Hist 11, 12, 13, Medieval and Renaissance History; Psy 1-2, General Psychology; Soc 1, Man in Modern Society; Soc 2, The American Community; Soc 45, Social Statistics.

For a complete schedule showing the hours and days of the week for each television course, call 373-3050, or write University Television College, 211 Center for Continuation Study Building, University of Minnesota, Minneapolis Minnesota 55455.

### Correspondence Study Department

This department offers more than 300 college-level and high school courses by home study. Credits may be used for University degree programs, Extension certificates, to aid in the completion of high school, for occupational advancement, or for development of special interests of the individual. For a bulletin, write to the Correspondence Study Department, 251 Nicholson Hall, University of Minnesota, Minneapolis, Minnesota 55455, or telephone 373-3256.

### Lecture Series

Each year the General Extension Division brings some of the country's outstanding experts to the Twin Cities for discussions of subjects of general interest. One such series of lectures is being planned for 1966. It will be open to the public upon payment of a series fee. For further information, telephone 373-3919, or write Lecture Series, 153 Nicholson Hall, University of Minnesota, Minneapolis, Minnesota 55455.

### Neighborhood Seminars

If 16 or more persons wish to organize a study and discussion group on a subject of mutual interest they may request the Extension Division to set up a Neighborhood

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

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Seminar, and services of qualified instructors will be made available. The group meets for approximately eight sessions in the homes of its members or in a convenient school or church. Seminar subject matter will vary according to what is of particular interest to a group. Previous Neighborhood Seminars have included such titles as: Modern Russian History; Poetry, Painting, and Music of Today; American Goals and Values; Primary Ideas in the 20th Century; and Comparative Religions. Requests for fall quarter seminars should be made by September 1, winter quarter by December 1, and spring quarter by February 1. Registration is through the General Extension Division with fees of \$22.50 per person. No University credit is given. For further information, telephone 373-5166, or write Neighborhood Seminars, 204 Center for Continuation Study Building, University of Minnesota, Minneapolis, Minnesota 55455.

### **Seminars for Women**

As part of the Minnesota Plan for the Continuing Education of Women, the Extension Division offers five seminars especially designed for the adult woman. Major aims of the seminars are to sharpen critical thinking and to renew academic discipline, to be a first step back to more intensive and objective study—whether pursued independently or under University guidance. Assigned readings and periodic short papers are required of each registrant. Although no examinations are given, anyone wanting credit must write a long paper under faculty supervision.

Seminars meet on the Minneapolis Campus from 9:30 a.m. until noon every other week from October through June. Tuition for the year for each seminar is \$99. Registration is limited to 20 women in each seminar.

For 1965-66, the following seminars will be given:

New Worlds of Knowledge (Humanities 121-122-123); Arts of Reading (Humanities 141-142-143); Ideas in America; Art and Perception; Culture and Society.

For further information, telephone 373-3919, or write Seminars for Women, 153 Nicholson Hall, University of Minnesota, Minneapolis, Minnesota 55455.

### **Seminars for Men**

The seminars for men will be announced in September. Please telephone 373-3919 for information, or write Seminars for Men, 153 Nicholson Hall, University of Minnesota, Minneapolis, Minnesota 55455.

### **Off-Campus Programs**

This department facilitates the handling of requests for off-campus—particularly out-state—programs. Its staff seeks to discover needs, establish priorities, and determine the kinds of programs best suited to meet the needs. To request a program, or for information, telephone 373-5166, or write Off-Campus Programs, 204 Center for Continuation Study Building, University of Minnesota, Minneapolis, Minnesota 55455.

### **Center for Continuation Study**

Conferences and noncredit courses at the professional and quasi-professional level make up the program of the center. Major program areas include medical sciences, technology and engineering, education, state and municipal affairs, social welfare, dentistry, and business management. For information, telephone 373-3151, or write the Center for Continuation Study, University of Minnesota, Minneapolis, Minnesota 55455.

### **KUOM Radio and University of Minnesota Television Hour**

The Department of Radio and Television programs, produces, and directs the broadcasts of KUOM and programs the University of Minnesota Hour on KTCA-TV. Lectures and forums are devoted to topics of historic, cultural, artistic, or current import. Music, theater, news, and ideas are heard and analyzed. To receive the program guide, telephone 373-3177, or write KUOM, University of Minnesota, Minneapolis, Minnesota 55455.

### **World Affairs Center**

Program co-ordination and information for some 30 organizations involved in world affairs who are members of the World Affairs Center is provided by the center staff. The center also produces and disseminates publications and mounts seminars and lecture series. For information, telephone 373-3709, or write the World Affairs Center, 122 Social Science Building, University of Minnesota, Minneapolis, Minnesota 55455.

### **Drama Advisory Service and Loan Play Library**

This service provides theater directors in schools and communities with counsel and information, conducts workshops throughout the state, and organizes the annual statewide one-act play festival. The Loan Play Library contains 7,500 scripts, available to theater directors for selection of plays. For information, telephone 373-4947, or write the Drama Advisory Service, 223 Northrop Auditorium, University of Minnesota, Minneapolis, Minnesota 55455.

### **Continuing Education in Art**

This department sets up courses and workshops around the state in painting, drawing, and other studio arts and in art history and appreciation. For information, telephone 373-5147, or write State Art Co-ordinator, 207 Center for Continuation Study Building, University of Minnesota, Minneapolis, Minnesota 55455.

### **Continuing Legal Education**

The department programs noncredit workshops and conferences throughout the state to serve attorneys, courts, and related bodies. For information, telephone 373-5386, or write Continuing Legal Education, 212 Center for Continuation Study Building, University of Minnesota, Minneapolis, Minnesota 55455.

### **Continuing Education in Engineering and Science**

This department's aim is to assist industry in determining its needs for training programs that can best be handled by University faculties, setting priorities, and developing programs. For information, telephone 373-3015, or write Continuing Education in Engineering and Science, 47 Electrical Engineering Building, University of Minnesota, Minneapolis, Minnesota 55455.

### **Labor Education**

Through noncredit courses and workshops in union leadership and related areas and in public affairs, the Labor Education Department aims at upgrading the education of people in the labor movement. For information, telephone 373-3662, or write Labor

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

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Education, 423 Business Administration Building, University of Minnesota, Minneapolis, Minnesota 55455.

### **Municipal Reference Bureau**

The bureau is a library and information source for the communities of the state, public officials at all levels, and the citizenry. For information, telephone 373-2321, or write the Municipal Reference Bureau, 314 Social Science Building, University of Minnesota, Minneapolis, Minnesota 55455.

### **State Organization Service**

Voluntary organizations serving the public interest may be helped by the State Organization Service with program ideas and arrangements and with administrative and clerical problems. For information, telephone 373-3170, or write State Organization Service, 122 Social Science Building, University of Minnesota, Minneapolis, Minnesota 55455.

### **Audio-Visual Extension Service**

This division gives advice on the use of materials, conducts workshops in the use of audio-visual equipment and materials, and rents films and tapes. For information, telephone 373-3810, or write Audio-Visual Extension Service, 2037 University Avenue S.E., University of Minnesota, Minneapolis, Minnesota 55455.

# Minneapolis Area Classes Listed by Quarters

Minneapolis area 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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# St. Paul General Extension Center Classes

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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# Northwest Suburban Extension Center Classes

Classes offered at the Robbinsdale Senior High School, 3730 Toledo Avenue North, 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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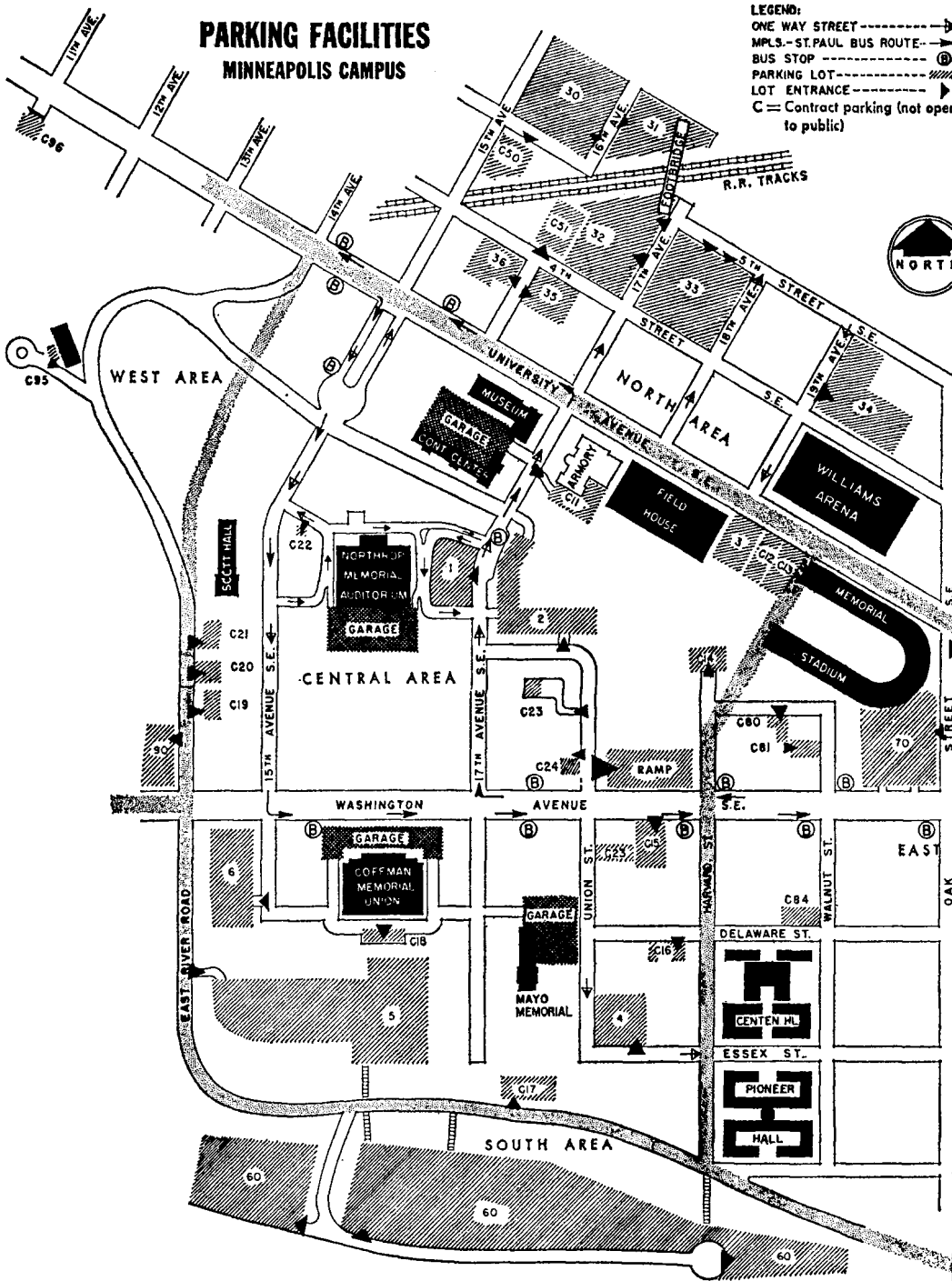


## Building Abbreviations

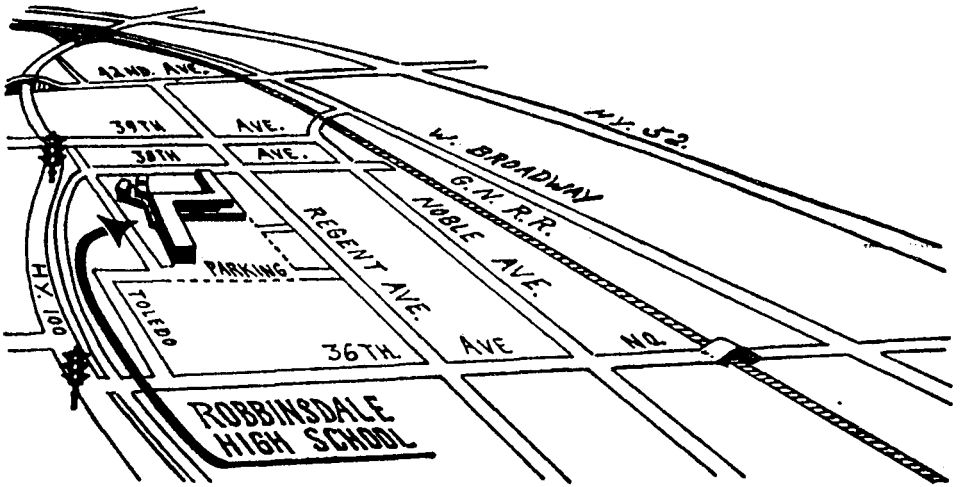
AE, Aeronautical Engineering	Mayo, Mayo Memorial
AgEng (StP), Agricultural Engineering	McNH (StP), McNeal Hall
AH, Appleby Hall	ME, Mechanical Engineering
Arch, Architecture	MH, Millard Hall
Art, Art Building ( West )	MinMet, Mines and Metallurgy
	MMA, Mayo Memorial Auditorium
BA, Business Administration Building ( West )	MNH, Museum of Natural History ( Auditorium )
Bo, Botany	MurH, Murphy Hall
Bu, Burton Hall	MusEd, Music Education
C, Chemistry	NGW, Norris Gymnasium for Women
CB, Classroom Building ( West )	NH, Nicholson Hall
CD, Child Development	NMA, Northrop Memorial Auditorium
CH, Cooke Hall	
ChE, Chemical Engineering	Owre, Owre Hall
CMU, Coffman Memorial Union	
CofH (StP), Coffey Hall	
E, Main Engineering	P, Pillsbury Hall
EdH, Eddy Hall	PeikH, Peik Hall
EE, Electrical Engineering	Ph, Physics
Ex, Experimental Engineering	Psy, Psychology
	Pt, Pattee Hall
FolH, Folwell Hall	ScH, Scott Hall
ForH, Ford Hall	SciB, Science Classroom Building
FraH, Fraser Hall	SocSci, Social Science Building ( West )
HolB, Holman Building ( 2035 University Avenue )	TNCD, Temporary, North of Child De- velopment
Hr (StP), Horticulture	TSF, Temporary, South of Folwell
J, Jones Hall	VH, Vincent Hall
JacH, Jackson Hall	
JohH, Johnston Hall	WeH, Wesbrook Hall
	WuH, Wulling Hall
Lib, Walter Library	
	Z, Zoology

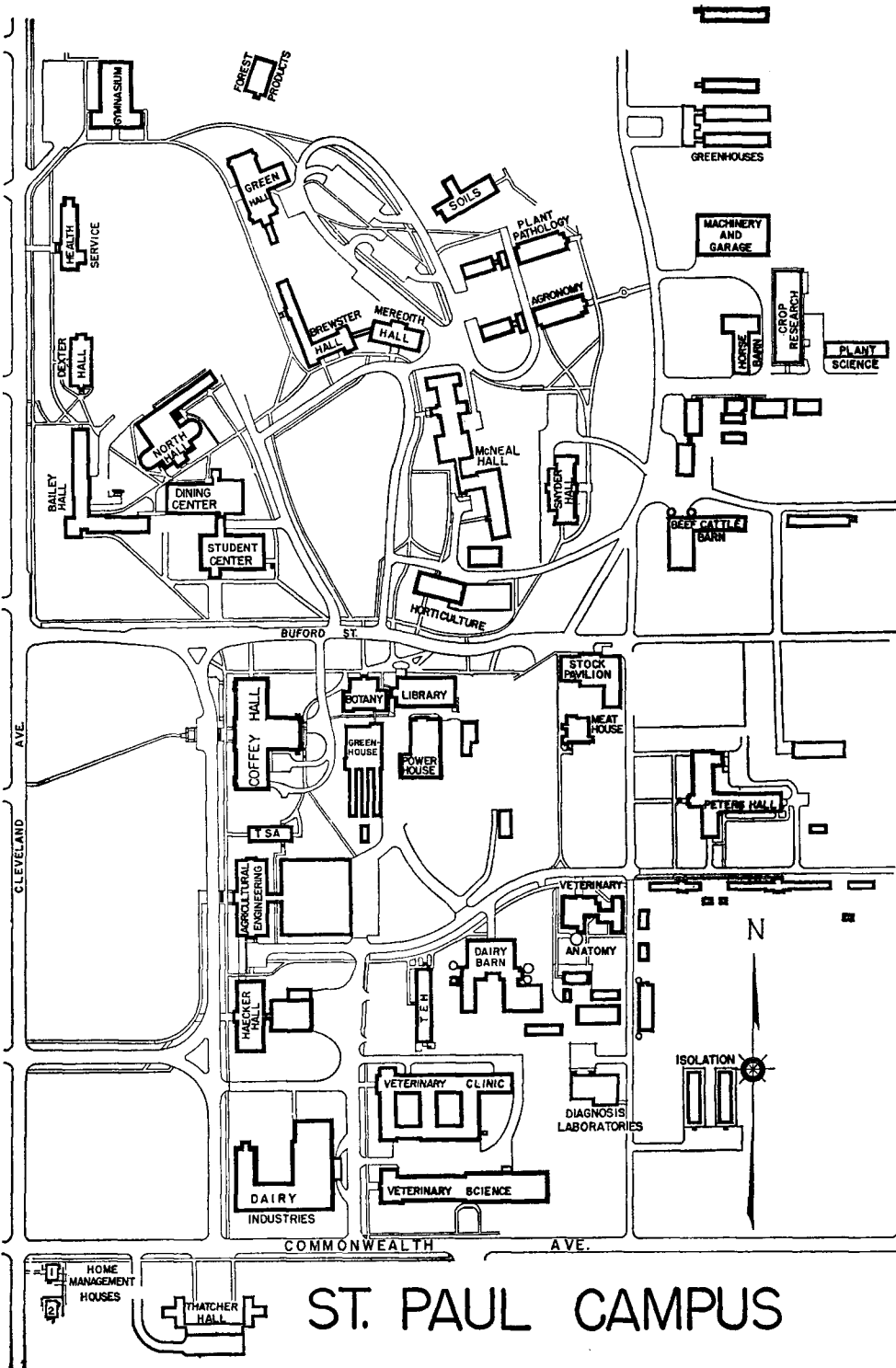
# PARKING FACILITIES MINNEAPOLIS CAMPUS

- LEGEND:**  
 ONE WAY STREET ----->  
 MPLS.-ST. PAUL BUS ROUTE ---> (B)  
 BUS STOP (B)  
 PARKING LOT (shaded area)  
 LOT ENTRANCE (arrow)  
 C = Contract parking (not open to public)

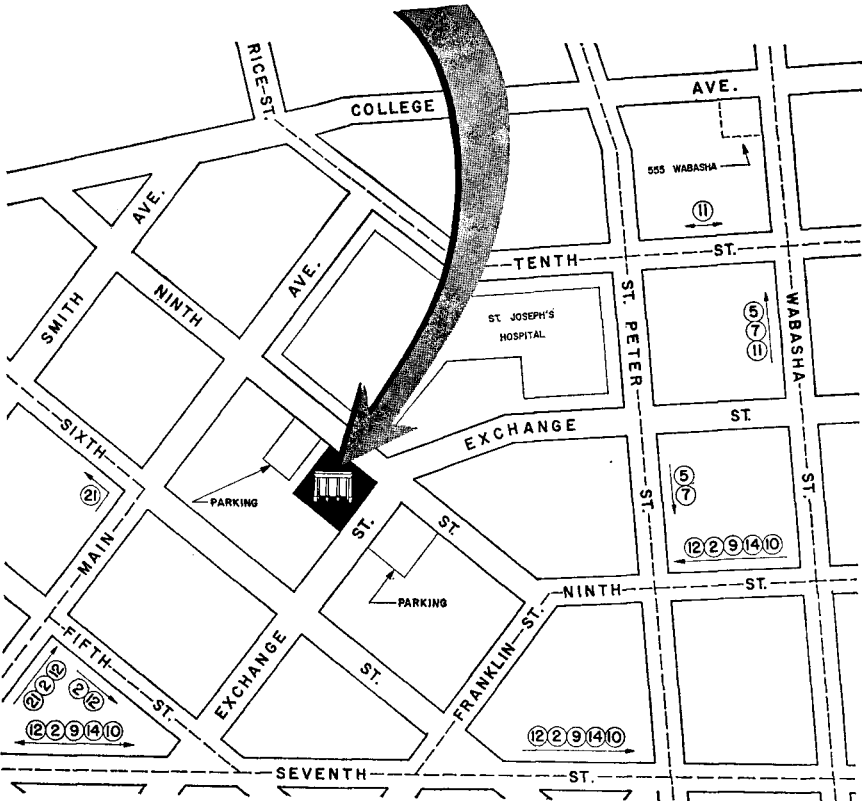
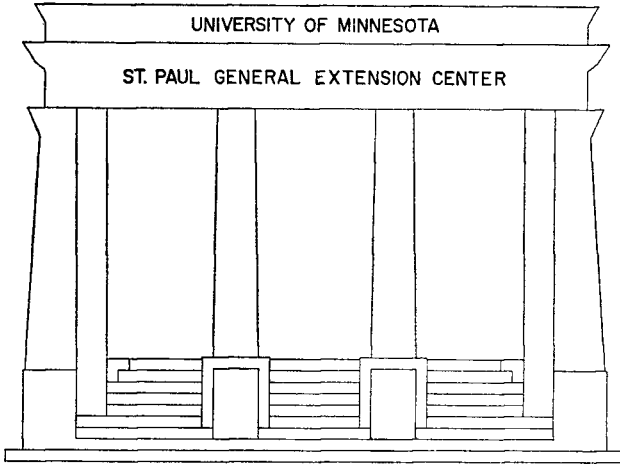


NORTHWEST SUBURBAN EXTENSION CENTER

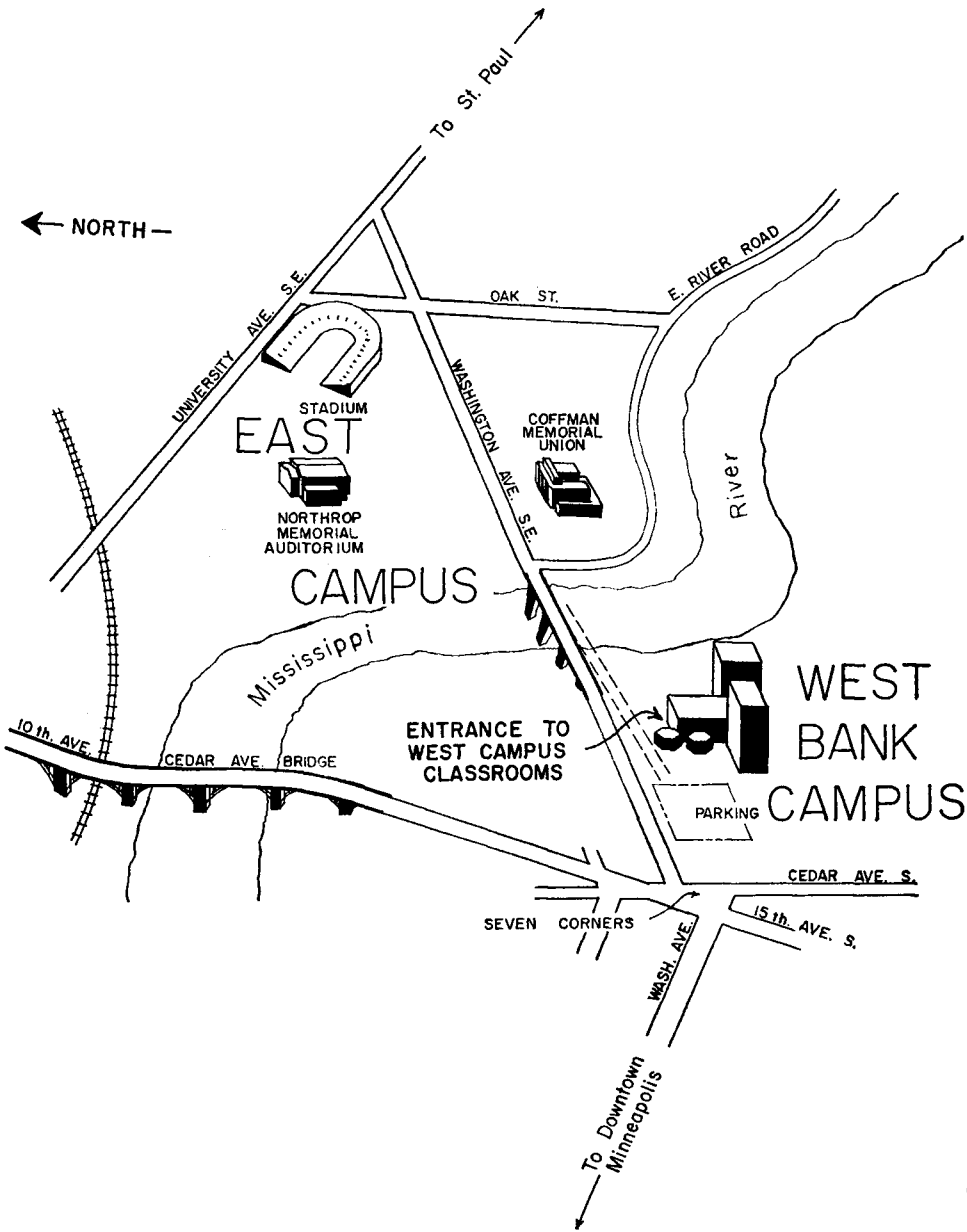




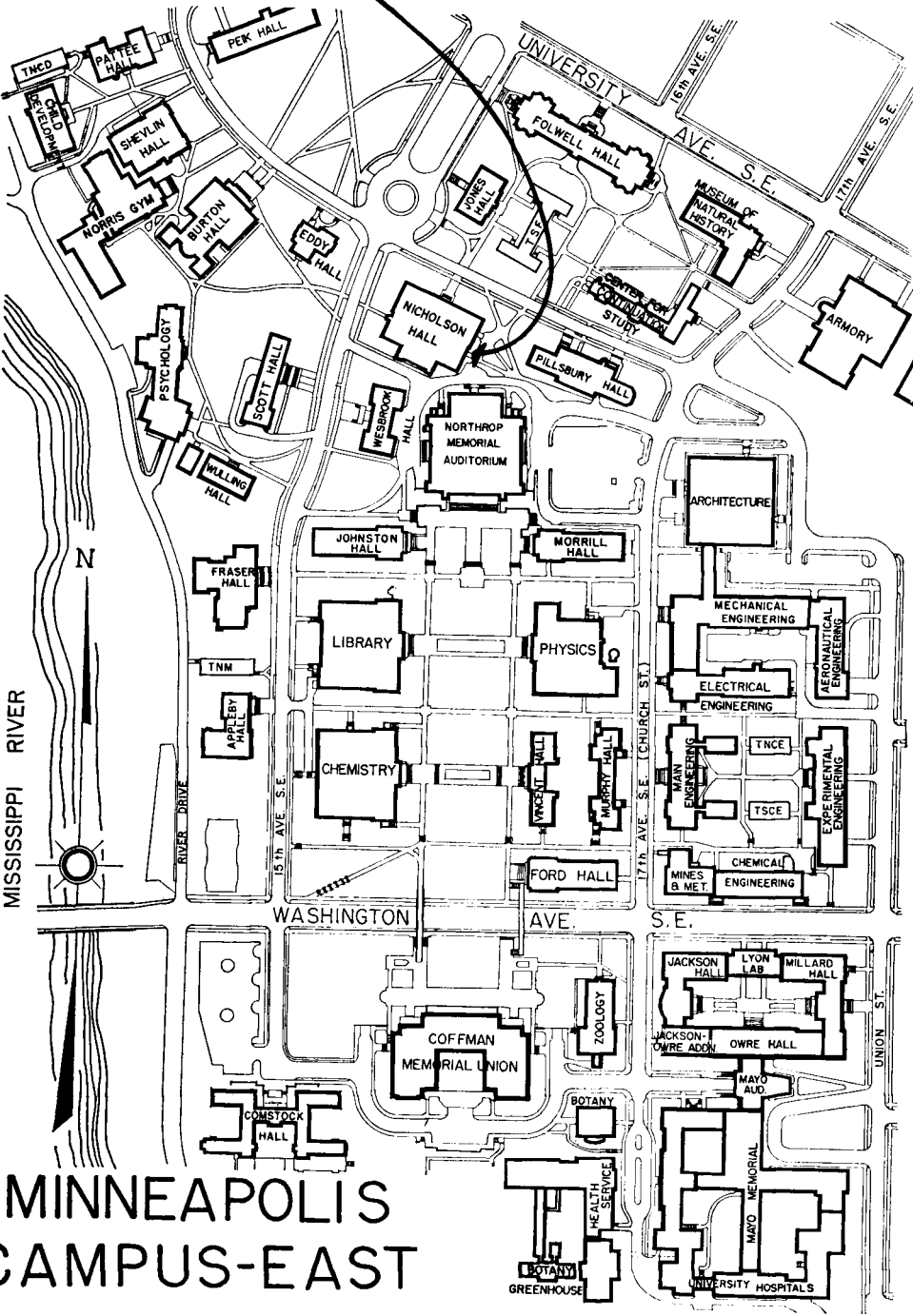
# ST. PAUL CAMPUS



Dotted lines and numbers show bus routes.



The MAIN OFFICE of the GENERAL EXTENSION DIVISION is located in NICHOLSON HALL. Students should use entrance immediately behind NORTHROP AUDITORIUM.



# MINNEAPOLIS CAMPUS-EAST

## Changes in Place and Procedures of Registration

### Registration Location—Minneapolis Campus

During official registration periods, registration locations on the Minneapolis Campus will be as follows:

*Fall Quarter and Semester:* **211 Nicholson Hall** (northwest corner, second floor, Nicholson Hall—use main entrance)

*Winter and Spring Quarters:* **57 Nicholson Hall** (Extension office, ground floor, Nicholson Hall—use southeast entrance)

*Spring Semester:* **57 Nicholson Hall** (Extension office, ground floor, Nicholson Hall—use southeast entrance) from 12 noon to 4 p.m., Monday through Friday; **211 Nicholson Hall** (northwest corner, second floor, Nicholson Hall—use main entrance) from 5 p.m. to 8 p.m., Monday through Friday, and from 9 a.m. to 1 p.m., Saturday, February 5.

*Special Registrations:* Any student who is registering 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 **55 Nicholson Hall**.

*Counseling:* Any student requiring program counseling should consult an adviser in **53 Nicholson Hall** before registering. No counseling service is available until the regular registration period.

### Limited Class Registration

A new limited class registration system goes into effect fall 1965. Students wishing to register for a limited class (designated by an asterisk \*) should follow this procedure:

1. Reservation cards may be obtained in person at one of the registration offices in advance of the regular registration period (see time schedule as listed on page 4) or during the registration period on a first-come, first-served basis.
2. Registration forms for all classes may be picked up at this time. However, no tuition payments will be accepted before the beginning of the regular registration period.
3. Fees for limited classes *must be paid* by the end of the first week of registration. If reservation cards have not been turned in and fees have not been paid by that time, the student's place will not be held for him.
4. Students are urged to mail in their registration forms, reservation cards, and fees. The postmark date determines the date of registration.
5. Fee statements will be mailed to the students.